

Implementation Frameworks – Their Usability and Limitations Within Child, Youth and Family Services

Bianca Albers  <https://orcid.org/0000-0001-9555-0547>

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Abstract

Purpose

This thesis is located at the nexus of research-supported interventions (RSIs) in child and family services, evidence-based practice and implementation science. Within the context of Australian child and family services, it focuses on *the implementation problem*, i.e. the sector's persistent problems with integrating evidence in routine practice.

Its overarching goal is to examine how implementation frameworks have been and can be used to understand efforts to implement RSIs in this sector, and how these frameworks, and potentially any other implementation science concept, may be more effectively moved into routine child and family services in the future.

Methods

This research builds on a mixed-methods design and was conducted in three phases.

During phase one, the scoping review method was used to identify studies conducted within child and family services and explore how implementation frameworks were used in the sector.

In phase two, one particular implementation framework, the Consolidated Framework for Implementation Research, was applied to understand the barriers to the Australian implementation of multiple RSIs developed in the United States. The examination of the failed implementation of Multisystemic Therapy-Emerging Adults in New South Wales built on a case study design, whereas the early implementation of multiple US-based RSIs in Victoria was evaluated using mixed methods.

Finally, during phase three, in developing a proposal for how to better bridge the implementation research-practice divide, the systematic integrative review method was instrumental for the development of a program logic for the role of implementation support practitioners.

Results

The use of implementation frameworks in child and family services studies has been cursory, and limited guidance is available on how to operationalize them in contexts of routine practice.

The Australian experience with implementing US-based RSIs reflects that implementation frameworks insufficiently mirror the implementation challenges these interventions impose on stakeholders. While frameworks map implementation as a tidy and linear collection of determinants, real-world implementation occurs as a dynamic, both concurrent and recurrent interaction between multiple implementation factors. Particularly limited are the insights that frameworks provide to understand the role of the outer setting, containing, for example, policy dynamics, in an implementation.

The role of implementation support practitioners may be a relevant strategy for integrating implementation research in routine child and family services, but the evidence surrounding their work and effectiveness is scarce and will require further consolidation. A first program logic outlining how ISPs may build implementation capacity in child and family services is presented.

Conclusion

To solve the implementation problem, strategies are needed that can help to create a new normal. One in which research-minded decisionmakers, operating in the child and family services sector, constantly request and use evidence in their daily routines, and practice-minded scientists work to spur this use in all areas of policy and practice.

Implementation support practitioners may be one such strategy. To better understand the characteristics, activities, and contexts required for this role to be effective will be a key task for the decade ahead – both for the child and family services sector and the field of implementation science.

Declaration

This thesis comprises only the author's original work toward the degree of Doctor of Philosophy except where indicated in the preface.

Due acknowledgement has been made in the text to all other material used.

This thesis is fewer than the maximum 100,000-word limit in length, exclusive of tables, maps, bibliographies and appendices.

Bianca Albers, May 2020

Preface

This thesis is a “thesis with publication” and contains a number of multi-authored publications that, at the time of submission, were at different stages of their publication process.

Publications Incorporated in the Thesis

1. Albers, B., Mildon, R., Lyon, A. R., & Shlonsky, A. (2017). Implementation Frameworks in Child, Youth and Family Services – Results from a Scoping Review. *Children and Youth Services Review*, 81, 101–116.
<https://doi.org/10.1016/j.childyouth.2017.07.003>
2. Albers, B., Hateley-Browne, J., Steele, T., Rose, V., Shlonsky, A., & Mildon, R. (2020). The Early Implementation of FFT-CW®, MST-Psychiatric®, and SafeCare® in Australia. *Research on Social Work Practice*.
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3. Albers, B., Metz, A., & Burke, K. (2020). Implementation Support Practitioners – A Proposal for Consolidating a Diverse Evidence Base. *BMC Health Services Research*, 20(Article 368). <https://doi.org/10.1186/s12913-020-05145-1>
4. Albers, B., Shlonsky, A., & Mildon, R. (2020). En Route to Implementation Science 3.0. In B. Albers, A. Shlonsky, & R. Mildon, *Implementation Science 3.0* (pp. 1–38). Springer Nature. <https://doi.org/10.1007/978-3-030-03874-8>
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*Other Relevant Academic Activity During Candidature*Peer-Reviewed Journal Articles Completed During Candidature

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2. Hateley-Browne, J., Steele, T., Rose, V., **Albers, B.**, Mildon, R. (under review). How Well Have Manualised Programs Been Implemented in Child and Family Services? An Implementation Evaluation in Victoria, Australia. *Evaluation Journal of Australia*.
3. Moullin, J. C., Dickson, K. S., Stadnick, N. A., **Albers, B.**, Nilsen, P., Broder-Fingert, S., Mukasa, B., & Aarons, G. A. (2020). Ten Recommendations for Using Implementation Frameworks in Research and Practice. *Implementation Science Communications*, 1(Article 42). <https://doi.org/10.1186/s43058-020-00023-7>
4. Wolfenden, L., Bolsewicz, K., Grady, A., McCrabb, S., Kingsland, M., Wiggers, J., Bauman, A., Wyse, R., Nathan, N., Sutherland, R., Hodder, R.K., Fernandez, M., Lewis, C., Taylor, N., McKay, H., Grimshaw, J., Hall, A., Moullin, J., **Albers, B.**, Batchelor, S., Attia, J., Milat, A., Bailey, A., Rissel, C., Reeves, P., Sims-Gould, J., Mildon, R., Doran, C., Yoong, S. (2019). Optimisation: Defining and Exploring a Concept to Enhance the Impact of Public Health Initiatives, *Health Research Policy and Systems*, 17(Article 108). <https://doi.org/10.1186/s12961-019-0502-6>
5. **Albers, B.**, Fiennes, C., Shlonsky, A., Bjørndal, L., Hennessy, J., Krapels, J., Finch, M. & Mildon, R. (2019). Evidence and Gap Map Protocol: Institutional Responses to Child Maltreatment. *Campbell Systematic Reviews*, 15:e1039. <https://doi.org/10.1002/cl2.1039>

6. Wolfenden, L., **Albers, B.**, & Shlonsky, A. (2018). Strategies for Scaling up the Implementation of Interventions in Social Welfare: Protocol for a Systematic Review. *Campbell Systematic Reviews*, 14: 1-33. <https://doi.org/10.1002/CL2.201>
7. Metz, A., & **Albers, B.** (2014). What Does It Take? How Federal Initiatives Can Support the Implementation of Evidence-Based Programs to Improve Outcomes for Adolescents. *Journal of Adolescent Health*, 54(S), S92–S96. <https://doi.org/10.1016/j.jadohealth.2013.11.025>

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2. **Albers, B.**, & Pattuwage, L. (2017). *Implementation in Education*. Evidence for Learning (E4L).
3. Shlonsky, A., **Albers, B.**, Taylor, D., Featherston, B., Ma, J., & McCann, B. (2017). *Children and Families Evidence: Findings from Six Evidence Gap Maps*. The University of Melbourne.
4. **Albers, B.**, & Mildon, R. (2016). *Implementation Best Practice: A Rapid Evidence Assessment*. Melbourne: The Parenting Research Centre for the Royal Commission into Institutional Responses to Child Sexual Abuse, Australia.

5. Macvean, M., Sartore, G.-M., Shlonsky, A., **Albers, B.**, & Mildon, R. (2015). *Interventions for Families with Complex Needs, in which Children and Young People have Experienced Abuse and Neglect*. SAX Institute.
6. **Albers, B.** (2014). *Implementierung - Eine Zusammenfassung Ausgewählter Forschungsergebnisse*. Parenting Research Centre für Stiftung Deutsches Forum für Kriminalprävention [German publication. Introduction to multiple implementation frameworks]

Significant Thesis Presentations During Candidature

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- *Implementierung als Bindeglied zwischen Forschung und Praxis* [Implementation as the Link between Research and Practice]. Invited workshop presentation at the annual convention of the German Association for Social Work in Health Care (DVSG), Kassel, Germany, 15 November 2019.

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- *The Science and Practice of Implementation – Pathways to make your eHealth Intervention Stick*. Invited keynote at the Week of Health and Innovation (WHINN), Odense, Denmark, 10 October 2018.
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- *Implementation 2.0. Show me the Evidence!* Invited Seminar for The National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care South West Peninsula (PenCLAHRC), University of Exeter, UK, 24 January 2017.
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- *Implementation of Evidenced Interventions.* Keynote for the Nordic Forum of Motivational Interviewing Trainers (MINT), Nyborg, Denmark, 7 September 2016.

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- *Implementation Frameworks in Child, Youth and Family Services.* Presentation at the 3rd Society for Implementation Collaboration (SIRC) biennial conference, Seattle, Washington, US, 26 September 2015.
- *Implementation 2.0 – A Critical View of the Current State of Evidence for Implementation Practice & Hot Topics in Research and Practice for the Decade Ahead.* Pre-Conference Workshop co-hosted with Dr. Robyn Mildon at the 3rd Global Implementation Conference, Dublin, Ireland, 26 May 2015.
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Co-authors' Contributions

The author of this thesis conducted at least 80% of the work involved in any of the co-authored publications in this thesis. Further detail on co-authors' contributions are included separately in each chapter.

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List of Acronyms Used in this Thesis

Acronyms A - L	Meaning
ADHC	Division of Ageing, Disability and Home Care
AIF	Active Implementation Frameworks
ARC	Availability, Responsiveness and Continuity
CDT	Community Development Team
CEBC	The California Evidence-Based Clearinghouse for Child Welfare
CEI	Centre for Evidence and Implementation
CFIR	Consolidated Framework for Implementation Research
COM-B	Capability – Opportunity – Motivation – Behavior
EBP	Evidence-Based Practice
EBPAS	Evidence-Based Practice Attitude Scale
EIC	European Implementation Collaborative
EPIC	European Platform for Investing in Children
EPIS	Exploration Preparation Implementation Sustainment
ERIC Compilation	Expert Recommendations for Implementing Change Compilation
FACS	Department of Family and Community Services
FFT	Functional Family Therapy
FFT-CW	Functional Family Therapy – Child Welfare
GTO	Getting To Outcomes
ICS	Implementation Climate Scale
ICT	Interagency Collaborative Team
ILS	Implementation
IPO	Intermediary and/or Purveyor Organization
IRI	Implementation Research Institute
IS	Implementation Science
ISF	Interactive Systems Framework
ISP	Implementation Support Practitioner
KB	Knowledge Broker
LOCI	Leadership and Organizational Change for Implementation
MSA	Multiple Streams Approach
MST	Multisystemic Therapy
MST-CAN	Multisystemic Therapy-Child Abuse and Neglect
MST-EA	Multisystemic Therapy-Emerging Adults
MST-Psychiatric	Multisystemic Therapy-Psychiatric
MTFC	Multidimensional Treatment Foster Care (same as TFC-O)
NDIS	National Disability Insurance Scheme

NoMAD	Normalization Measure Development
NSW	New South Wales
ORIC	Organizational Readiness for Implementing Change
PARIHS	Promoting Action on Research Implementation in Health
PRISM	Practical Robust Implementation and Sustainability Model
QED	Quasi-Experimental Design
QIF	Quality Implementation Framework
RCT	Randomized Controlled Trial
RE-AIM	Reach Effectiveness-Adoption Implementation Maintenance
RSI	Research-Supported Intervention
SIC	Stages of Implementation Completion
SR	Systematic Review
TA	Technical Assistance
T-CAST	Theory Comparison and Selection Tool
TFC-O	Treatment Foster Care-Oregon (same as MTFC)
THIS	The Healthcare Improvement Studies Institute
TIDIHR	Training Institute for Dissemination and Implementation Research in Health
TRIP Fellowship	Translating Research Into Practice Fellowship
Triple P	Positive Parenting Program
UK	United Kingdom
US	United States of America

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1. Chapter One

1.1 Introduction

When asked what he thinks about the insufficient spread of programs, practices and policies that have shown to be effective in well-controlled trials and tests in the social sciences, American economist John A. List responded: “I do think it’s a crisis in that if we don’t take care of it as scientists, I think everything we do can be undermined in the eyes of the policymaker and the broader public. We don’t understand how to use our own science to make better policies” (Dubner, 2020).

While the relationship between research and practice has long been considered important in child and family services, the notion of using evidence systematically to inform both policy and practice has become increasingly significant to contemporary service delivery. This problem of getting scientific knowledge into the practices and policies of the child and family services sector – comprising community services, juvenile justice, family and parenting support, domestic violence and child protection – is the first focus of this thesis.

1.1.1 The Implementation Problem

In the podcast, from which the above quote was taken, this problem was called a “scalability crisis.” Other labels are “dissemination challenge” or “implementation problem.” None of these coins a completely new phenomenon. Already in 1995, researchers behind a study of a breast and cervical cancer program in the US state of

Maryland pointed out that “research procedures for studying community health interventions are frequently transferred from academic research paradigms with little attention to implementation problems” (Scheirer et al., 1995). In the same year, the Task Force on Promotion and Dissemination of Psychological Procedures, established by the American Psychological Association in an effort to enhance the use of evidenced psychotherapies in routine practice, published its recommendations for disseminating research-supported interventions (RSIs) and for training clinical psychologists in them (American Psychological Association, 1995). Within the world of management and business, the “knowing-doing gap” has been discussed since the late 1990s, when Stanford University professors Jeffrey Pfeffer and Robert I. Sutton bemoaned that “ideas, although often widely known and proven to be useful and valid, remain unimplemented” (Pfeffer & Sutton, 1999). At about the same time, the British Medical Journal published a series of eight articles focused on the gap between research and practice (Bero et al., 1998), which together with other study reports (Jarlais & Friedman, 1998; Parahoo, 1998) signaled that the implementation problem had become a key item on the health research agenda.

A few years later, this acknowledgment in science began to also emerge in the context of child and family services, where it, as for other disciplines, is tightly linked to the evidence-based movement. This movement has led, and still leads, to many scholarly discussions about the value and limitations of the use of scientific evidence in the sector and the feasibility, as well as the desirability, of establishing evidence-based practice (EBP) in the field (Barth, 2008; Barth et al., 2012; Biglan & Ogden, 2008; Gambrill, 2006; Gehlert, 2016; Gibbs & Gambrill, 2002; Macdonald, 1998; Mullen et al., 2005; Regehr et al., 2007; Willging et al., 2018). Its proponents advocate

establishing child and family services as an evidence-based practice, characterized by individual and organizational decision-making in which best current evidence is integrated with client preferences and the professional expertise of practitioners (McNeece & Thyer, 2004; Thyer, 2004). Its opponents view the idea of EBP as representing a positivistic ideal of rationality that is unrealistic for practice in the complex world of child and family services where professional judgement and autonomy are key to decision-making (Taylor & White, 2001; Webb, 2001). Furthermore, they have criticized the commonly used evidence hierarchy, which recognizes systematic reviews and randomized controlled trials as the gold standard for knowledge production, for neglecting alternative, yet relevant sources of evidence, and they have highlighted the lack of available evidence characterizing many areas of child and family work (Okpych & Yu, 2014) as making evidence-based decision-making impossible.

1.1.2 Research-Supported Interventions

While the implementation problem – i.e. the question, “how can human service organizations and their staff use research evidence as part of their work routines?” – has always been an inherent component of these discussions (Littell & Shlonsky, 2010; Mildon & Shlonsky, 2011; Shlonsky & Benbenishty, 2014), it has been particularly linked to the use of RSIs. Very broadly, RSIs represent interventions that target specific client problems and needs and for which an evidence base exists that meets “established standards of research quality and outcomes” (Drisko & Friedman, 2019, p. 265). These standards can vary depending on the organization assessing an RSI, but generally

preferred sources of evidence are studies utilizing high-quality randomized controlled or quasi-experimental designs (Chambless, 1999; Ollendick et al., 2000).

With studies documenting their effectiveness, manuals describing their use and targets defining their competent implementation, RSIs have become for many a tangible symbol of what it could mean to integrate more evidence in human services. As such, they are regularly mistaken as being the sole representation of EBP (Drisko & Friedman, 2019; Rubin & Parrish, 2007; Thyer & Pignotti, 2011). This has led their harshest critics to accuse them of promoting inappropriate “cookbook” approaches to client services (Gray et al., 2009) and being “regulating tools that represent some of the cornerstones of managerial bureaucratization” (Otto & Ziegler, 2008, p. 274), making their implementation inappropriate and undesirable. Their proponents, on the other hand, have favored the seemingly clear, pre-packaged nature of RSIs and have invested heavily in their use, hoping they might become easy levers to establish evidence-based practice cultures in their organizations and systems. These funding and dissemination decisions have had far-reaching consequences for a large number of government departments and service provider agencies in the US, Western Europe and Australia, some of which will be discussed in this thesis. RSIs are therefore the second focus area of this thesis.

Within child and family services, RSIs have played a prominent role across many Western countries as a tool to move this sector toward greater evidence use.

Celebrated by some as “the death of treatment as usual” and “an excellent first step on a long road” toward quality services (Bickman, 2002, p. 195), both US and Western European government bodies began to systematically fund their use in the early 2000s (Dixon & Schwarz, 2014). In the US, state-level initiatives to reduce, for example,

juvenile delinquency through RSIs (Chilenski et al., 2007; Welsh & Greenwood, 2015) were paralleled by broader federal initiatives aimed at enabling evidence-based policymaking through their targeted use as reflected in, for example, the establishment of the Coalition for Evidence-Based Policy under the Obama administration (Haskins & Baron, 2011; Haskins & Margolis, 2015). In the United Kingdom (UK), the Early Intervention Review Team headed by Member of Parliament Graham Allen recommended the use of nineteen RSIs (Allen, 2011) to support the healthy development of children. Moreover, in England, a National Academy for Parenting Practitioners was set up, partly to offer practitioners RSI training, partly to research RSI effectiveness in the country (Scott, 2010). Similar trends toward a national dissemination of RSIs could be observed in Norway (Research Council of Norway, 1998; Ogden et al., 2009), Sweden (Gustle et al., 2008; Wigzell & Börjeson, 2008) and the Netherlands (Asscher et al., 2007).

Interestingly, the range of RSIs used across countries was highly similar and included parenting programs, as well as family therapies, for example, Multisystemic Therapy (Schoenwald et al., 2008), Multidimensional Treatment Foster Care (Chamberlain, 2003), Functional Family Therapy (Robbins et al., 2016) and Parent Management Training – Oregon (Dishion et al., 2016). These all originated in the US, but they had not been used on a large scale before. In Europe they were totally untested. This gap in experience represented a crucial implementation problem, which the developer of TFC-O®, Patricia Chamberlain, describes poignantly in the previously highlighted podcast. When she received a call from the US Office of Juvenile Justice and Delinquency Prevention asking her to implement TFC-O® at fifteen different sites,

she assumed that the positive outcomes achieved by the program in previous clinical trials would be easily scalable. However, it showed that

“we [the program developers] didn’t have the know-how of how to put this thing down in the real world. And it blew up. The three systems – child welfare, juvenile justice and mental health – all put some money in the pot to fund this implementation. I was completely delighted. I thought, ‘Oh, this is going to be great because we have all the relevant systems buying into this.’ Well, what happened was, when we tried to implement, we ran into tremendous barriers because if we satisfied the policies and procedures of one system, we were at odds with the policies and procedures in the other system” (Dubner, 2020).

1.1.3 Australian Child and Family Services

While RSIs have not been totally unknown in Australian child and family services, for example, in the form of Australian programs such as Triple P (Positive Parenting Program) (Sanders, 2003; Sanders et al., 2014) or Tuning into Kids/Teens (Havighurst et al., 2010, 2019; Kehoe et al., 2013), until recently their use has been less prominent in the field when compared with other Western countries. This may be due to key characteristics of the Australian child and family services centered around both the composition of the workforce and the approach taken to support children and families in need.

The workforce involved in Australian child and family services (which are a state responsibility) is not dominated by individuals with degrees in social work. Historically, the relationship between the social work profession, on the one hand, and government and peak bodies steering and structuring Australian child and family services, on the

other, has been characterized by “tensions and difficulties” (Markiewicz, 1996, p. 25).

In the 1960s, social workers were still viewed as the solution to central welfare problems in society, and the professionalization of the workforce was therefore made a key priority. By the end of that decade, 82% of fieldworkers employed by the Victoria State Welfare Department had an educational background in social work (Markiewicz, 1996, p. 27). This trend continued throughout the 1970s. However, in battling substantial economic problems in the country, performance management principles began to permeate government services from the early 1980s. This also affected the child and family services sector, where effective management and administration, rather than social work, began to represent the preferred skill set for many positions.

Furthermore, the responsibilities of those in social work positions changed toward more codified tasks, which were less centered around counseling and field work and more around inquiry and case work. This contributed to an increasing declassification of previous social work positions, which were opened up for workers with other qualifications, including those that were “content-free” (Markiewicz, 1996, p. 29) and not specialized in any particular field of human service. As a consequence, by 1993 only 43% of 480 child and family services workers at the Victorian Health and Community Services Department were social workers by education, equaling half of the rate seen in 1968. This rate stabilized in subsequent years, with a survey conducted among community service workers in 2009 confirming that social work was one of many educational backgrounds for staff working in Australian child and family services. While 40% of professionals had a background in social work, 29% held psychology or counseling, 15% community and another 15% undefined qualifications (Martin & Healy, 2010, p. 41). A more recent screening of Australian vacancies for

child protection workers (Gillingham, 2015) also mirrored that, in most states, next to candidates with a social work degree, bachelors from other human services and psychology could also apply for positions. The state of Victoria also accepted non-university qualifications.

Taken together, this means that the influences of a strong discipline-specific culture and identity have been missing from Australian child and family services for many years. Instead, the workforce has been fragmented across multiple disciplines and suffered from a lack of qualification standards that may have slowed down the pace with which the sector has absorbed knowledge and engaged in debates about evidence-based practice in general and RSIs in particular.

Furthermore, until recently, Australian policies developed to support children and families in need were primarily driven by a “child protection” orientation (Kojan & Lonne, 2012). This orientation builds on a risk paradigm (Parton, 2017) and investigatory, forensic strategies aimed at rescuing and protecting individuals from these risks (Connolly, 2017; Scott et al., 2016; Higgins et al., 2019). As such, it differs from the prevention and early intervention focus that characterizes the “family service” orientation of many Central-European countries, which in their policies for children and families in need have emphasized, for example, the strengthening of families through parenting interventions or family therapies (Churchill & Fawcett, 2016; Kojan & Lonne, 2012; Price-Robertson et al., 2014) as a supplement to tertiary, statutory services. Studies have documented that these types of “country contexts” influence the decision-making in child and family services (Benbenishty et al., 2015; Berrick et al., 2016) and thereby sector outputs.

In the early 2000s, multiple crises characterized the Australian child and family services system which were viewed as being linked to its child protection orientation. This included e.g. a substantial growth in child protection notifications and their substantiations in different states (Churchill & Fawcett, 2016), and a 102% increase in children placed in out-of-home care between 1998 and 2008 (Arney et al., 2008). Furthermore, these rates remained disproportionately high for indigenous children when compared with those for non-indigenous children (Arney et al., 2008; Katz & Connolly, 2017; SNAICC, 2016; Australian Institute of Health and Welfare, 2007). As a consequence, sector stakeholders increasingly called for a re-orientation of the sector and greater use of prevention and early intervention services, for example, in the form of intensive family services, parenting programs and comparable interventions (Association of Children's Welfare Agencies, 2003). Simultaneously, different state inquiries into the child and family services sector were carried out. For example, in New South Wales, a Special Commission of Inquiry into Child Protection Services was set up in 2006. In finalizing its work two years later, the commission presented a report including 111 recommendations for improving the child and family services system – many of which aimed at increasing the prevention and early intervention activities across child and family services (Hansen & Ainsworth, 2009).

However, despite multiple stakeholders reiterating such and similar recommendations over many years (Arney et al., 2008; Hansen & Ainsworth, 2013; Higgins et al., 2019; Higgins & Katz, 2008; Scott et al., 2016), a re-orientation of the sector has occurred only slowly (Valentine & Katz, 2015; Cortis et al., 2019). A recent report developed for the Australian Institute of Family Studies and examining efforts to strengthen child and family services across Australia documented that major system

reforms were ongoing in all states with the exception of the Northern Territory (Wise, 2017). Among the shared goals of these reforms is the diversion of children from statutory child protection, in part through “better use of evidence” (p. 6) and the introduction of novel early intervention and prevention programs.

Only recently have Australian policy developers taken steps comparable to those taken in Europe and funded the adoption and implementation of multiple US-based RSIs in New South Wales and Victoria. In New South Wales (NSW), this began in 2017 when the use of the parenting program SafeCare® (Edwards & Lutzker, 2008; Guastaferrero et al., 2012) was expanded to eight new sites under the Brighter Futures initiative. Additionally, the state funded a pilot trial of MST-EA® (Multisystemic Therapy-Emerging Adults) (Sheidow et al., 2016), to explore the program’s feasibility with care leavers with intellectual disability. Two further family therapies, FFT-CW® (Functional Family Therapy-Child Welfare) (Turner et al., 2017) and MST-CAN®, (Multisystemic Therapy-Child Abuse and Neglect) (Swenson & Schaeffer, 2013), were funded under the Their Futures Matter reform (New South Wales Government, 2018) and tested across multiple sites. Similarly, following the launch of the Roadmap for Reform (Victoria State Government, 2016) in Victoria in 2016, the state government funded the trials of a set of RSIs comparable to those selected for NSW, including FFT-CW®, SafeCare® and MST-Psychiatric®. These recent state initiatives represented a novel implementation experience in that foreign RSIs were transported to and used in Australia for the first time. Part of this experience forms a central part of the empirical data used in this thesis.

1.1.4 Implementation Science and Implementation Frameworks

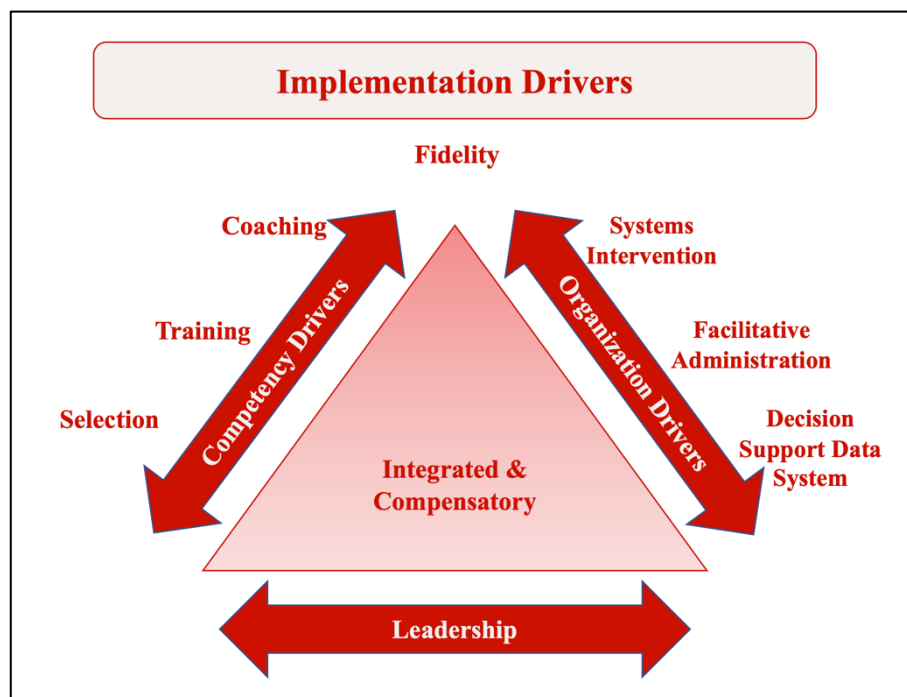
At the time when these RSIs took hold in Australia, the implementation problem had been discussed for some time. In fact, an entire field of research called “implementation science” had developed since the late 1990s, devoted specifically to solving this problem.

While implementation as a problem had been well-known within the field of political science for years (Pressman & Wildavsky, 1984), there the focus had always been on the difficulties of fully implementing *policy reforms*. Thus, the explicit link to the *uptake of evidence* in practice and policy first occurred as part of the evidence-based movement and fostered the development of implementation science. From 2006, the establishment of the journal *Implementation Science* (Eccles & Mittman, 2006) and the increasing scholarly acknowledgement of the field as an “emerging science” (Eccles et al., 2009; Proctor et al., 2008) added further to its establishment as a distinct scientific discipline. In pursuing “the scientific study of methods to promote the systematic uptake of research findings” (Eccles & Mittman, 2006, p. 1) in routine services, it quickly mirrored that the implementation problem was not only a challenge in the health sector in which it originated, but also in social welfare and education. A broad range of scholars therefore engaged in and contributed to this growing science, leading, especially in the first 10-15 years, to the development of a plethora of concepts and models aimed at describing some of the essential features of quality implementation. While large parts of this activity remained undetected by those practicing implementation in the field, for example, therapists, supervisors and organizational leaders working to implement RSIs, one concept enjoyed broader popularity, including in child and family services: the *implementation framework* – a conceptual structure of

factors that describes key influences on an implementation process (Nilsen, 2015). The implementation framework is the third focus of this thesis.

Between 2005 and 2013, I led different teams and organizations in Denmark that were involved in the national and local implementation of several of the US-based RSIs mentioned above. This work involved a wide network of organizations, including the Ministry of Social Affairs, a number of Danish municipalities and various non-government provider agencies. Shortly after beginning this work, a seminal publication was shared in this network (Fixsen et al., 2005) describing the foundations for an implementation framework that a few years later became commonly known under the name AIF or Active Implementation Frameworks (Metz, Naoom et al., 2015).

Figure 1.1: Implementation Drivers – One of Five Active Implementation Frameworks*



* Reproduced with the approval of the National Implementation Research Network (n.d.)

While today it consists of five different frameworks, its foundational publication from 2005 focused on only one of these: the implementation drivers presented in Figure 1.1. The inherent message of this figure had an immediate appeal to most key stakeholders in the Danish network, namely, that to ensure implementation quality, an agency has to focus on the competencies of those using the RSI, proper leadership and a hospitable host organization. Unsurprisingly, over time it became a habit of these stakeholders to refer to this “implementation triangle” when making a point about the RSI implementation problems that they faced and worked to solve. For some stakeholders it also led to claims about “using the implementation triangle” in their RSI implementation. However, when reviewing written reports about this work at the local level, it was seen that framework use was often a process of retrofitting already existing organizational behaviors and structures to this triangle. In this way, what had always been done (recruiting staff, providing leadership, or coordinating project support) could be presented as innovative implementation-informed practice, making the framework an accessory rather than an actively and prospectively used instrument to alter and improve implementation practice.

Simultaneously, the number of implementation frameworks produced within implementation science continued to grow. By 2012, 61 could be identified by the authors of an influential review (Tabak et al., 2012), whereas a more recent review (Striffler et al., 2018) counted 159 available theories, models or frameworks. While developed for different purposes, one of the key ambitions behind framework design has always been to “help multiple stakeholders more effectively navigate the complex process of EBP implementation” (Aarons, Hurlburt & Horwitz, 2010, p. 18). However, as the Danish practice example outlined above indicates, this may not be a

straightforward process. Additionally, the evidence base for using implementation frameworks has been described as limited (Strifler et al., 2018), highlighting a lack of available guidance for stakeholders on both how to select and apply frameworks in planning, executing and evaluating real world implementation processes.

This problem exists not only for implementation frameworks. For example, there is only cursory guidance for selecting and designing *implementation strategies* (Powell, Beidas et al., 2015), i.e. “the specific means or methods for adopting and sustaining interventions” (Proctor, Powell & McMillen, 2013, p. 1). Examples of such strategies are pre-service training, coaching, or the use of clinical data within cycles of audit and feedback. Not only have some of these strategies, for example consultation (Nadeem, Gleacher, Pimentel et al., 2013) or technical assistance (Dunst et al., 2019a), shown themselves to be black boxes that require further operationalization before they can be applied, implementation strategies have also been shown to require adaptations depending on the context in which they are used (Lyon et al., 2019; Nguyen et al., 2019) and particular methods for their design (Fernandez et al., 2019) and tracking (Bunger et al., 2017). At the current stage of development, this knowledge of implementation strategies appears to be insufficiently mature for a direct transfer into routine practice.

Implementation frameworks in the context of this thesis thus represent the principle problem that the very en vogue field of implementation science has begun to recognize only recently: that many of its outputs remain primarily directed at researchers and the gap between science and practice which the field intended to close ironically remains wide open and the implementation problem unsolved (Lyon et al., 2020; Westerlund et al., 2019).

1.2 This thesis

Taken together, this locates this thesis at the nexus of research-supported interventions in child and family services, evidence-based practice and implementation science. Its overarching goal is to examine

- the experience with implementing foreign RSIs in Australian child and family services;
- the usability of implementation frameworks to support and understand this work; and
- strategies that may help to enhance the usability of frameworks and other knowledge derived in the field of implementation science

Closely linked to these goals, the following research questions have guided the research presented in this thesis:

- How have implementation frameworks been used in child and family service studies?
- How can implementation frameworks help to explain real world experience with implementing foreign RSIs in Australia? What are their strengths and limitations?
- How might the use of implementation support help to improve the use of implementation frameworks (and of other implementation research findings) in human services in general, and child and family services in particular?

Based on these goals and research questions, this thesis is of particular relevance to decision-makers in practice and policy who have an interest in enhancing the uptake of evidence in their organization or sector and in learning more about “what works?” and “how can we make it work?” in child and family services. This also applies to those

working at the frontline of service delivery, including not only practitioners and supervisors who want to use more of the above evidence in their practice, but also facilitators and consultants who support this use and want to better understand their own role. While Australian child and family services are the context of key empirical chapters included in this thesis, many of its findings also apply to other child and family service contexts in which the uptake of evidence has been made a key priority.

1.2.1 Research Methodologies

This thesis is a *thesis with publication*. As such, publications, at different stages of the publication process, have been embedded in the narrative of the thesis. Because of the nature of the research design, each publication discusses methodology extensively. It is important, nevertheless, to provide a discussion about the overall research design with respect to choice justification, integrative scope and logic.

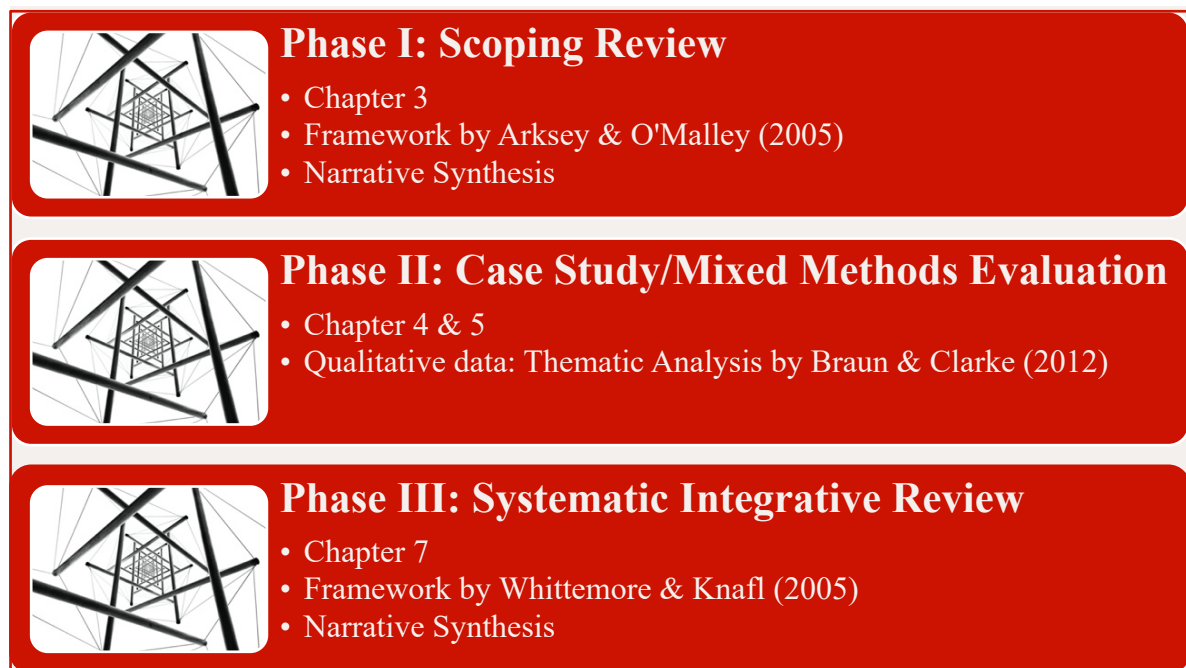
The overall design occurred in stages and has been tightly linked to my work as a director for the Centre for Evidence and Implementation (CEI), and as the chair of the European Implementation Collaborative (EIC). CEI is an Australian intermediary organization operating across science, policy and practice to support the uptake of evidence in routine human service settings. EIC is a network for professionals working in implementation science and practice. The research presented in chapters three to five was undertaken under the organizational umbrella of CEI, whereas the EIC functioned as this umbrella for the work on chapters six and seven. Rather than building on one particular design and range of methods, this thesis comprises multiple, interlinked studies building on different designs and utilizing different methods. This is summarized in Figure 1.2.

Phase One

The first phase of the research utilizes the scoping review method to establish the foundational knowledge required to further explore the role of implementation frameworks in child and family services.

The scoping review method is an exploratory approach to systematically and rapidly map the literature available on a specific topic (Colquhoun et al., 2014) and therefore was a methodical fit for the purposes defined. It entails the systematic selection, collection and summary of existing published work in a broad thematic area.

Figure 1.2: Thesis Methods*



* Chapter 2 of this thesis provides a broad introduction to the field of implementation science; with chapter 6, the role of the implementation science practitioner is introduced; and chapter 8 is a discussion chapter. Since these chapters do not build on the use of a particular research method, they are not included in this figure.

Scoping reviews belong to a broad category of systematic knowledge synthesis methods that build on pre-defined and explicitly stated criteria for sourcing literature and assessing its relevance for answering specific research questions (Gough et al.,

2012). In harnessing transparent scientific methods, the shared aim of these approaches is to minimize bias and enhance the replicability of synthesis findings and conclusions.

In the forming years of the systematic review as an academically recognized method, the primary focus was on defining common standards for answering research questions about the effectiveness of interventions by synthesizing quantitative findings included in randomized controlled trials (Chalmers et al., 2002). Organizations such as the Cochrane Collaboration, established in 1993 to prepare, maintain and promote “the accessibility of systematic reviews of the effects of healthcare interventions” (Volmink et al., 2004, p. 778), were key to this development. Within social welfare and education, the Campbell Collaboration took this role from 2000 (Littell & White, 2018).

However, in increasing the production of systematic reviews, it became increasingly clear that these reviews were not always well-suited to the needs of stakeholders requesting current best evidence to inform their real-world human service practice and policy. Firstly, conducting full systematic reviews showed to require considerable resources. Sixty-seven weeks have been reported as their average production time (Borah et al., 2017), with a recent study estimating that this production, when carried out by academic institutions, may cost approximately US\$ 141,000 per review on average (Michelson & Reuter, 2019). Secondly, practice and policy relevant research questions emerged in areas for which few or no randomized controlled trials existed, warranting the development of alternative synthesis methods that were equally systematic and transparent but allowed for the inclusion of a broader range of both quantitative and qualitative study designs. Finally, the range of questions desired to be answered through systematic reviews quickly moved beyond matters of effectiveness and expanded to questions about, for example, stakeholder experiences, implementation

processes, or policy issues (Munn et al., 2018). In the past decade, this learning has led to a proliferation of novel systematic review approaches that aim to enable a still systematic but more rapid and resource-conscious review process and the synthesis of findings derived from studies that use a variety of designs for the purpose of answering complex research questions that emerge from real world practice or policy needs (Tricco, Soobiah et al., 2016).

The scoping review method has been among the more prominent of these new approaches (Colquhoun et al., 2014; Tricco, Lillie et al., 2016). Within child and family studies, it has been utilized to explore the evidence existing for a diverse range of topics, including, for example, indigenous parenting programs (Macvean et al., 2017), family engagement in child protection (Toros et al., 2018) or workforce support among child welfare workers (Olaniyan et al., 2020). Across these and other studies, the detailed steps taken to conduct a scoping review have not always been identical. Rather, there has been considerable variation in method use and study reporting, leading scholars to request greater standardization in the use of the method, among others informed by clear frameworks (Colquhoun et al., 2014; Tricco, Lillie et al., 2016). One such framework was developed by Arksey and O'Malley (2005) in an effort to provide guidance to authors undertaking scoping reviews. Its six distinct stages were used for this thesis. This is described fully in chapter three.

Phase Two

The overview of framework use in the sector that resulted from this scoping review, increased my interest in using a particular implementation framework to understand how it can help to explore and analyze concrete implementation experience gathered by

different stakeholders operating in Australian child and family services. This represents phase two of the thesis research.

A first opportunity to examine such framework usability – of the Consolidated Framework for Implementation Research (Damschroder et al., 2009) – emerged in 2016, in relation to the implementation of a specific RSI in New South Wales, when a state government department commissioned an evaluation seeking answers as to why this implementation had failed. With the aim of providing a comprehensive understanding of this “mis-implementation”, the case study method was selected to qualitatively explore the experience of key stakeholders.

A case study has been defined as “an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution or system in a ‘real-life’ context.” (Simons, 2009, p. 21). Developed for the study of single phenomena (Simons, 2014), its purpose is to form a detailed view of the characteristics, qualities and complexities of these phenomena – which represent “bounded systems”, i.e. clearly identifiable units that can be delineated by, for example, time, geography or activity (Harrison et al., 2017).

While case study research has a long tradition that can be traced back to the 1600s, it is the Chicago School of Sociology that has been viewed as forming modern case study design through their anthropological examinations of, for example, the social life of particular groups in society, including university cultures, carried out between 1920 and 1950 (Harrison et al., 2017). This development progressed further with the introduction of grounded theory in the late 1960s (Glaser & Strauss, 2017), a methodology contributing to a more systematic development of case studies, based on, for example, theory use or structured processes for analyzing case data.

Despite these early methodical enhancements, a substantial part of the debate about case study designs has centered on questions about its status as a method. Critics of case studies have viewed them as “the weak sibling among social science research methods” (Yin as cited in Tight, 2010, p. 332) and alerted to the inflationary use of the label “case study” for many even non-scientific types of inquiry (Tight, 2010). Furthermore, the limited generalizability of findings derived from case studies together with a claimed bias toward verification has led these critics to doubt the internal and external validity that can be achieved through case studies (Carey, 2012; Tight, 2010). The fact that many – incorrectly – viewed case studies as a purely qualitative approach may have contributed further to this view (Simons, 2014; Tight, 2017).

Among proponents of case studies as a distinct research method, this necessitated to create greater clarity around the key characteristics of a well-conducted case study. A central key scholar who has participated in this debate is Robert K. Yin (2012), who highlights the following as important to consider in the conduct of case studies: to clearly define the boundaries of a case and the research question in focus, to utilize theory in examining the case, to search for patterns in collected data – independent of whether these are qualitative or quantitative data, to triangulate data, to consider multiple interpretations of these data and potential generalizations of findings (Yin, 2012; Tight, 2010). With these recommendations in mind, representing qualities that should also apply to other types of research, case studies are today acknowledged as a valid and sophisticated type of inquiry into the *how* and *why* of complex real-world problems (Diefenbach, 2009; Kyburz-Graber, 2004; Corcoran et al., 2004).

In child and family studies, case-based research has been widely used – also for examining the implementation of RSIs. Typical examples are studies of, for example,

the integration of Triple P into the services of family support centers in Alberta, Canada (Breitkreuz et al., 2011); the experience with coaching among US providers of SafeCare® (Gunderson et al., 2018); or the adaptation of The Incredible Years within the context of a residential treatment program for pregnant and parenting women with substance abuse problems in the US (Aarons, Miller et al., 2012). While this type of study aims to contribute to an understanding of how the use of an RSI can be made possible, to my knowledge, no studies of *unsuccessful* RSI implementation efforts have been reported in the literature. As such, mis-implementation can be viewed as an underexplored phenomenon that requires deeper description, understanding and explanation. The case study is particularly well-suited for this research aim (Baškarada, 2014).

A year later, another RSI implementation evaluation was commissioned in the state of Victoria, aimed at assessing the quality of this implementation across multiple child and family service agencies. This provided an additional opportunity to utilize the Consolidated Framework for Implementation Research. Since multiple characteristics of the implementation process, including, for example, its pace, its key barriers as perceived by stakeholders, the degree to which RSIs were implemented as intended, and the types of support provided to implementers, were in focus of this evaluation, a cross-sectional mixed-methods, design was used.

In enabling the examination of phenomena that require quantitative as well as qualitative data collection and analysis, mixed methods research is generally recommended “for the broad purposes of breadth and depth of understanding and corroboration” (Johnson et al., 2007, p. 123). It is tightly linked to the divide between the quantitative and the qualitative research paradigm that has dominated science for

many years. At the point of strongest polarization in the 1960/1970s, methodological discussions among scholars, fixated “upon what is ‘good’ about one approach or ‘bad’ about another” (Rist, 1977, p. 42), often dismissed opposed paradigms as either being too hard or too soft, too rigorous or too intuitive and too scientific or too critical (Rist, 1977). Due to these passionate yet fruitless debates, merging paradigms appeared increasingly important but, at this stage, also difficult (Rist, 1977; Fry et al., 1981). However, in the early 1970s, first concrete suggestions for how to bridge the paradigmatic divide through triangulation had emerged, among others calling for the examination of the same phenomena through the combined use of qualitative and quantitative methods (Johnson et al., 2007). In aiming for such triangulation, scholars advocated for greater pragmatism in selecting research methods and for considering the potential of multiple perspectives when preparing studies. The combination of methods was assumed to create richer data that – even when unveiling contradictions or inconsistencies rather than coherence – could improve understanding and explanation of observed phenomena (Johnson et al., 2007). Over time, this school of thought has led to the establishment of “mixed-methods” as a new research paradigm (Johnson & Onwuegbuzie, 2004). This has not fully eradicated discussions of superiority questions and ontological or epistemological differences between varying mixed methods approaches (Harrits, 2011; Leech & Onwuegbuzie, 2009), but it has contributed to mixed methods being commonly acknowledged as a relevant methodical choice in science.

This has also been reflected in implementation research, where a review of 22 mixed-methods implementation studies conducted in mental health settings between 2005 and 2009 (Palinkas, Aarons et al., 2011) confirmed the use of five types of

designs, each of which represents a different function (Greene et al., 1989). Here, triangulation falls under the *convergence* function, where both methods are used to answer the same research question – either by comparing the qualitative with the quantitative findings, i.e. triangulation, or by converting either set of data into its opposite, i.e. qualitative into quantitative and vice versa. Further functions that could be identified were *complementarity* – the use of each method for answering a separate but related research question, for example, quantitative methods for outcomes (Does the intervention work?) and qualitative methods for understanding (How was the intervention perceived? Why does the intervention work?); *expansion* – the use of qualitative methods to understand results derived from quantitative data; *development* – using quantitative data to answer questions in ways that make it possible to use qualitative data (and vice versa), for example when the development of survey questions leads to the collection of quantitative data; and *sampling*, where one type of method is used to generate a study sample for the collection of data using the opposite method.

Multiple of these functions were utilized as part of a 5-year mixed-methods study of SafeCare® implementation across multiple community-based child welfare providers in Oklahoma, US (Aarons, Fettes et al., 2012). Embedded within a randomized controlled effectiveness trial, quantitative data were gathered to document staff retention rates across conditions (SafeCare® versus Services as Usual) (Aarons et al., 2009), which showed to be in favor of SafeCare®. Simultaneously, qualitative data were gathered through interviews and focus groups to elucidate perceived barriers and facilitators to the implementation of the RSI, including how it affected agencies and their staff, thereby helping to understand why the organizational change inevitably created through the introduction of SafeCare® did not lead to increased turnover.

For the evaluation of RSIs in Victoria, the complementarity design was used, in that different research questions were raised for the implementation, each of which required the use of different methods. For example, one goal was to assess the pace of the implementation across sites and the implementation stage reached at each site. This led to the use of the Stages of Implementation Completion (SIC) tool, a quantitative measure of implementation progress (Chamberlain et al., 2011). The identification of barriers to the implementation on the other hand was best pursued using semi-structured questionnaires informed by the Consolidated Framework for Implementation Research. This is fully described in chapter five.

Phase Three

The empirical studies conducted in Australia showed very clearly that RSI implementation involved considerable challenges for stakeholders, which could not be overcome by introducing them to implementation frameworks only. Furthermore, the frameworks did not reflect the realities of real-world implementation, which showed to be more complex than what they implicitly described as being the essential components of an implementation. A question therefore emerged: If these tools alone are insufficient to understand and improve implementation practice in child and family services, how can this practice be developed in other ways? This induced phase three of this research.

While multiple pathways would have been possible to pursue in answering this question, it was the role of “implementation support” that came into particular focus because it is increasingly provided through the type of intermediary organization that I was part of. In the literature, this support is described as being offered by consultants, facilitators, technical assistance providers and similar roles, each of which represents a

separate stream of research. In efforts to develop a research-informed and unifying program theory for the role of these implementation support practitioners, it was therefore important to select a review method that was suited for theory development and also allowed for the inclusion of qualitative as well as quantitative studies. The integrative review method meets these requirements.

Similar to the scoping review method, the integrative review is an iteration of the traditional full systematic review, developed to explore complex research questions that move beyond matters of effectiveness. It belongs to a group of review methods that allow for generating or refining theory through the systematic and transparent screening and assessment of multiple types of empirical as well as theoretical studies (Kastner et al., 2016; Tricco, Antony et al., 2016). As such, it has been commonly used to “provide a more comprehensive understanding of a particular phenomenon by inter-relating prior isolated research” (Kirkevold, 1997, p. 980). With the literature on implementation support being dispersed across multiple schools of thought, this further strengthened the integrative review as the relevant choice for this research.

While the systematic integrative review originated in the field of nursing science, its use in child and family studies is not unknown. However, its use for theory development remains scarce in the sector – with a study by Foster et al. (2016), utilizing this method to identify common components of family-focused practice in mental health settings, being among the exceptions.

One barrier reported to hamper the use of novel types of systematic reviews is the lack of operational guidance for many of these approaches. However, for the systematic integrative review, Whitemore and Knafl (2005) developed a fully operationalized

framework that showed to be a fit for this research. This is fully described in chapter seven.

Together, the scoping and integrative reviews, the case study, and the mixed-methods evaluation form an integrative research design tailored to the scope of the overarching research questions raised for this thesis.

1.2.2 Chapter Outline

Chapter one, this introductory chapter, has provided a general location for this thesis together with its key topics and main research questions. While each chapter that reports on research findings includes a detailed methodology that justify its use, chapter one provided an additional overview of the integrated three-part frame of the research design, the conceptual base for each phase, and limitations.

Chapter two explores the literature, providing an overview of the development of implementation research into a distinct field of science. It presents some of the key terminology and concepts that will permeate subsequent chapters of this thesis. This chapter includes the following publication, developed as part of a collaboration to produce a recently published book on implementation science:

Albers, B., Shlonsky, A., & Mildon, R. (2020). En Route to Implementation Science 3.0. In B. Albers, A. Shlonsky, & R. Mildon, *Implementation Science 3.0* (pp. 1–38). Springer Nature. <https://doi.org/10.1007/978-3-030-03874-8>

Chapter two reinforces the importance of appreciating that implementation science is multidisciplinary. Literature used in this and following chapters may therefore be

rooted in health, mental health or education and still be applicable to child and family services because the implementation problem is a universal experience that crosses the boundaries of professions and sectors. Lessons learned in one context can therefore be transferred and utilized in another context.

Chapter three addresses research question one: *How have implementation frameworks been used in child and family service studies?* It contains the findings from the scoping review that aimed at identifying studies conducted within child and family services and documenting the use of implementation frameworks. The following publication is embedded within the chapter:

Albers, B., Mildon, R., Lyon, A. R., & Shlonsky, A. (2017). Implementation Frameworks in Child, Youth and Family Services – Results from a Scoping Review. *Children and Youth Services Review*, 81, 101–116.
<https://doi.org/10.1016/j.childyouth.2017.07.003>

It provides an indication of the typical framework use in the sector, while also introducing some of the most prominent implementation frameworks and their key characteristics. Its conception is linked to work that I, together with CEI colleagues, conducted for the Australian Royal Commission into Institutional Responses to Child Sexual Abuse. This commission was established in 2014 as an inquiry into child sexual abuse in Australian institutions based on private personal accounts, as well as public hearings, and reviews of research and policy (Royal Commission into Institutional Responses to Child Sexual Abuse, 2017). It commissioned CEI to review the literature on implementation best practice and to provide suggestions for evidence-informed

strategies that could be used to implement the Royal Commission's final recommendations, which were forwarded in 2017. Implementation frameworks were chosen as a representation of this best practice, and the rapid review method used to synthesize current best evidence for these frameworks (Albers & Mildon, 2016). Later, this review was updated, refined and developed into a journal article (Albers et al., 2017), which forms the basis of the chapter.

Based on two different Australian cases of RSI implementation, chapters four and five then focus particularly on the Consolidated Framework for Implementation Research (Damschroder et al., 2009). Together, they address research question two: *How can implementation frameworks help to explain real world experience with implementing RSIs in Australia? What are their strengths and limitations?* Both of these chapters summarize implementation evaluations that were funded by state government bodies and conducted by me in collaboration with CEI colleagues.

In chapter four, the CFIR was used to analyze data gathered as part of an unsuccessful implementation of Multisystemic Therapy-Emerging Adults (MST-EA®) in New South Wales. This RSI was originally used to improve services for care leavers with intellectual disability and complex behavior problems but ended in implementation failure, and the CFIR was used to understand why this happened. The findings from this case study have been summarized in the following manuscript that was submitted to the journal *Human Service Organizations* and is currently undergoing the second review:

Albers, B.; Shlonsky, A. (under review). When Policy Hits Practice – Learning From the Failed Implementation of MST-EA in Australia. *Human Service Organizations: Management, Leadership & Governance*.

In chapter five, the CFIR supported the evaluation of the early implementation of three RSIs in the state of Victoria (Functional Family Therapy-Child Welfare [FFT-CW®], MST-Psychiatric® and SafeCare®). While this implementation could be maintained, the use of the US-based programs proved to be complicated, and the CFIR was applied to identify these complications and understand how they affected the Australian implementation process. The primarily qualitative findings from this mixed-methods evaluation were reported in a published journal article, which has been embedded in this chapter:

Albers, B., Hateley-Browne, J., Steele, T., Rose, V., Shlonsky, A., & Mildon, R. (2020). The Early Implementation of FFT-CW®, MST-Psychiatric®, and SafeCare® in Australia. *Research on Social Work Practice*. <https://doi.org/10.1177/1049731520908326>

In both CFIR chapters, the potential and the limitations of the framework in explaining two very different implementation experiences are explored and the consequences for framework use, as well as implementation practice, discussed.

This leads into chapter six, which centers on the question of how to better embed implementation knowledge in practice and introduces a novel role operating at the boundary between implementation science and practice: the implementation support practitioner (ISP). In essence, it provides a mid-way discussion, based on the findings of phases one and two. Hence, this chapter is theoretical and serves as a conceptual proposal for consolidating a highly diverse evidence base existing for roles such as consultants, facilitators, coaches and technical assistance providers, all of whom focus on supporting others in their use of evidence. Forwarded in the form of a preliminary

program logic, this role is suggested to be a potential solution to the implementation problem. It has been reported in the following article, which has been embedded in the chapter:

Albers, B., Metz, A., & Burke, K. (2020). Implementation Support Practitioners – A Proposal for Consolidating a Diverse Evidence Base. *BMC Health Services Research*, 20(Article 368). <https://doi.org/10.1186/s12913-020-05145-1>.

The article is the result of an international collaboration between the European Implementation Collaborative, represented by myself, and two colleagues from intermediary organizations operating in the United States and Ireland.

In building on this ISP program logic, chapter seven then presents the findings from a systematic, integrative review aimed at further consolidating the content of the logic through findings from the literature. As such, it addresses the third and final research question guiding this thesis: *How might the use of implementation support help to improve the use of implementation frameworks (and of other implementation research findings) in human services in general, and child and family services in particular?* Based on a review of 109 eligible articles, the different components of the logic were further detailed. Furthermore, in integrating the evidence base that currently exists across multiple bodies of research, the ISP role is discussed in terms of its potential as well as its limitations. This chapter is sole authored and is currently unpublished material, which will be prepared for publication post submission of this thesis.

Finally, chapter eight provides the thesis discussion in which thesis goals are revisited and three key conclusions drawn related to the use of RSIs, the application of implementation science concepts such as frameworks, and the role of ISPs in these processes. Their implications for policy, practice and research are considered and discussed. While limitations are addressed separately as part of each empirical chapter, pertinent research gaps are highlighted, providing direction for further investigation.

1.3 Conclusion

The call for evidence-based practice and the advent of increasing numbers of research-supported interventions available to and utilized by decision-makers in the child and family services sector have moved the implementation problem – the challenges of integrating scientific knowledge within sector practices and policies – center stage.

While a distinct scientific discipline – implementation science – is committed to developing models, methods and means to solve this problem, this is still a relatively new field of inquiry. Its key outputs, offered as potential means for addressing real world implementation challenges, require an examination of how they have been and can be used to enhance the uptake of evidence in practice and policy.

The implementation framework is an exemplar of these outputs, and a tool that has gained immediate popularity in child and family services. Examining its use, potential and limitations in relation to the real-world implementation of US-based research-supported interventions is at the center of this thesis.

2. Chapter Two

2.1 The Development of Implementation Science

In a highly referenced commentary published on Forbes.com¹ in 2004, Guy Kawasaki very briefly states “Ideas are easy. Implementation is hard. Keep thinking.” Back then, this simple truth was used to remind aspiring entrepreneurs that it can be tough to get a business idea off the ground. This chapter reaches back to this motto to frame an exploration of the current state of implementation science and the shape of things to come. It considers the development of implementation science as a distinct scholarly discipline that has evolved over the course of three decades and provides an overview of key ideas emerging from the literature.

The following publication served as the foundation for this chapter:

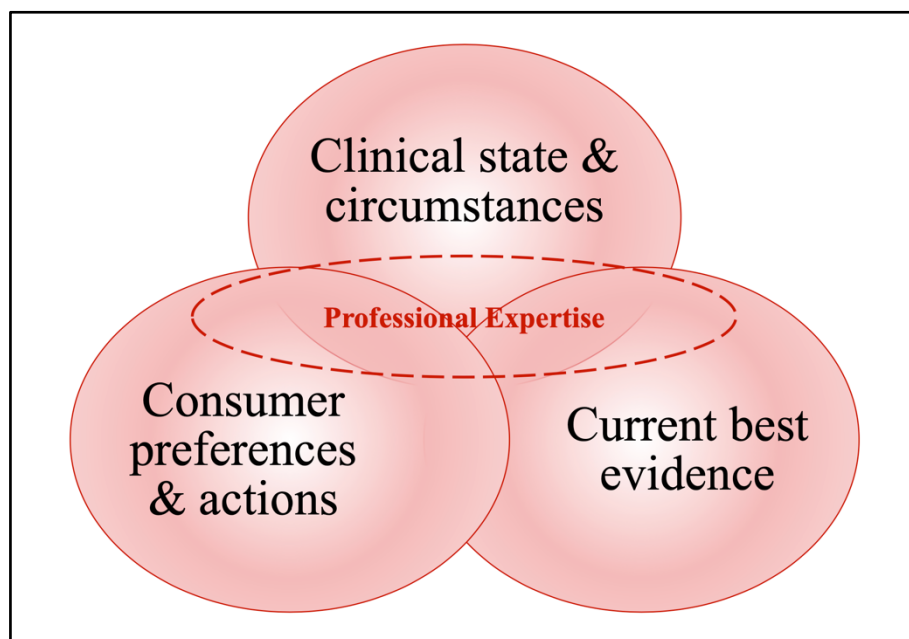
Albers, B., Shlonsky, A., & Mildon, R. (2020). En Route to Implementation Science 3.0. In B. Albers, A. Shlonsky, & R. Mildon, *Implementation Science 3.0* (pp. 1–38). Springer Nature. <https://doi.org/10.1007/978-3-030-03874-8>

The interest in successful implementation is not new. Within political science it has existed since the early 1970s with a distinct focus on the barriers and enablers of fruitful policy implementation (Hupe, 2010; Hupe & Hill, 2015; Lipsky, 1980; Pressman & Wildavsky, 1984; Weatherley & Lipsky, 1977). The concept of implementation was

¹ Retrieved from https://www.forbes.com/2004/11/04/cx_gk_1104artofthetart.html#4a9fecdl1efe on August 27, 2018

pushed to new levels when it was linked with the evidence-based practice (EBP) movement. EBP first took hold in health as evidence-based medicine (Sackett et al., 1996) and then migrated to social welfare (Petrosino et al., 2001) and education (Simons et al., 2003). In a preferred model, optimal evidence-based decision-making, reflected in Figure 2.1, is the intersection of what we currently know (current best evidence), what consumers prefer and are likely to accept (consumer preferences and actions), and their individual circumstances as they relate to the issue at hand (clinical state and circumstances).

Figure 2.1: Evidence-Based Model of Professional Decision-making²



Adapted from (Haynes et al., 2002)

There have been continuing academic arguments about what evidence-based and evidence-informed practice entails (Chalmers, 2003, 2005; Gambrill, 2003; Mullen et

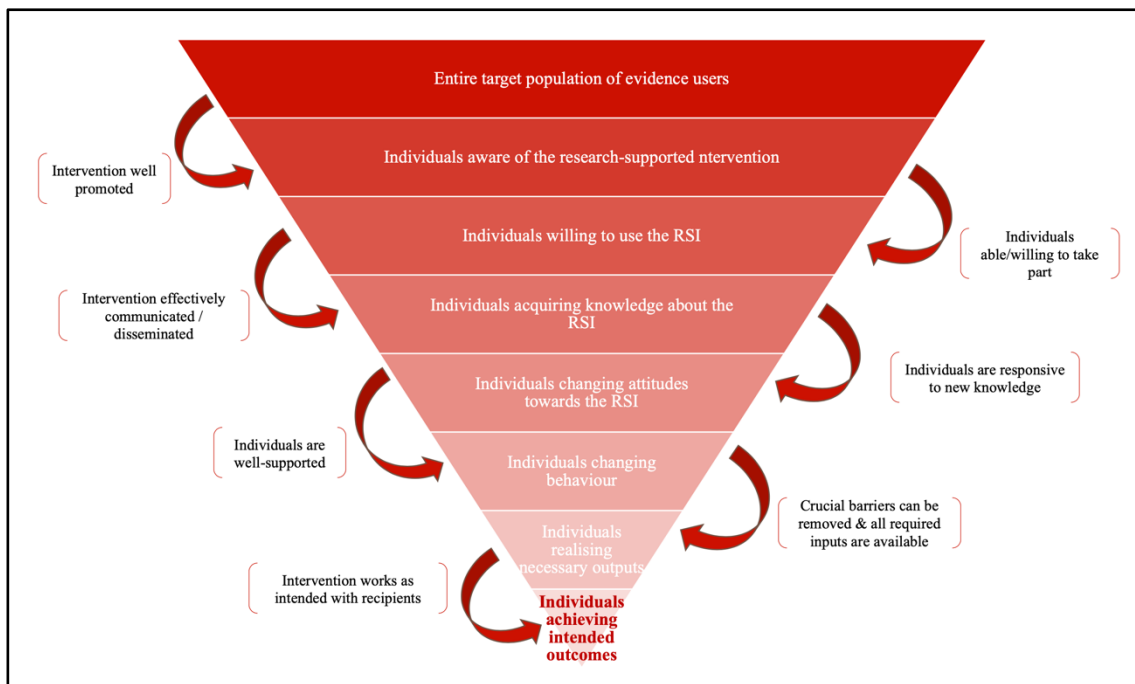
² This figure is an adapted version of thinking reflected in Figure 2 in Haynes et al., (2002), which can be accessed [here](#).

al., 2005; Mullen & Streiner, 2004; Shlonsky et al., 2011), but there is little doubt that the mere existence of evidence does not mean that such evidence can and will be used in practice. Even if a practitioner or provider is committed to finding and integrating current best evidence into assessment and treatment decisions, this evidence may not be available. In some cases, this may be because the research has not yet been conducted, which supports a push for more discovery research and evaluations of existing programs. In other cases, the data evidence may be patchy or poorly synthesized supporting the need for high quality systematic reviews. Importantly, there is also every indication that, even if evidence has been discovered and properly synthesized, the research to practice gap – in health terminology, the time it takes for evidence to make its way from the lab to the bedside – is substantial and may take as long as 17 years (Balas & Boren, 2000; Grant et al., 2003). Moreover, even though knowledge exists, the capacity of a service provider to find and use this knowledge effectively is contingent on the context in which services are delivered. Often illustrated through a “funnel of attrition” (Glasziou, 2005; White, 2018), the multiple steps required to achieve outcomes in real world practice through the use of evidence potentially lead to a loss of impact – because a broad range of barriers hamper or prevent this use at each stage (Figure 2.2). The number of people who actually receive and benefit from a known, effective intervention is far smaller than the number of people who could use it.

In other words, the economic, political, professional and socio-historical context in which service delivery organizations operate cannot be ignored and will impede or facilitate the use of evidence in practice (Raghavan et al., 2008; Regehr et al., 2007;

Schoenwald, 2010; Schoenwald et al., 2010). The realization that consumers³ only benefit from services they actually receive, and that delivery is at least as complicated as development, has driven the emergence of implementation science as a field of practice and scholarship.

Figure 2.2: The Funnel of Attrition



Developed based on (Glasziou, 2005; White, 2018)

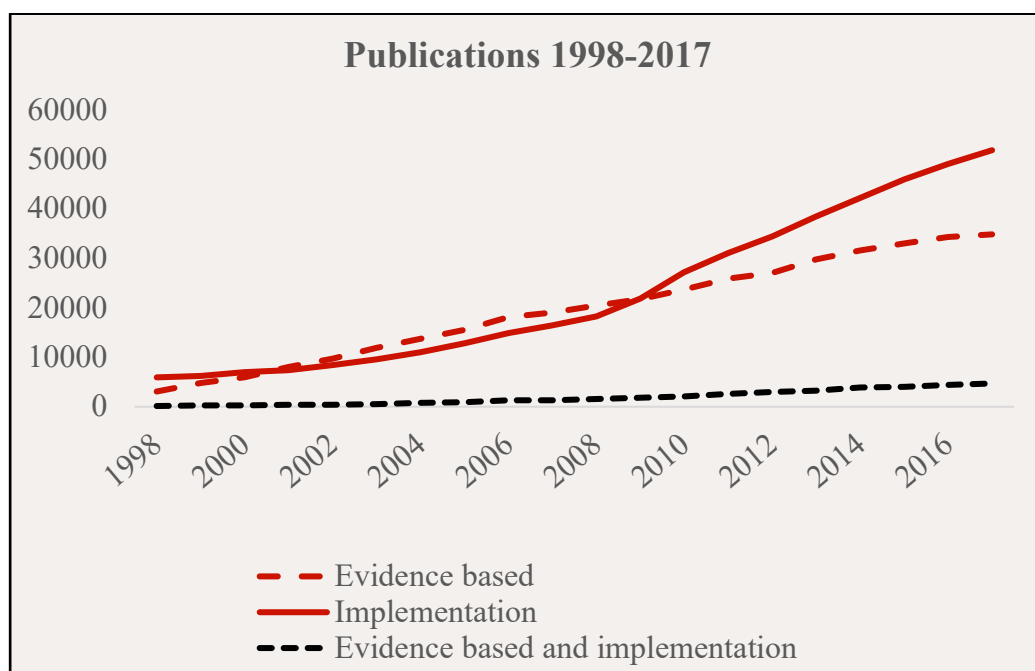
2.1.1 Conceptualizing Implementation

Implementation science is “the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and hence, to improve the quality and effectiveness of health services and care” (Eccles & Mittman, 2006, p. 1).

³ The use of ‘consumers’ here refers to patients, clients, students, or other intended beneficiaries of services and implies that decisions about services are made with their input.

The emergence of implementation science as a discipline can be observed in many ways, but perhaps the most visually compelling representation can be made using the published academic literature. We conducted a simple search of academic publications using the terms ‘implementation’ and ‘evidence-based’ and their derivations over twenty years of publications between 1998 and 2017 (Figure 2.3).⁴⁵⁶⁷

Figure 2.3: Publications Including the Terms “Implementation” and/or “Evidence-Based” and Their Derivations



The use of “evidence-based” and related terms rose from just 3,076 in 1998 to 31,848 in 2017 representing an order of magnitude increase. The use of implementation and related terms saw a similar explosion beginning in 1998 with only 5,937 articles

4 Databases used: Ovid Medline, Embase, Psycinfo, Cochrane Collaboration Registry of Controlled Trials, Cochrane Database of Systematic Reviews

5 Search terms used for evidence-based: (evidence-based OR evidence based OR evidence-informed OR evidence informed)

6 Search terms used for implementation: (implementation OR knowledge translation OR knowledge exchange OR knowledge mobilization OR knowledge transfer)

7 Inclusive indexing including any use of the terms in titles, abstracts, subject headings

and ending with 51,581 in 2017, an 870% increase. Although both sets of terms had massive increases, they have increased in different ways. Evidence-based terms have increased steadily and uniformly while implementation terms began a marked increase in volume in 2009. The number of implementation articles more than doubled between 2009 and 2017 (rate ratio=2.35). When evidence and implementation terms are combined⁸, the overall numbers are smaller (as expected) but the overall percent increase over time is even more dramatic. In 1998, there were a mere 141 articles using both of these terms. By 2017, we found 4,676 articles using both terms – a more than 3,000 percent increase. While there are substantial limitations to this search⁹, these findings nevertheless tell a story of an emerging discipline that is strongly linked with the evidence-based movement that began in the 1990s.

Scholars operating in this field were driven by an interest in closing the research-practice gap through the identification and examination of activities and processes that effectively support the dissemination, uptake and implementation of evidence in real world practice and policy settings. As such, the field of implementation science has – from the beginning – been interdisciplinary and aimed at enabling better service delivery in health and human services. This big tent includes traditional and allied health, social welfare and education and hence embraces service sectors such as primary care, behavioral health, education, criminal justice, or child welfare.

The first decade of scientific inquiry – taking place between 2000 and 2010 – was clearly exploratory and resulted in the development of a large number of

8 (evidence-based OR evidence based OR evidence-informed OR evidence informed) AND (implementation OR knowledge translation OR knowledge exchange OR knowledge mobilization OR knowledge transfer)

9 Limitations include the fact that these data are correlational only, the overall number of published studies has increased, duplicates across databases (while controlled for) may still exist in substantial numbers, authors in the field may be referencing themselves in large numbers, all disciplines are not uniquely represented (e.g., education), indexing may be inaccurate or has changed over time, and terms may not be defined the same way by individual authors.

implementation constructs that were conceptual in nature and aimed at capturing the essence of implementation processes at the organizational and individual levels. Factors influencing implementation, for example, the implementer and the setting in which he or she operates (Parahoo, 2000), as well as activities aimed at supporting implementation, for example, the monitoring of fidelity (Schoenwald et al., 2000) or facilitation (Harvey et al., 2002), gained increasing attention.

Many of these constructs were rolled up into implementation frameworks that attempted to capture both the elements and a process describing how they might be used together to understand and facilitate successful implementation. Multiple highly-cited articles from this time present implementation frameworks (Damschroder et al., 2009; Fixsen et al., 2005; Greenhalgh et al., 2004; Rycroft-Malone, 2004), and theories (May et al., 2009) and reflect a strong interest in identifying overarching determinants of implementation success or failure. While the purpose and structures of these frameworks differ, they have contributed to a shared understanding of key factors crucial to implementation. These are probably best reflected in the QIF, the Quality Implementation Framework (Meyers et al., 2012), which integrates the content of 25 other implementation frameworks, 23 of which were developed in the first decade of implementation science. It echoes the common acknowledgement in the field that implementation

- occurs in stages – with the QIF suggesting four,
- requires an assessment of needs prior to the selection of an intervention to implement,
- depends on the readiness of individuals and organizations,
- necessitates considering how an intervention may need to be adapted,

- implies building capacities among all stakeholders involved – internal as well as external,
- entails developing an infrastructure to support the implementation, for example, in the form of proper planning, team building, or system alignment, and
- demands continuous monitoring of and support to practice, which should be embedded within continuous feedback mechanisms.

Unsurprisingly, following the wave of framework development, many implementation studies focused on identifying and describing barriers and facilitators of the uptake of evidence in practice or policy – an interest that has been maintained over time (Addington et al., 2010; Brunette et al., 2008; Forman et al., 2008; Kadu, 2015; Khanassov et al., 2014).

Simultaneously, others began examining and operationalizing key implementation concepts in greater detail. For example, organizational readiness (Holt, Armenakis, Feild, et al., 2007; Holt, Armenakis, Harris, et al., 2007; Weiner, 2009), the implementation context (Aarons, 2004; Aarons et al., 2007; McCormack et al., 2002; Stetler, 2003; Stetler et al., 2008; Weiner et al., 2009; Woltmann et al., 2008), implementation leadership (Dopson & Fitzgerald, 2006; Gifford et al., 2007; Hodson & Cooke, 2004; Øvretveit, 2009; Proctor et al., 2007), and fidelity (Kendall & Beidas, 2007; Perepletchikova et al., 2007; Perepletchikova & Kazdin, 2005) – to name just a few. The primary aim of these publications was to synthesize current best knowledge, propose foundational definitions or point to ambiguities, gaps, and pertinent questions that would have to be addressed by implementation scientists in the future. Empirical studies examining the relationship between implementation indicators on the one hand

and clinical outcomes on the other were relatively rare with a few but highly prominent exceptions (Durlak & DuPre, 2008; Lipsey, 2009).

The growing production of implementation publications in this decade accelerated further from 2005 with the establishment of two scientific, peer-reviewed journals focused on implementation. First came “Evidence & Policy”, describing itself as “dedicated to the comprehensive and critical assessment of the relationship between research evidence and the concerns of policymakers and practitioners, as well as researchers” (Evidence & Policy, n.d.). A year later, “Implementation Science” (IS) followed, which aimed at encompassing “all aspects of research relevant to the scientific study of methods to promote the uptake of research findings into routine settings in clinical, community and policy contexts” (Eccles & Mittman, 2006, p. 2).

Moreover, organizations dedicated to building implementation science capacities began to emerge, with the US-based Implementation Research Institute, IRI (Proctor, Landsverk, et al., 2013) and a research program focused on Implementation and Learning (I&L) established at Linköping University in Sweden (Carlfjord et al., 2017) being among the first to be founded in 2009. They have since been followed by multiple other capacity building initiatives (Chambers et al., 2017; Proctor & Chambers, 2017) such as the Training Institute for Dissemination and Implementation Research in Health – TIDIHR (Meissner et al., 2013) in 2011, King’s College London’s Centre for Implementation Science¹⁰ in 2013, and Australia’s National Health and Medical Research Council’s Translating Research Into Practice (TRIP) Fellowships¹¹ in 2013.

¹⁰ <http://www.clahrc-southlondon.nihr.ac.uk/centre-implementation-science>

¹¹ <https://www.nhmrc.gov.au/funding/find-funding/translating-research-practice-trip-fellowships>

In experiencing this substantial growth in productivity, IS scholars increasingly acknowledged and discussed challenges linked to the highly diverse terminology used in the field. “Implementation science” was used next to “knowledge translation and exchange” (Mitton et al., 2007), “knowledge mobilization” (Ward, 2017), and “knowledge brokering” (Ward et al., 2009) – leading some to call for a clearer conceptualization and mapping of terms (Graham et al., 2006) and others to develop suggestions for shared definitions (Rabin et al., 2008). While this has not resulted in a fully streamlined terminology without any overlaps, there now exists greater agreement on “knowledge translation and exchange” related terminology describing processes of spreading and disseminating research findings, and “implementation” denoting active efforts to effectively apply these findings in practice (Green et al., 2009).

Based on a steadily increasing productivity and high numbers of outputs reflected in the many concepts developed, IS scholars entered into the next decade with a growing sense of being part of an “emerging science” (Proctor et al., 2008) that, despite its conceptual and methodological diversities and challenges, offered prospects and new pathways toward a better understanding of how to effectively integrate research findings into the daily routines of individual practitioners, their teams and organizations, and the wider service systems they are part of.

2.1.2 Laying the Foundations of Implementation Research

The second decade of the implementation science movement was characterized by the emergence of rigorous research testing concepts, models and theories in an effort to build on the *science* part of implementation science. This has not curbed the interest in and associated work to develop implementation concepts, models and theories.

However, there has clearly been a recognition that development and use of proper methods for measuring and testing the effectiveness of implementation elements, processes, theories, and concepts are needed to meaningfully advance the field. A core interest within this work stream is the enhancement of designs and tools used to evaluate implementation processes as part of dedicated implementation studies.

Extending the searches for evidence and implementation, we conducted an additional search to measure the extent to which the experimentation and knowledge building required to successfully develop a new discipline is being conducted. One way to measure whether there is high-quality experimentation occurring in a discipline is to measure the extent to which randomized controlled trials are being used to test the effectiveness of interventions. Knowledge building requires evidence synthesis, and systematic reviews of the literature are the most exhaustive and rigorous method for synthesizing research questions within and between disciplines. As such, we searched for all randomized controlled trials (RCTs) and systematic reviews (SRs) within the Implementation Science discipline over twenty years of publications between 1998 and 2017 (Figure 2.4).¹²¹³¹⁴¹⁵¹⁶

Similar to the earlier analysis, RCTs and SRs involving implementation have increased considerably. RCTs in the discipline increased from a low of 371 in 1998 to 8,091 in 2017, a 22-fold increase. SRs also saw a considerable rise from a low of 58 in 1998 to a high of 2,642 in 2017, a 45-fold increase. Also similar to the earlier analysis,

12 Databases used: Ovid Medline, Embase, Psycinfo, Cochrane Collaboration Registry of Controlled Trials, Cochrane Database of Systematic Reviews

13 Search terms used for RCTs: (RCT or randomi* or (random* adj3 (assign* or allocat*)) or blinded or double blind* or doubleblind*)

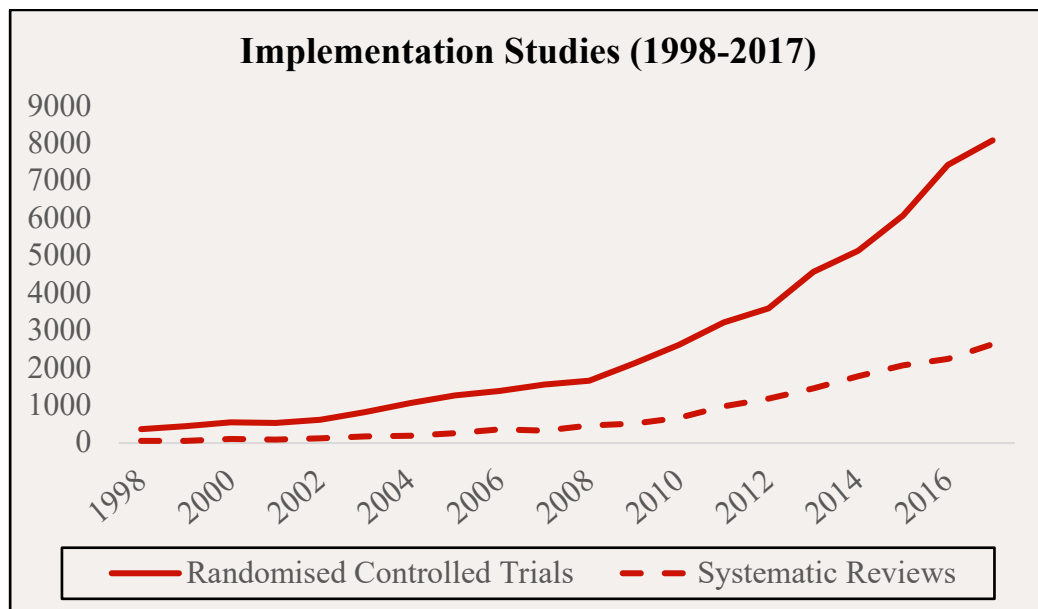
14 Search terms used for SRs: ((metaanal* or meta anal* or (systematic adj2 review*) or systematic synthesis).mp. or (meta analysis or metasynthesis or "systematic review")

15 Search terms used for implementation: (implementation OR knowledge translation OR knowledge exchange OR knowledge mobilization OR knowledge transfer)

16 Inclusive indexing including any use of the terms in titles, abstracts, subject headings

the yearly output of rigorous implementation studies (as measured by the use of RCTs) increased steadily from 1998 to 2008, then increased dramatically between 2009 (1,674 studies) and 2017 (8,091 studies) representing an almost 300 percent increase. SRs had a lagged but similar increase beginning in 2010 (669 studies) and ending in 2017 (2,642 studies) representing just over a 200 percent increase. These findings overwhelmingly suggest that implementation science is well on its way to becoming a major discipline in the health and social sciences.

Figure 2.4: Randomized Controlled Trials and Systematic Reviews with a Focus on Implementation



One key debate therefore has centered on identifying the study designs that are available to scientists to evaluate implementation. This has generated a strong interest in the potential of hybrid trials to assess the quality and effectiveness of implementation activities while simultaneously evaluating the effectiveness of an intervention (Brown et al., 2017; Curran et al., 2012; Peters et al., 2013). These can take a number of forms, but most can be classified into the following three distinct approaches (Curran et al., 2012):

- Hybrid Type 1: Testing a clinical intervention while gathering information on its delivery during an effectiveness trial and/or on its potential for implementation in a real-world situation.
- Hybrid Type 2: Simultaneous testing of a clinical intervention and an implementation intervention/strategy.
- Hybrid Type 3: Testing an implementation intervention/strategy while observing/gathering information on the clinical intervention and related outcomes.

These designs can be seen as an acknowledgment that measuring clinical outcomes without also measuring implementation outcomes is insufficient. In particular, if implementation is not measured, observed clinical outcomes may be in error or, at best, not well understood. If a trial does not measure implementation outcomes (i.e., whether the intervention was implemented to a high standard) and finds no difference between the treatment and control groups, it is unclear whether the lack of difference was a result of poor implementation or whether the intervention was not effective. If the result of the trial is negative, it is unclear whether poor implementation was to blame or the intervention itself is harmful. If the trial is positive, it cannot be assumed that the intervention was implemented as well as it could have been (which might have resulted in an even larger effect size). An increasing number of such hybrid trials have begun to generate findings (Damschroder et al., 2017; Galaviz et al., 2017; Santesteban-Echarri et al., 2018) and, given the large number of study protocols currently entered into registries, will generate further results in the coming years (Brunkert et al., 2018; Engell et al., 2018; Grazioli et al., 2019).

There are a few specific designs within the hybrid framework that warrant mention given their power to generate evidence about implementation outcomes during trials or using observational data. The Stepped-Wedge design is a cluster randomized, wait-list control trial that is extended to include the randomization of start times for each trial site. The researcher randomly assigns both the time and place at which an intervention is delivered (Figure 2.5). All sites in Figure 2.5 will eventually enter the trial, but they are assigned (randomly) to begin the trial at different times. As the trial rolls out over time, implementation outcomes can be assessed as part of a hybrid I design. Given the time series nature of the trial, different implementation strategies that are learned along the way can be deployed as new sites begin implementing. Conversely, an implementation strategy can be tested and its corresponding effect on clinical outcomes can be observed (Hybrid Type 3). In both instances, the timed beginning of the intervention being tested allows for measurement between sites and within sites – with each site (except the first one) serving as both a treatment and control. Randomization of individuals at each site can also be used to strengthen the design.

Figure 2.5: Stepped-Wedge Hybrid Design

[illegible]

As a logical consequence of this desire to enhance the methods for conducting implementation research, scholars have paid greater attention to the design elements of this research, namely implementation outcomes and measures. One of the major advancements has been the development of a framework that outlines eight distinct implementation outcomes and separates these from service and clinical outcomes (Proctor et al., 2010). Closely linked to the development of these implementation outcomes are questions about how to best measure these, and the processes aimed at generating them. In the past five years, there have therefore been multiple initiatives to both map available measurement tools and resources (Lewis, Fischer, et al., 2015; Lewis, Mettert, et al., 2018; Lewis, Stanick, et al., 2015), discuss these critically (Clinton-McHarg et al., 2016; Martinez et al., 2014), and to develop new implementation measures tailored to specific aspects of implementation such as implementation climate (Ehrhart et al., 2014, 2016), leadership (Aarons, Ehrhart, et al., 2014), acceptability, feasibility and appropriateness (Weiner et al., 2017) or quality and speed (Chamberlain et al., 2011).

As part of these efforts, scholars have increasingly called for pragmatic tools designed with strong psychometric properties but also with a high degree of utility for stakeholders who adopt them within real world settings as part of routine service delivery (Glasgow & Riley, 2013; Halko et al., 2017; Powell et al., 2017; Stanick et al., 2019). While this is a work in progress, a selection of results from these efforts are presented in Table 2.1, listing pragmatic implementation measures aimed at supporting implementation practice in operational ways for which validation studies have been conducted or are in progress.

These scientific enhancements have helped pave the way to a deeper conceptualization of the activities that form implementation, namely implementation strategies and implementation mechanisms.

Table 2.1: A Selection of Pragmatic Implementation Tools

Tool name	Tool purpose	Tool references
The Evidence-Based Practice Attitude Scale (EBPAS)	To measure the attitudes of service providers toward adopting an EBP	(Aarons, 2004; Aarons, Cafri, et al., 2010; Cook et al., 2018; Egeland et al., 2016; Rye et al., 2017; Sonsbeck et al., 2015)
The Implementation Leadership Scale (ILS)	To assess the presence of characteristics of leadership conducive of implementation	(Aarons, Ehrhart, et al., 2014, 2016; Finn et al., 2016; Lyon et al., 2018; Torres et al., 2018)
The Implementation Climate Scale (ICS)	To assess the presence of critical factors of implementation climate	(Ehrhart et al., 2014, 2016; Lyon et al., 2018)
The Organizational Readiness for Implementing Change (ORIC) Questionnaire	To measure the organizational implementation readiness within healthcare settings	(Ruest et al., 2019; Shea et al., 2014; Storkholm et al., 2018)
Normalization Measure Development (NoMAD)	To assess, monitor and measure factors that affect the implementation of complex intervention within routine practice (i.e. “normalization”)	(Elf et al., 2018; Finch et al., 2018; Rapley et al., 2018; Vis et al., 2019)
The Stages of Implementation Completion (SIC) tool	To track the time required to achieve key milestones for the implementation of an EBP	(Chamberlain et al., 2011; Saldana et al., 2011, 2020)

As part of this work, “implementation strategies” have become a commonly shared umbrella term for “methods or techniques used to enhance the adoption, implementation and sustainability” (Proctor, Powell, et al., 2013, p. 2) of research-informed programs.

Their recognition as the ‘how to’ practices that help to enable change in practice or policy has led to suggestions for how to categorize (Mazza et al., 2013; Michie et al., 2013; Pantoja et al., 2017; Powell, Waltz, et al., 2015; Waltz et al., 2015), report (Leeman, Birken et al., 2017; Pinnock et al., 2017a, 2017b; Proctor, Powell, et al., 2013) and evaluate their use (Boyd et al., 2018; Bunger et al., 2017). Furthermore, the field has paid growing attention to ways in which targeted implementation strategies can be selected and designed for either research or practice purposes (Ageberg et al., 2019; Lewis, Scott, et al., 2018; Powell, Beidas, et al., 2015).

Following this focus on strategies, the field has recently taken a logical next step by also exploring the mechanisms through which these strategies may help generate positive implementation outcomes (Dalkin et al., 2015; Lewis, Klasnja, et al., 2018; Parolini et al., 2019; Williams, 2015; Williams, Glisson et al., 2017), thereby working toward a greater understanding of which strategies to choose for which purposes.

While this exploration is in its infancy, it has recently been integrated into a research agenda aiming to capture some of the key issues implementation science ought to address in the decade ahead (Powell, Fernandez et al., 2019). The focus is on further strengthening the field’s abilities to describe, develop, refine and test key implementation components, including linking implementation determinants with strategies, mechanisms and outcomes to thereby generate the empirical data needed to understand “when, where, why and how implementation strategies exert their effects” (Powell, Fernandez et al., 2019, p. 6). This argument builds on the fact that, to date, effect sizes for the use of particular implementation strategies have been small – both for “single component”, “multi-faceted” or “tailored” strategies. Moreover, the overall evidence on their effectiveness remains ambiguous, and limited guidance is available on

how to systematically identify key implementation determinants and match these with appropriate implementation strategies able to address determinants (Dalkin et al., 2015).

The authors therefore call for setting multiple key priorities in order to enhance the impact of implementation strategies:

- Enhancing the methods for designing and tailoring implementation strategies, including ways to prioritize, and evaluate determinants and linking these to strategies,
- Specifying and testing the mechanisms of change that link strategies to determinants, involving a stronger use of theory and the development and use of more sophisticated mediation models,
- Conducting more effectiveness and economic studies of implementation strategies, conducive to identifying ways to e.g. optimize, tailor or sequence implementation strategies, and
- Improving the structured tracking and reporting of implementation strategies to enhance the transparency and replicability of implementation studies, and to promote a more consistent use of strategy terminology.

This debate about implementation strategies has also garnered increased attention for those enacting the strategies – implementation actors or implementers (Leeman, Birken et al., 2017; Proctor, Powell, et al., 2013). This attention is focused on finding ways to consider the knowledge, skills and attitudes of the implementer and the quality with which this person enables implementation, for example, by assessing barriers and facilitators, designing or selecting strategies, providing implementation support and addressing determinants. At the risk of creating a cult of personality, it appears crucial for the field to walk the talk on capacity building, i.e. to not just “teach” key concepts

and tools but to actively build implementation practice capacities. This requires training and supporting frontline workers and managers to “do implementation” using effective methods that can enable learning, practice change, and effective feedback and coaching. It also requires the incorporation of failure into the learning process. Allowing room for failure – and encouraging yet another attempt – are essential components of capacity building for implementation competence among practitioners, supervisors, managers and senior leaders and is core to an implementation-informed culture of service delivery.

The field, nevertheless, faces a diverse range of challenges that are both empirical and theoretical in nature (Papoutsi et al., 2016; Williams & Beidas, 2019). Scholars therefore have continued to show a strong interest in conceptual and theoretical implementation science aimed at describing, defining, and modelling key constructs that – thus far – have eluded detailed investigation. One example is the role of context – specifically its complexity and impact on implementation processes (May et al., 2016; Waltz et al., 2019). A number of studies have attempted to capture its key determinants (Pfadenhauer et al., 2015; Squires, Graham, et al., 2015; Watson et al., 2018), develop approaches to specifying it as part of research (Booth et al., 2019), and providing guidance about how to assess (Pfadenhauer et al., 2017) and measure it in practice (Bergström et al., 2015; Hazelton et al., 2019; Squires, Hayduk, et al., 2015). Similar attention has been paid to key constructs such as

- ***De-implementation*** – i.e. the process of abandoning low-value health care practices shown to be ineffective, unnecessary or harmful (Hasson et al., 2018). Introducing an evidence- and implementation-informed culture implicitly calls for ending the use of unproven and ineffective interventions. However, only recently have scientists begun to

consider how, under what conditions and with which implications such abandonment can and should occur, leading to primarily conceptual publications (Greenhalgh et al., 2017; McKay, Morshed, et al., 2018; Niven et al., 2015; Prasad & Ioannidis, 2014) with few empirical studies in the making (Hasson et al., 2018; McKay et al., 2017).

- ***Adaptation*** – i.e. the “process of thoughtful and deliberate alteration to the design or delivery of an intervention, with the goal of improving its fit or effectiveness in a given context” (Stirman et al., 2019, p. 1). There are now specific frameworks available to guide an adaptation (Escoffery et al., 2019; Stirman et al., 2013, 2019), also helping to increase an awareness of the importance of taking a planned approach to such a process (Baumann et al., 2015). Furthermore, particular methods have been suggested for use in adaptation (Highfield et al., 2015; Tabak et al., 2018).
- ***Sustainment*** – describing a situation in which the delivery of an intervention and the behavior change implied can be maintained over time, with intended benefits being achieved continuously and adaptations conducted as relevant (Moore et al., 2017). Scholars have worked to conceptualize sustainment (Chambers et al., 2013; Moore et al., 2017; Schell et al., 2013), examine its determinants (Cooper et al., 2013; Noel, 2017; Whelan et al., 2018; Willging et al., 2015, 2018) and measure it (Ehrhart et al., 2018; Ford et al., 2018). However, the evidence base explaining how sustainment can be achieved and interventions developed with sustainability in mind remains scarce.
- ***Scaling*** – i.e. “deliberate efforts to increase the impact of health service innovations successfully tested in pilot or experimental projects so as to benefit more people and to foster policy and program development on a lasting basis” (World Health Organization, 2009, p. 1). This concept was still defined as “emerging” at the beginning of this decade (Milat et al., 2013) and has since been explored through both systematic reviews (Charif et al., 2017; Willis et al., 2016) – with further reviews in the making (Power et al., 2019; Wolfenden et al., 2018) – and theoretical and empirical studies. The latter of

which conceptualize and examine particular facets of scaling, such as “scaling out” (Aarons, Sklar, et al., 2017) or ‘scaling penalties’ (McCrabb et al., 2019; Tommeraas & Ogden, 2015).

Compared to other constructs, scaling in particular has become a key agenda item within implementation science, due to its potential to satisfy aspirations to enhance the reach of effective human services and improve population outcomes at a global level (Indig et al., 2017; Kruk et al., 2016; Richter et al., 2017). There is a growing recognition of a hitherto ethnocentric – Western – bias in implementation science reflected in e.g. key implementation concepts being developed primarily within settings of Western service and governance systems and a limited number of studies conducted in low- and middle-income countries (Ridde, 2016). This has inhibited both the development of the discipline and the meaningful application of models and concepts in under-resourced settings experiencing substantial health, welfare and education disparities (Alonge et al., 2019; McNulty et al., 2019). Simultaneously, scholars have called for a more intentional use of implementation science to address disparities present in Western countries due to social, economic or environmental factors, mirrored in, for example, substantial health disadvantages present in indigenous populations, racial minorities or other groups in society in need of support (Chinman, Woodward et al., 2017). In recent years, this has led to a stronger focus on considering and conceptualizing equity – the fair and equal treatment of everyone – within implementation. This focus informs the design of new concepts and models, involving the development of frameworks suggested to be used by researchers during the design (Jull et al., 2017; Mbuagbaw et al., 2017), execution (Woodward et al., 2019) and reporting of trials (Welch et al., 2017) in order to integrate an equity perspective in their

research. Within service settings, models are available to decision-makers supporting the consideration of equity-related questions during program planning, design, implementation and evaluation (Eslava-Schmalbach et al., 2019; Harding & Oetzel, 2019; Nápoles & Stewart, 2018). Furthermore, equity-focused implementation trials are in progress aimed at harnessing implementation science to e.g. decrease high rates of stillbirths and neo-natal deaths in low and middle income countries (Gurung et al., 2019; Jernigan et al., 2018), improve child maternal health in rural Nepal using community health workers as implementers of evidence-based interventions (Maru et al., 2018) or improve opioid risk management among agencies serving veterans in the United States (Chinman et al., 2019). However, multiple issues emerging from an equity perspective on implementation remain to be discussed and systematically examined, including, for example, appropriate research designs (Chinman, Woodward et al., 2017; Wallerstein & Duran, 2010); strategies matching the substantial resource constraints characterizing disadvantaged countries and communities; ways to build the implementation capacity of frontline workers; approaches to ensure sustainment; and the transfer of knowledge from resource-poor to resource-rich contexts (Alonge et al., 2019; Wallerstein & Duran, 2010; Yapa & Bärnighausen, 2018).

Stakeholders to implementation have also been a center point of scholarly interest in recent years. One aspect of this interest are the ways in which organizational leaders support implementation processes, both at the top- and the middle-manager level (Bäck et al., 2019; Birken et al., 2015; Hodson & Cooke, 2004). While this has generated a broad understanding of the behaviors supportive of evidence adoption and implementation (Gifford et al., 2018; Guerrero et al., 2016; Reichenpfader et al., 2015), less is known about the determinants of implementation leadership (Birken, Clary et al.,

2018; Mosson, Schwarz, Richter, et al., 2018), a gap that has and will feed studies aiming to build our understanding of how optimal implementation leadership can be fostered. The still few existing interventions in this area currently being tested are, for example, the Leadership and Organizational Change for Implementation (LOCI) program (Aarons, 2015; Aarons, Ehrhart, et al., 2017; Egeland et al., 2019) developed in the US or the Swedish iLEAD program (Mosson, Schwarz, Hasson, et al., 2018; Richter et al., 2016). Both reflect a strong interest in utilizing some of the techniques that have shown to be of benefit in supporting practitioners' use of evidence-based interventions with leaders and managers. They combine elements of dynamic training with the provision of ongoing support and continuous feedback while also targeting leaders at multiple levels of an organization or system to create an implementation-minded leadership culture. While first data point to the feasibility and acceptability of such an approach (Aarons, 2015), further research is required to assess its impact on not only individual leadership behavior but also its impact on organizations and their implementation work.

A second central aspect of implementation stakeholder research is the dependency of implementation success on the active and constructive engagement of individuals and organizations who often times have divergent preferences and interests. This raises questions about e.g. how to select relevant stakeholders across different implementation stages, how to facilitate fruitful coordination, collaboration and problem-solving among them, or how to utilize the resources they have at their disposal. Among the more prominent concepts developed in response to these and other questions have been

- “co-creation”, i.e. “collaborative knowledge generation by academics working alongside other stakeholders” (Greenhalgh et al., 2016, p. 393);
- different types of “change agents” (Alagoz et al., 2018; Bornbaum et al., 2015; Long et al., 2013); and
- a range of partnership models particularly focused on creating community engagement in implementation (Drahota et al., 2016; Haldane et al., 2019; Hearld et al., 2016).

These trends have been further strengthened through requirements for the involvement of consumers in conducting clinical trials (Montgomery et al., 2013) and systematic reviews (Pollock et al., 2018) as well as training programs aimed at strengthening researchers’ ability to involve consumers and communities in their work (McKenzie et al., 2016).

In synthesizing the results of promoting broad stakeholder engagement in implementation, systematic reviews often present positive findings (*ibid.*) but also highlight that this engagement builds on a “complex process influenced by an array of social and cultural factors” (Haldane et al., 2019, p. 21). The field is far from having understood these factors – be they determinants of, or strategies for, engagement – especially when it comes to patient, client and other stakeholders who are the recipients of the evidence-based interventions to be implemented (Greenhalgh et al., 2019; Olasoji et al., 2019).

Another current debate within implementation science centers on questions about how it is differentiated from other fields of science. From its early beginnings, implementation science had a natural affiliation with behavioral science. This has been reflected in a strong engagement of behavioral scientists in scholarly discussions about implementation (Atkins & Michie, 2013; Eccles et al., 2009; Michie et al., 2009), and

the development and extensive use of behavioral frameworks in the field (Atkins, 2015; Birken, Powell, et al., 2017; Cane et al., 2012; Michie et al., 2011). Certainly, IS uses behavioral science to understand the ways in which people interact with the programs, practices and services they are asked to deliver, and techniques from this discipline have guided the selection of strategies designed to improve implementation outcomes.

Not quite so natural has been its affiliation with improvement science, which in the first decade was considered a separate discipline. This view has changed in recent years, leading to a growing agreement between both disciplines that improvement and implementation science are compatible (Churrua et al., 2019; Granger, 2018; Koczwara et al., 2018; Øvretveit et al., 2017). The affinity between the two disciplines has become evident by the growing number of studies utilizing concepts of quality improvement to answer implementation research questions and vice versa (see e.g. Boaz et al., 2016; Robinson et al., 2017; Williams, Sevdalis & Gaughran, 2019). Even at the institutional level, there are indicators of a growing ‘rapprochement’ between the disciplines, as mirrored in the recently established *Healthcare Improvement Studies Institute* (THIS)¹⁷, based in the UK, which counts multiple centers for implementation science among its partners, enhancing opportunities for joint research projects and publications.

Less examined and agreed upon is the role that complexity science – representing efforts to describe and understand the behavior of complex systems, understood as being more than the sum of their individual components and parts – can play in implementation science. While there is an acknowledgement of the need to move away from the simplistic and often linear models of thinking that have dominated the first

¹⁷ <https://www.thisinstitute.cam.ac.uk/>

decade of implementation science (Hawe, 2015; Northridge & Metcalf, 2016), concrete suggestions for how to integrate systems and complexity thinking into models, methods and designs of implementation studies have – thus far – primarily been made at a programmatic level at which they remain under debate (Braithwaite et al., 2018; Bucknall & Hitch, 2018; Greenhalgh & Papoutsi, 2018; Kitson, Brook, et al., 2018; Kitson, O’Shea, et al., 2018). This has also broadened the range of methods suggested to be of value in examining complexity, including, for example, social network analysis (Oliver & Faul, 2018; Shelton, Lee et al., 2018; Valente et al., 2015), agent-based modelling (McKay, Hoffer, et al., 2018), ethnographic approaches (Palinkas et al., 2019), and the use of large-scale observational data to model implementation pathways within systems (Lewis, Puspitasari, et al., 2018; Parolini et al., 2018a, 2018b).

A fourth area of science suggested to be of relevance for implementation scientists to consider is that of policy implementation. A key publication pointing to its potential value was published early in this decade (Nilsen et al., 2013) – but without leading to a visibly closer dialogue between implementation scholars on the one hand and political scientists on the other. There is a certain mutual recognition on both sides, both theoretically (DeSisto et al., 2019; Moulton & Sandfort, 2017; Purtle, Brownson, et al., 2016; Roll et al., 2017) and empirically (Powell et al., 2016; Purtle, Dodson, et al., 2016). However, evidence-based policy research appears to be located within a separate network of scholars who keep a strong focus on whether aspirations to infuse politics and policies with evidence are realistic (Cairney et al., 2016; Liverani et al., 2013; Newman et al., 2015; Oliver et al., 2014). An active cross-disciplinary debate involving both these networks, together with other sociologists, political and implementation

scientists, and focusing on for example how to categorize, understand, and measure policy dynamics at play in implementation processes has yet to fully emerge.

Finally, organizational science, “an interdisciplinary domain focusing on behavior, in, around and of organizations” (Rousseau, 2007, p. 50), has also gathered increasing interest among implementation scholars. With organizational behavior being a key determinant in implementation it is only natural to consider how theories aiming to explain this behavior may be utilized to support implementation research and practice (Birken, Bunker, et al., 2017; Dadich & Doloswala, 2018). However, this work is in early beginnings. Organization science provides an abundance of theories centered around key discussions on whether to understand organizations as closed or open systems; their ability to learn, create shared meanings, tackle diverting stakeholder interests and influences, and to manage unpredictability; and their exertion of power, control and dominance (Astley & Ven, 1983; Örtenblad et al., 2016). In addition, the differences between public organizations serving citizens and the public interest versus corporate companies focused on shareholder revenue and preferences have been a longstanding point of interest in this field (Bozeman & Bretschneider, 1994; Denhardt & Baker, 2007; Torfing et al., 2019) informing the thinking about organizations. In order to take advantage of this knowledge base in relevant and appropriate ways within implementation science, further mining of the evidence, deeper analysis of its utility in implementation and stronger multi-disciplinary collaboration involving organizational as well as implementation scientists will be required.

Despite these gaps, needs and deficiencies, implementation science today – at the beginning of its third decade of forming – appears to be more developed, and more diverse. The field has refined its understanding of many concepts resulting in greater

sophistication. The production of empirical data is growing (Norton, Lungeanu, et al., 2017). Funding streams and other investments in the research infrastructure have been made to build capacity into the future (Norton, Kennedy, et al., 2017; Purtle, Peters, et al., 2016). Multiple international networks exist working to bring implementation scientists and practitioners together on a regular basis, be it for webinars, master classes, conferences or other activities (Darnell et al., 2017). Moreover, with the recent launch of “Implementation Science Communications”, a sister journal to “Implementation Science”, and “Implementation Research and Practice”¹⁸, a journal developed by the Society for Implementation Research Collaboration (SIRC)¹⁹ – and further publications in the making elsewhere – the conditions are conducive for growing and diversifying the discipline.

Of course, greater diversity has also created a larger number of questions to be addressed by implementation scientists – with some of these outlined above. While progress has been made in multiple areas of the field, further advancements are needed. Toward the end of the second decade, a compelling commentary (Wensing & Grol, 2019) has been introduced, disparaging the slow accumulation of knowledge in the field and a lack of substantial research programs with sufficient capacity to enable implementation and improvement science to make society-wide differences for the health and wellbeing of people and communities. The authors criticize that there remains a mismatch between scientific problems and the ways in which these are solved because implementation researchers and other relevant stakeholders lack sufficient training; they also highlight the proliferation of conceptual models insufficiently tested

¹⁸ <https://au.sagepub.com/en-gb/oc/implementation-research-and-practice/journal203691>

¹⁹ <https://societyforimplementationresearchcollaboration.org/>

and validated; point to the need for developing systematic approaches for stakeholder involvement; and emphasize the importance of further advancing rigorous implementation evaluations and measures.

2.1.3 Conclusion

The development of implementation science into a distinct discipline of scholarly inquiry in the past twenty years has been truly impressive. It reflects the development of a multitude of concepts and models, all of which have contributed to shaping the foundational terminology and norms that, today, are commonly used by implementation scholars in the field. Implementation frameworks represent a single element in this diverse landscape of ideas.

Simultaneously, it becomes clear that implementation science also is a still young discipline in which *ideas* rather than a comprehensive and consolidated body of empirical research dominate the scholarly discourse. This warrants caution in the use of its concepts and models as these may be untested and thus not represent the realities of real-world implementation processes. It also highlights the importance of examining their use and usability in research and practice.

3. Chapter Three

3.1 Findings Phase 1: Scoping Review

This chapter focuses on the first research question that guided this thesis: *How have implementation frameworks been used in child and family service studies?*

In aiming to describe the complexity of implementation processes and to identify key influences that help individuals, organizations and systems to better understand and guide their implementation work (Greenhalgh et al., 2004; Novins et al., 2013; Powell, Waltz, et al., 2015; Tabak et al., 2012), implementation frameworks are relevant to consider as tools that can support the uptake of evidence in child and family services. This chapter therefore explores which implementation frameworks have been applied in these settings, how this has occurred and whether frameworks in their current form lend themselves as practical implementation tools.

The following publication served as the foundation for this chapter:

Albers, B., Mildon, R., Lyon, A. R., & Shlonsky, A. (2017). Implementation Frameworks in Child, Youth and Family Services – Results From a Scoping Review. *Children and Youth Services Review*, 81, 101–116.
<https://doi.org/10.1016/j.childyouth.2017.07.003>

3.1.1 Background

Child, youth and family services represent a sector that has shared the current proliferation of implementation frameworks. This sector consists of government and

provider organizations working with vulnerable populations within areas such as family and parenting support, child protection, family violence, juvenile justice and community services. Studies have consistently documented that paying attention to implementation can not only increase the quality of the implementation process itself, but also improve clinical outcomes for the children, youth and families who are the end-users of social welfare services (Campie & Sokolsky, 2016; Durlak & DuPre, 2008; Lipsey, 2009; Mildon & Shlonsky, 2011; Powell et al., 2014).

It is therefore not surprising that the child and family services sector pays greater attention to questions about implementation. This is reflected in articles describing implementation frameworks (Ghate, 2015; Hanson et al., 2016; Kaye et al., 2012; Pipkin et al., 2013); studies employing these frameworks in their implementation of specific programs or services (Barbee et al., 2011; Brown et al., 2014; Glisson et al., 2010); and in major government institutions, charitable funding organizations, and professional associations listing implementation frameworks as their guides (Metz, Naoom, et al., 2015; Supplee & Metz, 2015; Permanency Innovations Initiative, 2013).

Practitioners and agencies working in child, youth and family services implement complex psychosocial interventions but evidence of significant improvements for the sector's target population, vulnerable families, whose physical or mental health may be threatened by individual, parental or family circumstances, is often inconsistent (Barlow et al., 2009; Danese & Tan, 2013; Fraser et al., 2013; Swart et al., 2012; Vermeulen-Smit et al., 2015). While the uptake of empirically supported treatments in the sector is developing (Chambers et al., 2010; Hoagwood et al., 2001; Novins et al., 2013), their benefit for families will likely only be fully realized when they are implemented with high quality. Obtaining this high quality can be difficult given that the sector is

characterized by significant consumer complexities, bureaucratic and hierarchical structures, and a tendency toward risk-averse behavior (Camasso & Jagannathan, 2013, 2014; Gambrill & Shlonsky, 2001; Mansell, 2006; Mildon et al., 2014; Regehr et al., 2010).

The sector's interest in implementation therefore is highly relevant. However, in light of these different system constraints, government and provider organizations working with children, young people and families in need of support would benefit from clear guidance surrounding how to use implementation frameworks – guidance that is based on solid evidence rather than opinion. Hence, to better understand the range and use of implementation frameworks that are central to the child, youth and family services sector, a scoping review was conducted.

3.1.2 Method: A Scoping Review

The application of implementation frameworks in the child and family services sector is understudied, and no scoping reviews with this focus have been conducted thus far. Existing reviews either cut across all human service sectors (Tabak et al., 2012) or focus only on other sectors such as health (Moullin et al., 2015; Prihodova et al., 2015).

Scoping reviews are often used as a precursor to full systematic reviews, and rather than detailing the effectiveness of programs or services, are designed to broadly map the extant literature in a particular area (Arksey & O'Malley, 2005; Gough et al., 2013).

That is, scoping reviews differ from full systematic reviews in that they broadly describe what the literature contains, using narrative methods, rather than answering specific, narrowly focused questions of cause and effect. The primary goals of the review were to:

- Identify studies employing an implementation framework in child, youth, and family services and map this literature to better understand these frameworks and the ways in which they are being applied;
- Ascertain the ways in which implementation frameworks are being tested and describe the current state of evidence surrounding their use in the field.

Search Strategy

For this scoping review, the following bibliographic databases were used:

PsycINFO, MEDLINE, CINAHL, ASSIA, Embase, Embase Classic, Social Work Abstracts, ERIC and Sociological Abstracts. Databases were searched for published, peer reviewed English language evaluation studies that applied - and reported on this application - implementation frameworks in the child, youth and family service sector. No limits were placed on years. The search strategy employed a wide but targeted range of terms describing ‘implementation’, ‘framework’, ‘children’, ‘families’ and ‘evaluation’, and these were combined and run separately in each database (i.e., search terms sometimes varied between databases).

In order to increase efficiency, the implementation and child-specific search terms were combined with search terms designed to identify ‘studies’. Studies that were not describing work within the child, youth and families sector as well as opinion pieces, editorials, conference proceedings and similar publications were excluded. All study designs were included, ranging from single case studies to randomized controlled trials.

A formal search of the grey literature was not part of this review. However, subject matter experts were consulted, and reference lists of included studies were searched for other relevant articles. The search terms used in OVID PsycINFO appear in the results

addendum (Appendix A). Search strategies used in other databases are available from the authors upon request. Searches were conducted in November 2016.

Study Eligibility

Decisions to include or exclude an article were guided by our definition of an implementation framework – a coherent set of interlinked elements or factors that, together, constitute a generic structure for describing, understanding or guiding implementation processes – a definition, which aligns with earlier literature (Flaspohler, Anderson-Bucher & Wandersman, 2008; Meyers et al., 2012). This definition separates the literature on frameworks from related studies focusing on implementation models developed specifically for a single intervention, or single or multiple, specific implementation strategies that are not integrated into packaged frameworks.

Literature Screening and Synthesis

The first author (BA) screened the literature with support from three research assistants. Abstract and title screening was distributed across team members and supervised by the first author. Full text screening was conducted by the first author, who also conducted the data extraction and analysis. All authors were equally involved in developing the discussion of findings.

In order to synthesize the content of implementation frameworks in a systematic manner, five key questions were developed to guide the data extraction and results reporting. Their development was informed by previous efforts to identify commonalities of existing implementation frameworks (Meyers et al., 2012), which showed that both the purpose for which a framework was developed and the underlying

implementation process and steps defined as critical for implementation were crucial for capturing the essence of a framework. These aspects are reflected in questions one to three below. In addition, the role of stakeholders in framework utilization has also been highlighted in this literature (ibid.), and this informed the development of question four and five below.

1. **Purpose:** For which purpose was the framework developed?
2. **Process:** Over time, how does the process (i.e., ordering, timing, duration) of implementation unfold?
3. **Key influences:** At any given time during implementation, which key influences will potentially impact implementation quality?
4. **Stakeholders:** Which stakeholders are described as essential to implementation processes?
5. **Capacity:** How is “capacity” to support implementation processes conceptualized as part of the framework?

The detailed data analysis focusing on the concepts included in the research questions was conducted by systematically sourcing and extracting information included in the articles that referred to one or more of these concepts. This information was systematically listed in data tables, which were reviewed and summarized by the primary author. This information is contained in the results addendum (Appendix A). An additional analysis of stakeholders listed in the implementation framework literature was conducted by listing every stakeholder mentioned in the articles and locating them at either frontline, organization, community or policy levels of the stakeholder ecology.

The stakeholders identified are listed in the electronic results addendum (Appendix A). Finally, the identified articles were screened for their information on implementation capacities. All information was again listed in separate files and reviewed and summarized by the primary author. Focus points for this summary were how implementation frameworks describe the purpose, task and composition of implementation capacities.

Additional Key Literature on Implementation Frameworks

The information in our original systematic search was supplemented by an additional search aimed at generating greater detail on each of the identified frameworks. Conceptual models that described the frameworks were located and used to fill in the gaps. That is, once an established framework was located, additional information was used to more fully describe them. This approach has its roots in the use of qualitative studies to more fully describe interventions or populations in systematic reviews (Higgins & Green, 2011), though systematic search methods were not used to find the conceptual articles. The first author (BA) selected these articles based on the following criteria:

1. The article had to be written by one or more of the identified framework developers
2. The article had to provide a comprehensive presentation of the framework, its inherent concepts, underlying theory, and methods used to source data to inform its development.

These articles were included in the data extraction to consolidate the presentation of results, and the discussion. The eleven articles that were selected for this purpose are listed in Table A4 in the results addendum (Appendix A). This integration of the conceptual and empirical literature facilitated a richer, more informative picture of the included implementation frameworks, their use, and their usability.

3.1.3 Results

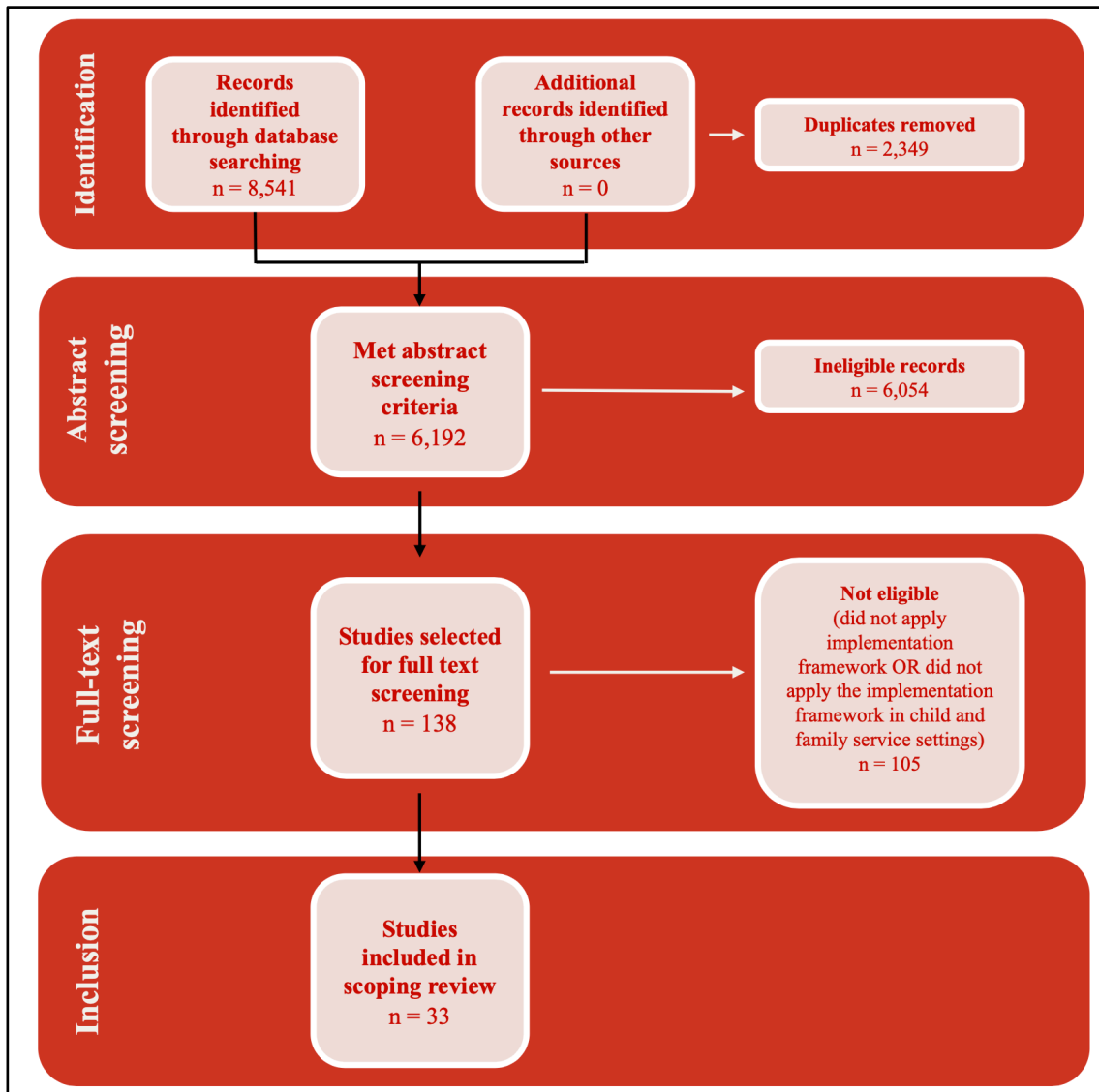
An Overview of Included Studies and Frameworks

Out of a total of 8,541 studies located, 138 papers were selected for full-text, comprehensive screening for inclusion. The flow of papers through the screening process of this scoping review is summarized in Figure 3.1.

Thirty-three of the 138 articles met the inclusion criteria. These articles are listed in Table 3.1, along with a brief description of the way in which the implementation framework was applied in each study. The full list of articles excluded at full text screening (n=105) is contained in the results addendum (Appendix A).

The 33 studies reported on eight distinct implementation frameworks that have been applied in child, youth and family service settings. All were developed in the US:

- The Active Implementation Frameworks (AIF) (Fixsen et al., 2005, 2009; Metz, Bartley, et al., 2015; Metz & Bartley, 2012). Developed by the National Implementation Research Network and based on a review of implementation literature from multiple disciplines, the AIF aims to guide implementation processes in human services.

Figure 3.1: Flow of Papers Through the Scoping Process

- The Availability, Responsiveness and Continuity Organizational and Community Intervention Model (ARC) (Glisson, 2002; Glisson et al., 2010, 2013). Designed at the Center for Behavioral Health Research at the University of Tennessee, the ARC focuses on the development of organizational and community efforts to support effective children's services.
- The Community Development Team (CDT) (Saldana & Chamberlain, 2012; Sosna & Marsenich, 2006). The CDT was developed by the California Institute for Mental

Health to support a model-adherent implementation of evidence-based programs in public mental health services.

- The Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009). Based on a review of implementation theories, the CFIR aims to consolidate existing constructs found to be essential to implementation and support implementation researchers in theory development and verification.
- The Exploration Preparation Implementation and Sustainment (EPIS) framework (Aarons, Fettes, et al., 2014; Aarons, Hurlburt, et al., 2010). The EPIS was developed to support the implementation of evidence-based programs in publicly funded child and family service settings.
- The Getting to Outcomes (GTO) framework (Wandersman, Ebener, et al., 2008; Wandersman et al., 2000). The GTO was designed to assist practitioners, managers and evaluators in designing and describing strategies used to plan, implement and evaluate programs and policies in community services.
- The Integrated Systems Framework (ISF) (Wandersman, Duffy, et al., 2008). The ISF targets practitioners, funders and researchers involved in implementation processes in community services and aims to help stakeholders to better understand mutual needs and interests.

Table 3.1: Studies Included in the Final Sample

Implementation Framework	Studies	Study content & use of Implementation Framework
AIF - Active Implementation Frameworks	(1) (Gotham et al., 2008). An Implementation Story: Moving the GAIN from Pilot Project to Statewide Use	<i>Case study</i> ²⁰ summarizing the experience with piloting and scaling the use of the Global Appraisal of Individual Needs – Initial assessment (GAIN-I) with substance abuse treatment programs in the state of Missouri, US Applies the AIF's stages of implementation, core implementation components and implementation teams retrospectively to analyze the experience gained from the process.
	(2) (Graff et al., 2010). A Purveyor Team's Experience: Lessons learned from implementing a behavioral health care program in primary care settings	<i>Case study</i> summarizing a team of expert's experience with planning the implementation of an adolescent behavioral health program in five sites by using the AIF – especially its drivers – as a tool.
	(3) (Kimber et al., 2011). Shifting Sands: A Case Study of Process Change in Scaling Up for Evidence-Based Practice	<i>Case study</i> This publication covers the same change process as the publications by Kimber et al. (2012) and Fearing et al. (2013) listed below.
	(4) (Kimber et al., 2012). Becoming an Evidence-Based Service Provider: Staff Perceptions and Experiences of Organizational Change	<i>Case study</i> reporting data collected from staff, who were involved in an organizational change process involving the implementation of several EBPs. AIF is used to reflect data and evaluate AIF's utility. This publication covers the same change process as the publications by Kimber and Barwick (2011) listed above and Fearing et al. (2013) listed below.
	(5) (Ogden et al., 2012). Measurement of Implementation Components ten	<i>Validation study</i> piloting the 'Measure of Implementation Components' representing the core components of implementation included in the AIF (Fixsen

20 Qualitative study emphasizing a detailed contextual analysis of an implementation process within an organization, a community or a system

	years after a nationwide introduction of empirically supported programs – a pilot study	et al., 2008); based on the ‘Implementation Component Questionnaire’ used in interviews with 218 participants involved in the implementation of Parent Management Training (PMT-O) and Multi Systemic Therapy (MST) in Norway.
	(6) (Forgatch et al., 2013). Looking Forward: The Promise of Widespread Implementation of Parent Training Programs	<i>Case study</i> of a decade of implementation of Parent Management Training-Oregon Model (PMT-O). AIF – especially its stages – were used to present implementation experience from three different cases.
	(7) (McCrae et al., 2014). Who's on Board? Child Welfare Worker Reports of Buy-In and Readiness for Organizational Change	<i>Mixed methods study</i> combining a quantitative survey and qualitative case studies; the study examines the level of buy in among staff involved in the state wide implementation of a set of standard child welfare practices and protocols in the US and analyses whether this buy in is related to organizational readiness and implementation one year after project start. The AIF guides the implementation project, and sites involved received technical assistance from the National Research Network (NIRN), whose staff has developed the AIF. To measure the process of implementation, a measure was developed – the Implementation Process Measure (IPM), which is described as partly reflecting the AIF. A separate publication (Armstrong et al., 2014) describes this process measure and the way in which it utilizes the AIF.
	(8) (Bertram et al., 2014). Changing Organization Culture: Data Driven Participatory Evaluation and Revision of Wraparound Implementation	<i>Program evaluation</i> ²¹ of Wraparound Implementation. AIF – especially drivers – was used as a lens to identify implementation challenges and target points for improving implementation.
	(9) (Fearing et al., 2013). Clinical Transformation: Manager's	<i>Case study</i> exploring how managers at Kinark Child and Family Services (Ontario, Canada) viewed and perceived an organizational change process through which all

21 An evaluation aiming to identify barriers to an adherent implementation of an evidence-based program and focusing on implementation quality not on outcomes

	perspectives on Implementation of Evidence-Based Practice	clinical services were to be evidence-based. The organization chose the AIF as a guiding structure for the change process and worked with e.g. “implementation teams”. Based on the qualitative data gathered through observations and interviews, the authors conclude that “results provide some support for its [the AIF’s] utility in guiding behavioral healthcare organizations through the implementation journey” (Fearing et al., 2013, p. 465). This publication covers the same change process as the publications by Kimber et al. (2011 & 2012) above.
	(10) (Metz, Bartley, et al., 2015). Active Implementation Frameworks for Successful Service Delivery: Catawba County Child Wellbeing Project	<i>Case study</i> illustrating how a county department applied the AIF to support the implementation of evidence-based practices in child welfare.
	(11) (Salveron et al., 2015). Changing the Way, we do Child Protection. The Implementation of Signs of Safety® within the Western Australia Department for Child Protection and Family Support	<i>Case study</i> aiming to identify key themes and experiences with the implementation of the Signs of Safety intervention through the Department for Child Protection and Family Support in Western Australia. The AIF is used as a heuristic to structure themes and topics emerging from data gathered through document review and semi-structured interviews.
ARC Organizational and Community Intervention Model	(12) (Glisson & Schoenwald, 2005). The ARC Organizational and Community Intervention Strategy for Implementing Evidence-based Children's Mental Health Treatments	<i>Case study</i> presenting ARC in detail and introducing a study that aims to test outcomes and costs of ARC when applied in the implementation of Multisystemic Therapy (MST).

	(13) (Glisson et al., 2010). Randomized Trial of MST and ARC in a Two-Level Evidence-Based Treatment Implementation Strategy	<i>RCT</i> ²² assessing the effectiveness of Multisystemic Therapy compared to treatment as usual - each implemented in combination with or without the ARC intervention. Youth in the MST + ARC condition entered out-of-home placements at a significantly lower rate than youth in the control condition. Sector: Mental Health; Scale: 615 youth referred to juvenile court in 14 rural Appalachian counties.
	(14) (Glisson et al., 2012). Randomized trial of the availability, responsiveness, and continuity (ARC) organizational intervention with community-based mental health programs and clinicians serving youth	<i>RCT</i> assessing whether the ARC condition improves the social organizational context of community-based mental health programs for youth. Organizational culture, climate, and work attitudes were significantly improved in the ARC condition after 18 months. Sector: Mental Health; Scale: 197 clinicians from 26 different mental health programs were assessed with the Organizational Social Context Measure (OSC); programs were randomized to either the ‘ARC’ or the ‘no ARC’ condition. The programs were part of a behavioral health system covering 17 counties in a southeastern state in the US.
	(15) (Glisson et al., 2013). Randomized Trial of the Availability, Responsiveness and Continuity (ARC) Organizational Intervention for Improving Youth Outcomes in Community Mental Health Programs	<i>RCT</i> . Builds on 2012 study. Assessing whether the ARC implementation condition improved youth outcomes in community based mental health programs. Youth outcomes were significantly better in the ARC based programs – especially in those with the most improved organizational social contexts. Sector: Mental Health; Scale: 402 youth participating in 18 different mental health programs based on individual, group and family therapy. The programs were part of a behavioral health system covering 17 counties in a southeastern state in the US.
	(16) (Williams, Glisson et al., 2017). Mechanisms of Change in the ARC	<i>RCT</i> . Examines the effect of the ARC intervention on clinicians’ EBP adoption and the mechanisms that explain clinicians’ practice behavior (N=475). 6 pairs of

22 Randomized Controlled Trial with individuals, organizations, communities or systems randomized to different implementation conditions

	Organizational Strategy: Increasing Mental Health Clinicians' EBP Adoption Through Improved Organizational Culture and Capacity	mental health service agencies were matched on size and one agency in each pair randomly assigned to either ARC or no intervention. At 12-months follow up, the use of the ARC intervention increased the probability of EBP adoption (21%) and use (45%) relative to the control condition. Mediating factors for the ARC intervention's effect on clinicians' intentions to use an EBP were an organization's emphasis on client wellbeing and clinical excellence and its capability to remove job-related barriers.
CDT – The Community Development Team	(17) (Chamberlain et al., 2008). Engaging and Recruiting Counties in an Experiment on Implementing Evidence-Based Practice in California	<i>RCT</i> . Reports data from the initial phase of a randomized controlled trial aiming to test two different models of implementation for the work with Multidimensional Treatment Foster Care (MTFC), one of which is the CTD condition.
	(18) (Saldana & Chamberlain, 2012). Supporting Implementation: The Role of Community Development Teams to Build Infrastructure	<i>RCT</i> . Builds on 2008 study and applies the Stages of Implementation to measure implementation progress. Identifies variability among implementing sites in moving through implementation stages but does not relate this variability to CDT condition.
	(19) (Saldana et al., 2014). The Costs of Implementing New Strategies (COINS). A Method for Implementing Implementation Resources Using the Stages of Implementation Completion	<i>Cost evaluation study</i> ²³ as part of RCT - related to Chamberlain et al. (2008). Study reports data documenting the potential of The Stages of Implementation (SIC) measure to map implementation costs for two different implementation models for MTFC.
	(20) (Brown et al., 2014). Evaluation of two Implementation Strategies in 51 Child County Public Service	<i>RCT</i> . Builds on 2008 study and reports on the final outcomes of this study. The CDT implementation condition did not improve overall implementation measured in terms of implementation stages attained, number of youths placed or the rate at

23 Study evaluating different implementation conditions' financial costs and benefits

	Systems in two States: Results of a Cluster Randomized Head-to-Head Implementation Trial	which MTFC was implemented. However, CDT counties served twice as many youths and completed recommended implementation activities more thoroughly.
CFIR – The Consolidated Framework for Implementation Research	(21) (Marques et al., 2016). Providers’ Perspectives of Factors Influencing Implementation of Evidence-Based Treatments in a Community Mental Health Setting: A Qualitative Investigation of the Training-Practice Gap	<i>Qualitative study</i> based on in-depth interviews with 28 US providers of mental health services (social workers, psychologists, psychiatrists etc.) examining how organization- and client-level factors (‘CFIR factors’) influence their attitudes toward evidence-based treatments. The CFIR and its five domains underpin all elements of the study (research question, questionnaire, data analysis). The authors conclude that provider perceptions of client-level implementation factors impact upon providers’ attitudes toward evidence-based treatment.
EPIS (Exploration Preparation Implementation and Sustainment) implementation conceptual model (including the interagency collaborative team [ICT] component)	(22) (Hurlburt et al., 2014). Interagency Collaborative Team Model for Capacity Building to Scale-Up Evidence-Based Practice	<i>Case study</i> presenting qualitative findings from interviews with 27 stakeholders involved in the early stage of implementation of SafeCare® in a large county in California, US. Interviews focus on the first application of the ICT component of EPIS. Concludes that the ICT may create structures and conditions that help resolve tensions between intervention and the implementing community.
	(23) (Aarons, Fettes, et al., 2014). Collaboration, Negotiation, and Coalescence for Interagency-Collaborative Teams to Scale-Up Evidence-Based Practice	<i>Qualitative study</i> examining the role of collaboration in a state-wide implementation of SafeCare® in the US The intervention is a manualized, evidence-based home visitation program targeting child abuse and neglect. The EPIS framework is the basic conceptual model guiding the study, e.g. study participants (N=54) were selected to participate in individual interviews or focus groups based on the differentiation btw ‘inner’ and ‘outer’ context of the implementation; the concept of ‘stages’ is used in presenting findings.
	(24) (Aarons, Green, et al., 2016). The Roles of System and Organizational Leadership in System-	<i>Mixed-Methods study</i> examining how leadership – executed in the inner and outer context of the implementation of SafeCare® - relates to sustainment of this evidence-based intervention in 87 counties in the US The EPIS framework is used

	Wide Evidence-Based Intervention Sustainment: A Mixed-Method Study.	to conceptualize the leadership factors that contribute to sustainment in both contexts, serves as an analytical tool and an overall framework for the study. Authors conclude that leadership in both contexts predict sustainment of SafeCare® and provide characteristics of leadership that supports sustainment.
	(25) (Kotte et al., 2016). Facilitators and Barriers of Implementing a Measurement Feedback System in Public Youth Mental Health.	<i>Qualitative study</i> examining facilitators and barriers to the state-wide implementation of the ‘Ohio Scales’, a measurement feedback system used by care coordinators in Hawaii working for the state’s Child and Adolescent Mental Health Division. The EPIS framework is used as a structure to present the implementation framework and the results from interviews with 47 care coordinators. The authors identify both inner and outer context factor as impacting upon scale implementation at the state level.
GTO - Getting To Outcomes	(26) (Wandersman, Ebener, et al., 2008). The Getting to Outcomes Demonstration and Evaluation: An Illustration of the Prevention Support System	<i>Quasi-experimental, longitudinal evaluation</i> ²⁴ of the impact of GTO on individual capacity and program performance in two community-based, substance abuse prevention coalitions targeting children and youth. 2 programs from SC & 4 from CA were included – comparison groups were other programs & staff in the coalitions. Tracks implementation of GTO & user feedback on framework’s utility & acceptability. Evaluation results show that GTO helps improve individual staff members’ self-efficacy, attitudes, and behaviors needed to perform high quality prevention. Program performance was improved in the GTO programs with outcome evaluation-decision making, process evaluation and CQI mechanisms showing strongest improvements.
	(27) (Barbee et al., 2011). Successful Adoption and Implementation of a	<i>Case study</i> presenting the University of Louisiana’s application of GTO as an aid to plan and implement Solution Based Case Work in different states. Concludes

24 Controlled evaluation measuring implementation quality multiple times over several years. Control is achieved not through randomization but through comparison with natural comparison groups.

	Comprehensive Casework Practice Model in a Public Child Welfare Agency: Application of the GTO Model	that GTO is a valuable help in the implementation of casework practice models at different system levels.
	(28) (Duffy et al., 2012). Enhancing Teen Pregnancy Prevention in Local Communities: Capacity Building Using the Interactive Systems Framework	<i>Pre-post evaluation</i> ²⁵ of the implementation of GTO to support teen pregnancy prevention programs in 11 community-based organizations and three schools. Data collection based on interviews & a GTO specific rating scale. Concludes that all organizations increased their GTO performance over time – and that an intermediary prevention support system as described as part of the ISF can bridge the gap between research and practice successfully. Study thus also linked to ISF application studies.
	(29) (Chinman et al., 2013). An Intervention to Improve Program Implementation: Findings from a Two-Year Cluster Randomized Trial of Assets-Getting to Outcomes	<i>RCT</i> evaluating the outcomes of a GTO implementation in 12 prevention coalitions in Maine, US, with 6 coalitions (=30 programs) receiving the GTO intervention and 6 maintaining routine operations. No significant differences in prevention capacity were found between groups. Within the GTO groups significant differences in self-efficacy between extensive and less extensive GTO users were found. Concludes that GTO can help ensure investments in prevention programs.
	(30) (Pipkin et al., 2013). Washington State's Adoption of a Child Welfare Practice Model: An Illustration of the Getting to Outcomes Implementation Framework	<i>Case Study</i> illustrating the application of GTO as part of Washington State Children Administration's statewide implementation of Solution-Based Case Work. Concludes that GTO is a valuable guide for keeping change processes “on track”, by e.g. providing a formal and practical structure for planning and assessment.

25 Non-controlled evaluation measuring implementation quality at different points of time of the implementation process

ISF – The Integrated Systems Framework	(31) (Halgunseth et al., 2012). Using the Interactive Systems Framework in Understanding the Relation Between General Program Capacity and Implementation in Afterschool Settings	<i>Pre-post evaluation</i> of how organizational and community capacity impacts on the implementation of the Good Behavior Game intervention (GBG). Analysis of data from 8 programs that were part of the intervention group of an RCT on GBG effectiveness. ISF's support system is used as conceptual lens. Data collection based on survey data from 8 program directors & ongoing implementation monitoring data. Results suggest that both levels of capacity are important for a strong implementation of GBG, and that high levels of both types of capacities can help to achieve high quality implementation of GBG. Also concludes that ISF's understanding of the importance of the support system & capacities are valid.
	(32) (Smythe-Leistico et al., 2012). Blending Theory with Practice: Implementing Kindergarten Transition Using the Interactive Systems Framework	<i>Case Study</i> presenting the ISF as a guide for planning and structuring and a lens for understanding implementation processes. The implementation of the Kindergarten program Ready Freddy is used. Concludes that ISF is relevant in several situations of implementation.
PRISM - The Practical, Robust, Implementation and Sustainability Model	(33) (Stephens et al., 2014). A Learning Collaborative Supporting the Implementation of an Evidence-Informed Program, the '4Rs and 2Ss for Children with Conduct Difficulties and their Families'.	<i>Qualitative study</i> examining the implementation of the 4Rs and 2Ss program, an evidence-informed intervention for groups of families with children diagnosed with behavioral problems. The PRISM conceptual framework guided the development of questions used to collect and analyze data from through structured conversations with clinical staff at 29 child mental health clinics in New York State that used the program. Results are presented following the four dimensions of the PRISM. The authors conclude that the PRISM is a helpful framework in implementation research.

- The Practical, Robust Implementation and Sustainability Model (PRISM) (Feldstein & Glasgow, 2008). The PRISM was developed as a tool for health care researchers and decision-makers to monitor and assess program adoption, maintenance, reach and effectiveness.

Three broadly defined research designs were employed - thirteen case studies; nine non-controlled evaluations, and nine controlled studies. Two articles belonged to the category 'other' with one reporting a validation study of an implementation measure, and the other a cost validation study. Among the controlled designs, four articles covered the ARC model, which has been tested in two different projects in child, youth, and family services. Three articles, which all refer to the same research project, covered the CDT, and finally two articles applied GTO.

The majority of the studies were based on case study designs that used implementation frameworks as a 'lens' (Bertram, Schaffer et al., 2014; Graff et al., 2010) for structuring the process of implementation. In this type of application, the framework becomes a heuristic to provide a common understanding or language used by different stakeholders to evaluate the implementation of a given intervention. Furthermore, it is common to exclude some elements of the framework in these studies. For instance, as can be seen in Table 3.1, some case study applications only reference framework *phases*, even though the framework may consist of additional approaches.

Few studies, both controlled and uncontrolled, assessed whether a framework, as a whole, adds value to an implementation process as opposed to using only selected pieces (e.g., by improving the pace or quality of the implementation or the program performance). In two articles, this involves testing what impact an implementation

framework – in this case the ARC – may have on outcomes for end-users of services – youth in mental health (Glisson et al., 2010, 2013).

The content of the implementation frameworks is summarized in Table 3.2, which is based on the information included in the final literature selection and, extended with information derived from additional articles presenting these frameworks, as listed under the framework's name. This additional – often purely theoretical or conceptual – literature was consulted in all cases, as the applied studies did not provide information about the framework sufficient to answer all research questions.

Table 3.2: A Comparison of Core Content of Implementation Frameworks That Have Been Applied in Child, Youth and Family Service settings

Framework	Purpose <i>(The type of intervention or innovation a framework supports & other purposes articulated for the framework)</i>	Process <i>(Ways in which the identified implementation frameworks describe how implementation processes unfold over time)</i>	Key Influences <i>(Key influences or activities needed to support an implementation at any given point in time)</i>	Stakeholders <i>(Stakeholders at the frontline, organizational, community and policy level identified as essential to an implementation process)</i>	Capacity <i>(Individuals, teams or units that provide the skills, abilities, and resources called upon when implementing an intervention or innovation)</i>
Active Implementation Frameworks (AIF) (Metz & Bartley, 2012)	Support the implementation of fully operationalized programs and practices that enable fidelity measurement. Focus on supporting organizations / systems.	4 implementation stages: exploration, installation, initial and full implementation. Stages are finalized through sustainability.	3 implementation drivers: competency, organizational, and leadership drivers. Improvement cycles.	Key stakeholders are funders, policymakers, program developers and implementing sites.	Implementation teams create buy in & readiness; install and sustain implementation infrastructure; assess fidelity & outcomes; build linkages with external systems; problem solve & sustain.
ARC Organizational and Community Intervention Model (Glisson & Schoenwald, 2005)	Focus on ‘boundary spanning’ = structuring the inter-organizational domain in between the implementing site and stakeholders / opinion leaders in the community. Support the implementation of any given core service technology.	4 implementation phases: problem identification, direction setting, implementation, and stabilization.	Develop stakeholder group to support effective services at <i>community level</i> ; facilitate service delivery at <i>organizational level</i> ; develop one-to-one relationships with community opinion leaders at <i>individual level</i> – thereby influence perceptions, attitudes & decisions at these levels.	Focus on stakeholders in the implementing community – whose composition is context specific – and their interplay with the ARC change agent. Strong focus on role of opinion leaders (who may not be stakeholders).	ARC Change agents bridge the social and technical gaps between implementers and community opinion leaders / stakeholders. 10 core interventions: Relationship building, network development, team building, information & data management, feedback, facilitate participatory decision-making, conflict resolution, CQI, job redesign, self-regulation.

Table 3.2 continued: A Comparison of Core Content of Implementation Frameworks That Have Been Applied in Child, Youth and Family Service settings

Framework	Purpose	Process	Key Influences	Stakeholders	Capacity
The Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009)	A ‘pragmatic, meta-theoretical framework’ (Damschroder et al., 2009, p. 12) developed to (a) consolidate existing constructs found to impact upon implementation and (b) support researchers in theory development and understanding implementation.	N/A	Identifies five major implementation domains: (1) the intervention; (2) the inner setting; (3) the outer setting; (4) the individuals involved; (5) the implementation process. Several constructs are included within each domain	Researchers are the core stakeholders to use the CFIR. The central stakeholders involved in implementation are individuals who work within an organization that initiates change.	Within the implementation process domain, opinion leaders, formally appointed implementation leaders, champions, and external change agents are highlighted as capacities to create engagement.
CTD – The Community Development Team (Saldana & Chamberlain, 2012; Sosna & Marsenich, 2006)	Support the implementation of evidence-based programs such as MTFC, KEEP, MST, FFT to increase their implementation pace, sustainable, model-adherent implementation, and to improve outcomes.	3 implementation phases: pre-implementation, implementation, and sustainability.	Defines goals for each phase: Engagement, implementation planning and training for pre-implementation. Model-adherence & practitioner competence for implementation. Autonomous site for Sustainability. Typical processes and activities are described for each phase & goal.	County level focus: System leaders, agency directors, practitioners, and consumers together with program developers are mentioned. Highlights that importance of stakeholders may vary with implementation phases. CDT involves a peer-to-peer process among those stakeholders aiming to address barriers in implementation.	The CTD increases the pace of implementation; promotes sustainable & model-adherent implementation; and improves client outcomes. Operates at county level. Organized as peer-to-peer networks; facilitated by CDT facilitator; networks meet six times to problem-solve and remove implementation barriers together.

Table 3.2 continued: A Comparison of Core Content of Implementation Frameworks That Have Been Applied in Child, Youth and Family Service settings

Framework	Purpose	Process	Key Influences	Stakeholders	Capacity
EPIS (Exploration Preparation Implementation and Sustainment) implementation conceptual model (Aarons, Green et al., 2012; Aarons, Hurlburt, et al., 2010; Hurlburt et al., 2014)	Support the implementation of different evidence-based practices in publicly funded settings serving children and families.	4 implementation phases: exploration, adoption & preparation, active implementation, sustainment.	Differs btw. inner and outer context factors in each implementation phase – all of which vary in their importance from phase to phase. 7 potential outer context factors: Sociopolitical context, funding, client advocacy, inter-organizational networks, intervention developers, leadership, and public-academic collaboration. 6 potential inner context factors: Org. characteristics, ind. adopter characteristics, leadership, innovation-values fit, fidelity monitoring & support, and staffing.	Key stakeholders are legislatures, funders, professional organizations, client advocacy organizations, service providers, intervention developers, academic / research organizations, and possible networks among these.	Interagency Collaborative Team (ICT) introduced in SafeCare® study – here clearly connected to EPIS stages. ICT described as teaming structure consisting of seed team (initiating & overseeing function) and several training teams (delivering intervention & feedback to seed team function).
Getting To Outcomes (GTO) (Wandersman et al., 2000)	Help build an outcome base for and implement any prevention program or policy in a community or system.	2 phases: planning & evaluation. The planning phase consists of two sub-phases: (P1) the GTO process, and (P2) the feedback and continuous improvement loop.	Describes 10 different steps for moving through GTO logic: Steps 1-3 addresses the needs, and goals of the community and identifies best practices (= P1). Steps 4-6 target the fit of the selected intervention and capacities & planning needed to implement it (=P2). Steps 7-10 are taken in evaluation phase and focus on CQI and sustainment activities.	Stakeholders of the implementing community are in focus: Staff, practitioners, leaders, funders, and intervention developers.	N/A. Connected to Integrated Systems Framework (ISF), which may answer ‘capacity question’ for GTO.

Table 3.2 continued: A Comparison of Core Content of Implementation Frameworks That Have Been Applied in Child, Youth and Family Service settings

Framework	Purpose	Process	Key Influences	Stakeholders	Capacity
Integrated Systems Framework (ISF) (Flaspohler, Anderson-Butcher & Wandersman, 2008; Wandersman, Duffy, et al., 2008)	Developed as heuristic = experience-based framework for understanding the interplay of different systems needed to implement evidence-based practice in the field of prevention.	N/A	Three systems are in constant interplay during large-scale implementation: The synthesis and translation system; the support system; and the service delivery system. They interact under influence of policies, the political climate, funding structures, and existing research & theory.	The system perspective defines key stakeholders: Funders, researchers, practitioners, and technical assistance providers.	Highly differentiated concept of capacities, which can be either general or innovation-specific and exist within the delivery system at the individual, organizational, and the community level. The support system is the core capacity, which mediates between the synthesis and translation system and the delivery system and helps the delivery system to build capacities needed for successful implementation.
The Practical, Robust Implementation and Sustainability Model (PRISM) (Feldstein & Glasgow, 2008)	Developed as a “ <i>conceptual framework for improving practice</i> ” (Feldstein & Glasgow, 2008, p. 228) and a tool for researchers and health care managers to evaluate and improve the adoption, implementation maintenance, reach and effectiveness of clinical programs and interventions.	3 implementation phases: (1) Development; (2) Implementation; (3) Maintenance.	4 ‘PRISM Elements’ can be activated in implementing clinical interventions: (1) the program/intervention, to be viewed from an org. and a patient perspective; (2) the external environment; (3) the implementation / sustainability infrastructure; (4) the recipients, including org. recipients who work with the intervention and patient recipients, who receive services. For each element, a number of factors are defined as central key influences.	For the use of PRISM, the focus is on: (a) researchers; (b) health care decision-makers. For implementation processes the focus is on staff at all levels of a health provider organization (recipients 1); and patients (recipients 2).	N/A. Model developers point to ‘implementation teams’ as a success factor identified in the implementation literature but this concept is not integrated into the model as a core component.

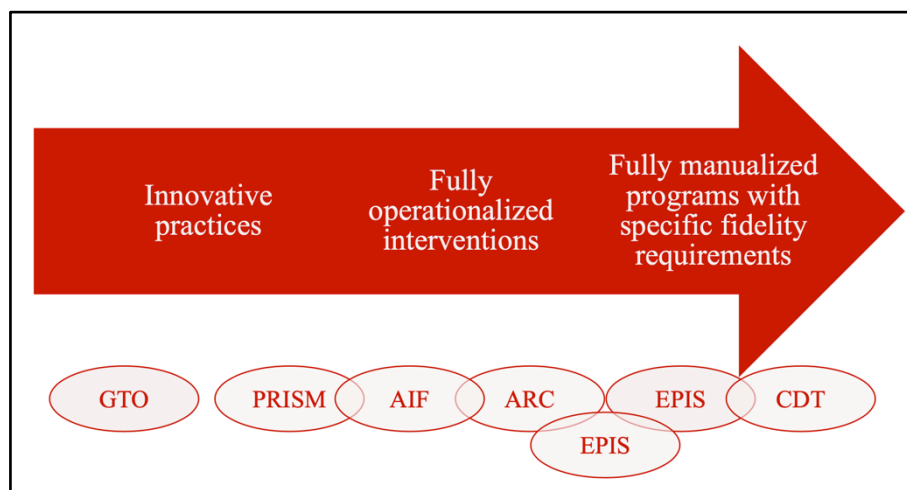
A Detailed Analysis of the Implementation Framework Literature

The Purpose of Implementation Frameworks

With the exception of one framework, all were developed to support organizations or systems in their intervention implementation efforts. However, in doing so they differ in the types of interventions (evidence-based vs. other types of intervention) they are able to support, and the aspects of implementation (e.g. structuring the inter-organizational domain, enhancing program adherence etc.) that they focus on.

If interventions and practices to be implemented are viewed through a lens of ‘operationalization’ and mapped on a continuum going from less operationalized, innovative practices to fully operationalized programs that are based on specific fidelity requirements, the frameworks may lend themselves as implementation support tools as described in Figure 3.2.

Figure 3.2: The Use of Implementation Frameworks with Different Types of Interventions



“Operationalization” is understood as the degree to which an intervention’s target group characteristics need to be described and its application and implementation manualized, thereby providing clear guidance to attempts to replicate and scale up its use (Chambless & Ollendick, 2001).

The GTO, building on both evaluation and implementation activities, is described as applicable to any type of program or policy (Wandersman et al., 2000) whereas a framework like the CDT is developed to support the implementation of specific empirically supported treatments such as Multidimensional Treatment Foster Care (MTFC) (Saldana & Chamberlain, 2012). The remaining frameworks fall between these two poles of the continuum. For instance, the PRISM highlights “health innovations” grounded in research as its core focus without requiring a particular level of operationalization. This differs from the AIF, which emphasizes the need to work with fully operationalized interventions but not necessarily to select an evidence-based program for implementation (Metz, Naoom, et al., 2015). The same is the case for the ARC, developed to support the implementation of ‘effective child and family mental health services’ (Glisson, 2002, p. 245). The EPIS, on the other hand, highlights “EBPs in publicly funded settings serving children and families” (Aarons, Hurlburt, et al., 2010, p. 5) as its focus, thereby moving this framework closer to the right of Figure 3.2.

Implementation frameworks also differ in their level of universal applicability. Four of the frameworks – the AIF, EPIS, ISF, and the PRISM – fulfill a universal purpose in that they build on universal aspects of implementation (e.g., stages) and are broadly applicable across different implementation settings (e.g., single organizations, communities, systems). Other frameworks, in contrast, have a more specific purpose targeting particular domains of the implementation process. The ARC addresses the

inter-organizational domain between agencies involved in a community-based implementation process (Glisson & Schoenwald, 2005). Similarly, the CDT aims to enable the creation of communities of MTFC practice at the cross-county level – and therefore seems not to lend itself to an application at the single organization level. The specific function of the GTO is to provide practitioners with a systematic accountability approach. Hence, it includes a strong element of *evaluation* (Wandersman et al., 2000). Finally, the CFIR was developed as a meta-theoretical framework to support implementation researchers in theory development and verification. It is the one framework identified as part of this review that does not aim to support implementation practice in real life settings (Damschroder et al., 2009).

The Process of Implementation

There is striking agreement among framework developers that implementation takes place in *stages*. Across frameworks, the number of stages varies from two to four with four stages being chosen by three of the frameworks all of which define a type of pre-implementation phase (e.g. “exploration” or “problem identification”), a planning phase (e.g. “installation”, “direction setting” or “adoption & preparation”), an implementation phase (e.g. “initial”, “full”, and “active” implementation) and a phase of sustainment (or “sustainability” or “stabilization”). The ISF and the CFIR do not include a stage-based perspective.

The Key Influences of Implementation

The frameworks build on a range of key influences needed to support implementation at any given point in time and do so with differing levels of specificity.

While the AIF is rather abstract and focuses on *competencies*, *organizational factors* and *leadership* as three “handles” that can be used to guide an implementation process at any stage (Metz, Naoom, et al., 2015; Metz & Albers, 2014; Metz & Bartley, 2012), the EPIS differentiates a broader number of drivers, weighs their influence differently across stages, and incorporates a stronger focus on outer context factors such as *political climate* or *current research and theory* (Aarons, Hurlburt, et al., 2010). The CFIR framework identifies five domains – the intervention, the inner and outer setting, the individuals involved and the process of an implementation – as influences in implementation. A number of constructs are then assigned to each of the domains. For instance, “planning”, “engaging”, “executing”, “reflecting and evaluating” are activities highlighted as potentially affecting the *process quality* of an implementation (Damschroder et al., 2009).

Some of the frameworks (e.g., the ARC or the EPIS) are explicit about the different socio-ecologic levels – the individual, the organization, the community, the system or the inner- and outer-organizational level – across which implementation takes place and define specific factors or activities targeting one or more levels (Glisson, 2002; Glisson & Schoenwald, 2005). Other frameworks (e.g., the ISF) cover only a single level (e.g., system level) and are less concrete when describing activities and factors needed to support implementation (Chambers, 2012; Wandersman, Duffy, et al., 2008).

Frameworks that focus on specific programs (e.g., CDT) are centered on implementation activities that relate to program-specific goals (Saldana & Chamberlain, 2012; Sosna & Marsenich, 2006). They differ from frameworks like the PRISM or the ARC that build on general principles that can be applied to “any core technology” (Glisson & Schoenwald, 2005, p. 246). Similarly, the GTO defines ten generic steps for

implementation and leaves it to the implementing system to decide which activities are necessary to achieve in each of these steps (Wandersman, Ebener, et al., 2008; Wandersman et al., 2000). The ISF provides few, and rather general, instructions, such as “distilling information”, or “supporting others”, for actions necessary to support implementation (Wandersman, Duffy, et al., 2008).

Implementation Stakeholders

The applied studies provide a detailed picture of the variety of stakeholders potentially involved in ‘real life’ implementation work. Following the current literature (Greenhalgh, 2017; Sandfort & Moulton, 2015; Tabak et al., 2012), stakeholders were categorized into one of four groups²⁶:

1. Stakeholders at the *frontline level* of implementation involved in the delivery of services to end-users.
2. Stakeholders at the *organizational level* of implementation involved in supporting the service delivery at the front line.
3. Stakeholders at the *community level* of implementation - an inter-organizational space in which service providers connect with other agencies and individuals to jointly support the implementation of evidence-based practices.
4. Stakeholders at the *policy level* of implementation involved in funding and policy decision-making that enables the implementation of EBPs at the other levels of the implementation system.

²⁶ Refer to Appendix A for a summary of this analysis.

Two major stakeholder groups are involved in implementation at the *frontline level*: The end-users of services or “service recipients”, and staff involved in delivering these services. Even though services may be provided to single individuals only, (extended) families, and broader networks around them can often be counted among stakeholders because they are included in intervention processes or are affected by them.

Three of the implementation frameworks assign end-users a central role in implementation: The EPIS highlights the potential role of client groups as active stakeholders in implementation (Aarons, Hurlburt, et al., 2010); the CFIR and the PRISM frameworks emphasize the importance of patient characteristics – demographics, disease burden, competing demands and knowledge and beliefs – and needs for implementation success (Damschroder et al., 2009; Feldstein & Glasgow, 2008).

On the staff side of service delivery, implementation work includes the single practitioners, who provide direct services to children, youth or families. They often depend on specialist consultancy, supervision, or coaching, or are part of a treatment team and other work units that extend the group of professionals involved in program implementation.

At the level of the *single organization*, the studies give numerous examples of provider agencies involved in implementation. They often collaborate with a number of other organizations that provide support through research, technical assistance or other program or implementation “know how”. These organizations are university-based program developers or independent intermediary or purveyor organizations specializing in supporting others in their implementation efforts (Franks & Bory, 2015; Oosthuizen & Louw, 2013).

At the *community* level, businesses, faith-based organizations, tribes, neighborhoods and media are among relevant stakeholders to be included in implementation efforts according to the applied studies. To engage these players, implementation projects seem to build structures that can bring them together – work groups, coalitions, teams, committees and partnerships – and provide governance in the community sphere. In some cases, this collaboration receives formal support through designated roles focusing on implementation work: Change agents, facilitators or consultants.

Policy implementation stakeholders come from all levels of the political system – city, region, county, state, and federal – in either a funding or an administrative role. Non-governmental funders are involved, too, together with special interest organizations such as unions or national child welfare agencies. In none of the studies it is described in more detail around what and how policy stakeholder involvement takes place.

The EPIS and the ARC frameworks describe how stakeholders, and the levels of the implementation system at which they operate, should connect. The EPIS highlights the impact of inter-organizational networks on implementation processes – thereby giving these networks their own stakeholder status (Aarons, Green et al., 2012; Aarons, Hurlburt, et al., 2010). Within the ARC, “opinion leaders” from the communities in which implementation is occurring (Glisson & Schoenwald, 2005) are “mediators” between the frontline, organizational and community level of implementation. The CFIR does not address stakeholders as a particular topic in implementation but as a concept of relevance across all CFIR domains. However, four types of leaders are highlighted as potentially impacting implementation through engagement. These are

“opinion leaders”, “formally appointed internal implementation leaders”, “champions”, and “external change agents” (Damschroder et al., 2009).

Implementation Capacity

Although the meaning of the term still lacks clarity (Flaspohler, Duffy et al., 2008), *capacity* is commonly referred to as the human resources, e.g. skills, knowledge, attitudes, that are thought to provide systems with the ability to accomplish and sustain their goals (Hoge et al., 2005). In an attempt to delineate the concept of capacity, Flaspohler, Duffy et al. (2008) suggested a distinction between organizational general capacity comprised of “leadership, organizational structure / management style, organizational climate, resource availability, staff capacity, and external relationships” (p. 191) and innovation-specific capacity, which are the unique skills, abilities, and resources called upon when implementing a specific innovation in an organization.

Most the identified frameworks highlight the need to create “implementation capacity” to enable, facilitate, and support the implementation work of organizations and systems²⁷. The AIF and the EPIS suggest “implementation teams” as necessary to build this capacity. The ARC framework emphasizes the role of the “change agent”, while the “community development team” is at the center of the CDT. The ISF points to the “support system” as its capacity building entity – however, it is not as specific as the other frameworks regarding how to provide implementation support. The GTO, PRISM and CFIR do not discuss the need for a specific implementation team.

²⁷ Appendix A contains a table overview of the purposes, tasks and compositions of the described capacities contained in the frameworks.

Common purposes of these different teams or individuals are to *liaise*, *span boundaries*, and *bridge gaps* among different systems, organizations, or roles related to the implementation process. Building connections between program developers and the active implementers of a site or a system is the prominent boundary spanning activity for the capacities in the AIF, the EPIS, and the CDT, whereas the ARC focuses on linking active implementers with other key stakeholders and opinion leaders in the surrounding community (Glisson & Schoenwald, 2005). The ISF positions the support system between the delivery and the synthesis / translation system and puts an emphasis on enabling research translation into practice (Wandersman, Duffy, et al., 2008; Wandersman et al., 2012).

The tasks that follow from these purposes look slightly different for the different frameworks: Whereas the AIF and the ARC keep a focus on “implementation skills” in their task list, the CDT, EPIS, and ISF also view program related tasks (e.g., training in the EBP to be implemented) as a direct responsibility of the implementation team or change agent providing implementation capacity. This implies that the different teams or individuals may require different sets of knowledge and skills: The AIF and ARC expect that implementation teams or “change agents” are familiar with the evidence-based programs to be implemented, but not at the level of clinical program experts, as training, coaching, supervision is assumed to be delivered by others. The CDT, EPIS and the ISF on the other hand assume clinical expertise to be present in their teams and systems because training, clinical support and development during implementation will be delivered directly through them.

While the AIF relies on an implementation team and thereby on a group of individuals, the ARC builds on either individual or groups of change agents. The AIF

lists a number of core competencies for its implementation teams but also highlights that the responsibilities and skills needed may differ depending on the stage of an implementation process. The EPIS and the CDT describe the composition of their teams in broad terms and emphasize the need to include different types of stakeholders, but do not go into detail of these groups. The same is the case for the ISF, which keeps the description of the “support system” at an abstract level and underlines that any support activity, provided by either single individuals or groups of different kind, may be considered as being part of this system.

3.1.4 Discussion

Implementation frameworks have a prominent role in supporting implementation practice in child, youth and family services. In the past two decades, their development has helped progress the field of implementation science and practice to gain a systematic and well-structured understanding of the potential complexity of implementation and possible “handles” to facilitate targeted implementation processes. The above analysis has shown that:

1. Implementation frameworks were developed within specific contexts and with specific purposes in mind. When selecting a framework to support implementation practice, these purposes should be considered.
2. None of the identified frameworks were developed or applied outside the US context. Thus, their alignment with other cultural, political and social systems is limited still.

3. There were few studies that tested implementation frameworks using rigorous designs (e.g., randomized controlled trials). In most cases, studies applied implementation frameworks as heuristics and analytical tools.
4. The majority of identified implementation frameworks applied in child, youth and family services conceptualized implementation as happening in 2-4 different stages.
5. The frameworks identified a range of key influences needed to support implementation at any given point in time. These activities were described with differing levels of specificity.
6. A broad range of stakeholders were involved in implementation processes at the frontline, single organizational, community and policy level. Some (e.g. end-users or stakeholders at the policy level of the implementation system) were only minimally included in the implementation frameworks.
7. Most of the identified frameworks recommended the building of implementation capacities as necessary to implementation success. This may involve the use of single individuals or groups of staff who support implementation processes based on either program-specific or implementation-specific knowledge (or both).

Questioning Implementation Frameworks

The above findings indicate that, while substantial progress has been made, there is a need to further refine and clarify existing implementation frameworks if they are to gain and maintain a place in the *science* part of implementation science. This section critically brings forward what we found to be the main limitations of empirical knowledge about frameworks through the review process. Overall, there is very little evidence to inform users about which frameworks to use, when, and in what way.

Moreover, there is little empirically driven clarity about the ways in which individual elements of frameworks work together.

For the concept of “implementation stages”, the literature provides little information about the characteristics of stages, paths for moving through stages, or the interconnectedness of stages. It remains unclear whether they contribute equally to implementation success, which levels of an organization or system they target, if they build upon or compensate for each other, and in which other ways they may be intertwined. Thus, it remains unclear what indicators could guide users of frameworks in identifying their current stage and in transitioning between stages. In a few cases it is highlighted that stages do not necessarily follow each other in a linear way, or that they may overlap (Metz & Bartley, 2012, p. 12) but this claim is not tested in any of the applied studies. The speed and level of activity that were associated with movement from one implementation stage to another (Chamberlain et al., 2011; Saldana et al., 2011) were assessed as part of the studies on the CDT (Brown et al., 2014), but these measures were not integrated into the framework.

For “key influences” on implementation, the frameworks contain limited information on interrelations and causal linkages between the different key influences identified as essential for implementation. Some frameworks may define a chronology for the different steps that need to be taken to reach a specific goal, while others list these activities as parallel tasks without putting them in a specific order. The individual weights that different activities may have during implementation are not discussed, and in only few cases, e.g. the ARC, are these activities assumed to target specific socio-ecologic levels of the implementation system (i.e. the individual, family, community or system level). It therefore remains unclear whether these activities contribute equally to

an implementation process, which levels of an organization or system they target, if they build upon or compensate for each other, and in which other ways they may be intertwined.

Given the complexity of collaboration in EBP implementation (Aarons, Fettes, et al., 2014; Palinkas et al., 2012), a well-grounded understanding of “implementation stakeholders” and their roles in implementation processes is crucial. However, the literature on implementation frameworks is still scarce on information on how to identify, rank, link, or engage different stakeholders, how to define their functions, and how to understand the ways in which they interact during implementation processes. Frameworks are not always differing clearly between different socio-ecologic levels of an implementation, and offer limited guidance on how to identify stakeholders, how to rank them in accordance to their closeness to the implementation process (for example, by differing between primary and secondary stakeholders), how to define their different functions, or how to effectively link them to and engage them in these processes. The policy level of implementation is the one least discussed and explored in the studies. Several stakeholders at this level are mentioned but this often happens in passing and without clear exploration of their role in the implementation. Unclear, too remains the role of consumers in implementation, which is addressed by only few frameworks.

For the building of “implementation capacities”, the literature offers limited information about the recruitment of implementation agents or teams, their required skills and team composition. Also unclear is how to continuously develop teams throughout implementation processes, and how to integrate them into existing organizational or system wide governance structures.

The ultimate goal of implementation frameworks appears to be to improve outcomes. If higher levels of service implementation lead to better outcomes (Durlak & DuPre, 2008), then it is crucial that the tools used to guide implementation and improve its quality are examined. This review aligns with recent publications aiming to increase the in-depth understanding of implementation frameworks and their use (Helfrich et al., 2010; Kirk et al., 2016; Nilsen, 2015). Given the observations presented above, a number of suggestions for the improvement of implementation frameworks emerge from this review.

A Call for Strengthening Implementation Frameworks

At the practice level, it will be important for individuals, organizations, and systems to keep in mind that implementation frameworks were developed within a specific context and for a specific purpose. The selection of frameworks as practical implementation tools should be based on information about these contexts and purposes. Practitioners of implementation may also want to keep in mind that implementation frameworks, at their current stage of development, cannot be viewed as evidence-based approaches to implementation as few of them have undergone the type of empirical testing necessary to make such claims.

Against the backdrop of the review findings, current implementation frameworks can be seen as “multifaceted strategies” (Powell, Waltz, et al., 2015; Proctor, Powell, et al., 2013) considered (but not proven) to be of importance for the quality of an implementation process and for the outcomes of end-users of human services. These strategies build on generic elements or factors - stages, collaboration, stakeholders, training, and others - that, taken together, form an implementation process. Done well,

each may contribute to the quality of the process. Therefore, they should be presented in detail and explicitly linked to other concepts. However, as implementation frameworks present themselves today, this is not always the case. On the contrary, most implementation frameworks could be improved in two ways:

1. Their inherent factors could be better grounded in theory leading to solid logic modeling.
2. They could better differentiate the importance and timing of specific factors.

One example where these improvements can be made is in the use of implementation “stages”. An implementation stage can be understood as a phase characterized by varying degrees of preparing for, learning about, becoming familiar with, and routinizing the use of an innovation. Depending on the stage at which an organization is implementing the innovation, different stakeholders need to be engaged, and different activities initiated. In the current versions of the implementation frameworks reviewed, none of this information is organized as part of a logic model that could describe and explain, for example, which stakeholders need to be engaged in which phase, which activities will lead an organization or system into the next phase, or how different types of stakeholders or activities are related to each other within each of the stages.

Program logics or theories of change that connect the different factors of implementation frameworks through linking phrases such as “contribute to”, “require” or “cause” and which define both proximal and distal outcomes for the application of these frameworks are missing links in the current literature. Specific linking phrases can

lead to specific hypotheses that can be rigorously tested and advance our understanding of what are effective, and less effective, strategies for implementation. This will help organizations or systems working to implement evidence-based interventions to make cost-effective choices about their implementation strategies instead of investing equally in all types of strategies, some of which may not make a difference to implementation quality and end-user outcomes.

Moving Away from Frameworks and Toward Core Elements

An additional pathway toward strengthening the evidence base for implementation frameworks may be to apply concepts from the “modular design” approach (Chorpita et al., 2005b) to this field.

Within evidence-based program and practice implementation, new perspectives, discussions, and approaches that move away from traditional manualized EBP’s have emerged in recent years. This family of approaches views manualized programs as ‘black boxes’ that require considerable effort to implement and sustain, without being based on solid evidence about which parts of its content are the “active ingredients” or mechanisms of change that create positive outcomes for end-users of services. Their proponents align in pointing to practitioner and provider difficulties implementing manualized, evidence-based programs with high fidelity and adapting them to local contexts, which prevents their large-scale application in broader service areas (Barth et al., 2012; Chorpita et al., 2005a, 2007).

To ensure scale-up of evidence-based practice, they suggest an approach that moves away from traditional programs and toward identification and extraction of the ingredients of effective programs - the common elements, factors, modules or kernels

(Barth et al., 2012; Chorpita et al., 2005a, 2007; Embry & Biglan, 2008; Lyon et al., 2014). As part of adequate professional development supports (Southam-Gerow et al., 2014), these can then be made available to practitioners as separate, effective and implementable building blocks for use in the creation of customized interventions and programs that fit with any given local context and client need.

There is a parallel between this clinical debate and the debate about implementation frameworks. Similar to manualized evidence-based programs, implementation frameworks appear to come in “packages” that contain a broad range of elements, all of which potentially could affect an implementation process and therefore are recommended as equally important. To better understand whether comprehensive implementation frameworks are needed, or if a “modular approach” could be more practicable and effective in certain contexts, a more rigorous and strategy-focused approach may be warranted.

This could be achieved by synthesizing data about the effectiveness of the core concepts used in implementation frameworks and integrating them in ongoing refinements (Novins et al., 2013; Powell et al., 2014) and through a more widespread deployment of rigorous systematic reviews and meta-analysis (Shlonsky et al., 2011). Documenting this effectiveness may facilitate the creation of a list of single implementation elements that can be combined and adapted to any specific individual, organizational, community or system implementation context.

An attempt of moving in this direction is, for example, reflected in work conducted as part of a partnership between Washington State’s Children Administration and the University of Washington’s Evidence-Based Practice Institute (Sedlar et al., 2017). The partnership has combined single implementation and intervention strategies into a logic

model in which strategies link child, youth and family outcomes with system, organizational, implementation, and service inputs.

Limitations

This scoping review has a number of limitations. Implementation frameworks were included only if applied in the child and family services sector, which excludes implementation frameworks developed in other sectors (e.g., education or health). This review may therefore not provide a full picture of how implementation frameworks have been used and tested across human services as a whole. For example, the Consolidated Framework for Implementation Research (CFIR), represented with a single study in this review has its origin in health sciences and has been applied extensively in that discipline (Birken, Powell, et al., 2017; Kirk et al., 2016). Similarly, the Promoting Action on Research Implementation in Health Services (PARiHS) framework has gained considerable attention and use in the health sector (Harvey & Kitson, 2016; Helfrich et al., 2010; Kitson et al., 2008; Rycroft-Malone, 2004; Stetler et al., 2011) but is not present in this review. Given that the purpose of this study is to examine the state of implementation frameworks in the child and family services sector, the narrowing of the sector scope has a good rationale. However, practitioners, organizational leaders and researchers working with implementation in child, youth and family services may find further insights into the use of implementation frameworks in related human service sectors.

The review searches only included English language publications. Articles written in other languages were not included. Also, this scoping review has a narrow focus on the implementation science literature. Literature published within domains that are

related to implementation but use a different terminology (e.g., knowledge translation and dissemination) is not included. This was a conscious choice made to maintain a strong focus on implementation in this article. “Implementation” is a more active approach to enhancing the uptake of evidence in practice and policy than the primarily passive “dissemination”. It also embraces a broader range of activities than “knowledge translation”. Given these differences, there was a clear rationale for not including frameworks from these disciplines. However, additional frameworks may have been developed and applied in these fields, and future research may draw a more complete picture of the state of implementation frameworks by expanding search terms to also include these domains.

Methodologically, the inclusion of conceptual literature on implementation frameworks to supplement empirical studies applying such a framework may be viewed as a limitation. Given the goal to understand implementation frameworks and their application within the child, youth and family service context, this inclusion of conceptual literature was considered necessary as empirical studies alone did not provide sufficient information to explain and discuss the frameworks in full. Finally, it is worth highlighting that implementation science is still a fairly new discipline and its terminology quite diverse with limited standardization of terms. This may mean that the indexing of articles may be limited, and some literature may have been missed. Risk minimization was attempted by searching both subject headings and titles/abstracts, as well as by inviting colleagues to identify relevant studies.

3.1.5 Conclusion

This review identified eight implementation frameworks that have been frequently applied in the sector of child, youth and family services. While we found that frameworks were fairly well-developed in terms of identifying stages and strategies, only few of the identified studies used rigorous research designs to test a framework. Common factors used in identified implementation frameworks were implementation stages, key influences (such as competencies, organizational factors and leadership), stakeholders and capacity (individuals or teams providing implementation specific knowledge, and skills). Only in a few cases were these factors theoretically grounded or fully developed, and limited information was provided about their characteristics, development, or interconnectedness. This points to a need to strengthen the conceptualization of core elements that are integrated into implementation frameworks, including an articulation of the underlying logic of each.

This way, the first and very important wave of implementation framework development – characterized by the emergence of multiple frameworks aiming to capture the complexity of implementation conceptually – may lead to a “second wave” of development that eventually enables the use of more flexible, modular approaches based on the application and combination of effective “implementation core elements” for specific purposes across differing contexts.

Since this scoping review was finalized in 2017, the interest in implementation frameworks in the field of implementation science has remained unchanged. A recent systematic review aimed at identifying implementation frameworks usable in research-informed cancer and chronic disease prevention differed between 159 theories, models and frameworks (Striffler et al., 2018). The majority of these (87%) had been used in less than five studies, many even in only a single study (60%).

Given this proliferation, it is not surprising that first tools have emerged aimed at supporting users of implementation frameworks in their framework selection. One tool is the Theory Comparison and Selection Tool (T-CaST) that guides framework selection based on users' familiarity with a framework and its degree of usability, testability and applicability (Birken, Rohweder et al., 2018). Another tool (Lynch et al., 2018) consists of a set of five key questions to help framework users think about specific aspects of their implementation project, thereby guiding them in their framework decision-making. Both of these tools have been described as “pragmatic,” emphasizing that they were developed for both research and practice use.

Among the newly developed implementation frameworks still are broad, general models, comparable to those developed in earlier decades of implementation science—shown in, for example, the “Why, whose, what, how framework for knowledge mobilizers” (Ward, 2017) developed as a support for individuals involved in knowledge brokering in healthcare. However, many newer frameworks also tend to more narrowly target specific aspects of an implementation, many of which were either only superficially or not at all covered by previous frameworks. Their focus is on, for example, adaptation (Stirman et al., 2019), the involvement of clients and consumers (Greenhalgh et al., 2019), the context of an implementation (Pfadenhauer et al., 2017;

Ziemann et al., 2019), or the design of implementation interventions (Presseau et al., 2019). As such, they can function as supplemental tools to broader frameworks such as those presented in the scoping review. However, framework developers often describe their use as being limited to research (Pfadenhauer et al., 2017; Presseau et al., 2019), indicating that these frameworks may require further translation before they can be adopted in routine practice and service settings.

In parallel with the design of new implementation frameworks, older frameworks continue to be developed and refined. For those that have been used in many studies and contexts, systematic reviews have been conducted to assess this use (Kirk et al., 2016; Kwan et al., 2019; May et al., 2018; Moullin et al., 2019). Partly, these assessments have led to conclusions about frameworks' usefulness. For example, they provide their users with a shared vocabulary (May et al., 2018), show robustness in supporting the real world planning and evaluation of implementation processes (Kwan et al., 2019) or an applicability across a diverse range of sectors (Glasgow et al., 2019). Partly, they have caused framework developers to call for a both broader and deeper use of frameworks and their different components, to refine and adapt these frameworks and to provide further resources for their potential users (Glasgow et al., 2019; Moullin et al., 2019). This type of tailoring has also shown in recent efforts to enable a more rigorous framework application in primary studies. For example, the Exploration, Preparation, Implementation and Sustainment (EPIS) framework was used to inform all stages and activities of a multi-site cluster randomized trial comparing the effectiveness of two different implementation strategies when used to enhance the uptake of evidence in juvenile justice (Becan et al., 2018).

However, while this is a promising example from the field of child, youth and family services, such comprehensive framework use remains rare in this sector. In many cases, framework use in recent studies remains limited to analytical purposes, where e.g. the Consolidated Framework for Implementation Research (Damschroder et al., 2009) has been used to guide the collection and analysis of data on barriers and facilitators to implementing attachment-based family therapy (Santens et al., 2019), integrated youth services (Henderson et al., 2019), or a research-informed parenting intervention (Ordway et al., 2018).

Few examples exist of studies not only applying a framework, but also critically examining this application in order to contribute to framework enhancement. An exception is a study of four Canadian child and behavioral health agencies implementing Motivational Interviewing (Barwick et al., 2019). Based on survey data, researchers identified four constructs that they suggested being added to three of the CFIR domains because they viewed these as insufficiently covered in the original version of the framework. Another Canadian case study of the implementation of Triple P (Positive Parenting Program) across multiple sectors in Quebec (Delawarde-Saïas et al., 2018) compared stakeholders' experience with using the Quality Implementation Framework (Meyers et al., 2012) as an implementation guide. Based on qualitative data gathered through individual and focus group interviews, the research team suggested defining further steps under each of the QIF's phases, putting more emphasis on the vulnerability of transitioning between different implementation phases and more explicitly acknowledging processual, cyclical dynamics characterizing an implementation.

Another framework applied in a more recent study of child, youth and family services is the Practical, Robust, Implementation and Sustainability Model (PRISM). It was used to guide data collection and analysis in a study of barriers and facilitators to the implementation of a parenting intervention and its necessary adaptation for child welfare services in the US (Gopalan et al., 2019). Furthermore, the Active Implementation Frameworks (Metz, Naoom et al., 2015) continue to be a reference point for scholars. However, while the AIF contains five different frameworks, including “usable innovations,” “implementation stages,” “implementation drivers,” “policy-practice feedback loops,” and “implementation teams,” in studies, these have been rarely used in their entirety. Instead, scholars utilize single frameworks such as implementation stages (Akin et al., 2017; Hickey et al., 2018) or drivers (Nielsen et al., 2020; Cheron et al., 2019) and comparable to others’ framework use apply these as an organizing or analytical structure to a project rather than measuring their effectiveness.

This also implies that following the finalization of the scoping review, and independent of the implementation framework used in a study, it has still been rare to see frameworks assessed as implementation interventions. While it is theoretically possible to imagine a study comparing the implementation of a research-informed intervention based on either the active or no use of an implementation framework, very few studies of this kind exist in child and family services – likely due to the fact that frameworks were not necessarily conceptualized as multifaceted implementation strategies and therefore would require a detailed operationalization before active use is possible. Exceptions remain to be those frameworks that are sufficiently detailed to function as an implementation strategy, i.e. the Community Development Team (CDT) (Brown et al., 2014; Glisson & Schoenwald, 2005) and the Availability,

Responsiveness, and Continuity (ARC) framework (Williams, Glisson et al., 2017), both of which were already included in the original scoping review.

Taken together, these limitations in the evidence for and experience with using implementation frameworks indicate a need to explore their usability and limitations more critically within the context of real-world child and family service settings. For this purpose, two studies were conducted both of which utilized the Consolidated Framework for Research Implementation (Damschroder et al., 2009) in studies of the implementation of research-informed interventions in Australian child and family service settings. They are presented in the following.

4. Chapter Four

4.1 Findings Phase 2: Case Study/Mixed Method Evaluation (I)

This chapter reports on the first part of the second phase of the research conducted for this thesis and narrows the scope by focusing on the usability of a single implementation framework, the Consolidated Framework for Implementation research or CFIR (Damschroder et al., 2009), in exploring how and why an RSI was mis-implemented in New South Wales in 2016/17. Together with chapter 5, it contributes to answering the research question: *How can implementation frameworks help to explain real world experience with implementing RSIs in Australia? What are their strengths and limitations?*

The following publication served as the foundation for this chapter:

Albers, B.; Shlonsky, A. (under 2nd review). When Policy Hits Practice – Learning from the Failed Implementation of MST-EA in Australia. *Human Service Organizations: Management, Leadership & Governance*.

4.1.1 Introduction

A well-established area of knowledge within the discipline of implementation science is the study of “barriers and facilitators” (Bach-Mortensen et al., 2018; Mauricio et al., 2018) or “determinants” (Krause et al., 2014; Powell, Patel et al., 2019) of successful implementation, representing factors at the level of the individual, group, organization or system that can either hamper or support an implementation.

A highly used representation of a broad range of determinants is the Consolidated Framework for Implementation Research (Damschroder et al., 2009), developed to guide research in this area and also used for this study. The CFIR is comprised of five domains – intervention characteristics, inner and outer setting, characteristics of individuals and implementation process – each of which contains multiple constructs assumed to influence an implementation.

Given a high level of productivity in this area of implementation science, more and more targeted systematic reviews have been produced in recent years to synthesize current best knowledge on the factors influencing the implementation of various programs and services including: tobacco and substance abuse interventions in secondary schools (Waller et al., 2017), trauma-focused interventions for children and youth (Powell, Patel, et al., 2019) and e-mental health interventions in primary care (Vis et al., 2018) – to name just a few examples.

Substantially less established within implementation science is “implementation failure” or “mis-implementation”. Defined as “*the process where effective interventions are ended or ineffective interventions are continued*” (Padek, Allen et al., 2018, p. 2), mis-implementation differs from “de-implementation”, which focuses on the retraction of harmful and/or ineffective or inefficient interventions (McKay, Morshed et al., 2018; Pinto & Park, 2019). In one of the few studies describing the frequency and patterns of mis-implementation occurring in the US, it was estimated that approximately 39% of the health programs that – viewed from the perspective of survey respondents recruited from local and state departments and other agencies – should have continued were terminated. The three highest ranked reasons for these mis-implementations were: Funding (1) ended or (2) was diverted, or (3) the support from policymakers changed,

whereas a lack of positive impact and effectiveness was ranked substantially lower as a reason behind program termination (Brownson et al., 2015).

As such, mis-implementation is a phenomenon of great importance to human service organizations. When the delivery of effective interventions is terminated, previous investments made into building the knowledge, skills and attitudes of their providers are lost, resulting in resource inefficiencies as well as in a potential lack of trust and confidence in program usability in real world service settings (McKay et al., 2017). Moreover, clients will no longer receive a potentially effective program, and frustration among staff may increase their reluctance to engage in other implementation efforts in the future (Geerlings et al., 2018).

Understanding the risks and elements of failing implementation is a first step toward avoiding such inefficiencies in that its detailed examination provides human service organizations with opportunities to learn from failure and use this learning to improve their implementation practice (Edmondson, 2004). Only recently have scholars begun to examine the characteristics and consequences of mis-implementation (Brownson et al., 2015; Furtado et al., 2019; Padek, Allen et al., 2018), highlighting that further research is warranted to enhance our understanding of the dynamics that let barriers to the implementation of effective interventions become insurmountable, resulting in implementation termination.

This study aims to contribute to this still scarce knowledge base with insights from an Australian case study.

Testing the Use of MST-EA in New South Wales, Australia

In 2016, the government of New South Wales (NSW) Australia began a year-long implementation of Multisystemic Therapy-Emerging Adults (MST-EA). The Directorate of New South Wales Ageing Disability and Home Care (ADHC), part of the Department for Family and Community Services (FACS) in New South Wales²⁸, selected MST-EA as a potentially suitable intervention for clients in a leaving-out-of-home care-program for youth with high and complex support needs stemming from challenging behavior, mental health problems, involvement with the criminal justice system, intellectual disabilities, and alcohol and drug use.

MST-EA was originally developed in the US for young people aged 17-21 with a serious mental health condition and involvement in the justice system. The program is an adaptation of standard MST, a manualized, empirically supported intervention tested through multiple, developer-involved (Henggeler, 2011; Henggeler & Schaeffer, 2010) and independent trials (Asscher et al., 2013, 2014; Fonagy et al., 2018; Leschied & Cunningham, 2002; Löfholm et al., 2009; Ogden & Hagen, 2006; Ogden & Halliday-Boykins, 2004; Weiss et al., 2013). While this evidence base is equivocal (Curtis et al., 2004; Littell et al., 2005; Stouwe et al., 2014), decision-makers in New South Wales considered the program – and its adaptation MST-EA – a research-supported alternative to services as usual and decided to explore MST-EA’s potential to be effective for people aged 16-26 with a mild to moderate intellectual disability and at high risk for poor outcomes. Services were provided by a single treatment team that consisted of four full time therapists and a full-time supervisor. The team received ongoing support from the developers of MST-EA, located in the US, in the form of weekly coaching and

²⁸ In 2019, FACS changed their name to DCJ – Department of Communities and Justice.

supervision sessions, quarterly booster trainings, and continuous consultation aimed at removing implementation barriers as they emerged. The team had the capacity to serve sixteen clients over the course of one year, and the future plan was for all clients to receive the service from non-government human service organizations regularly providing care to people with disabilities. The use of MST-EA was not mandatory. Identifying relevant agencies and eligible clients depended on active outreach from the MST-EA team, whose services to agencies and clients was funded through either central block funding or a new funding scheme further outlined below. Within the first year of MST-EA operation, only seven clients were referred to the treatment team. In 2017, one year after the beginning of the trial, government decided to discontinue the MST-EA pilot and disband the MST-EA team.

Simultaneously, the team behind this study was commissioned to examine the failed implementation of MST-EA from a broad perspective to contribute to an understanding of why the program was unsuccessfully implemented. The research question guiding the team's work was:

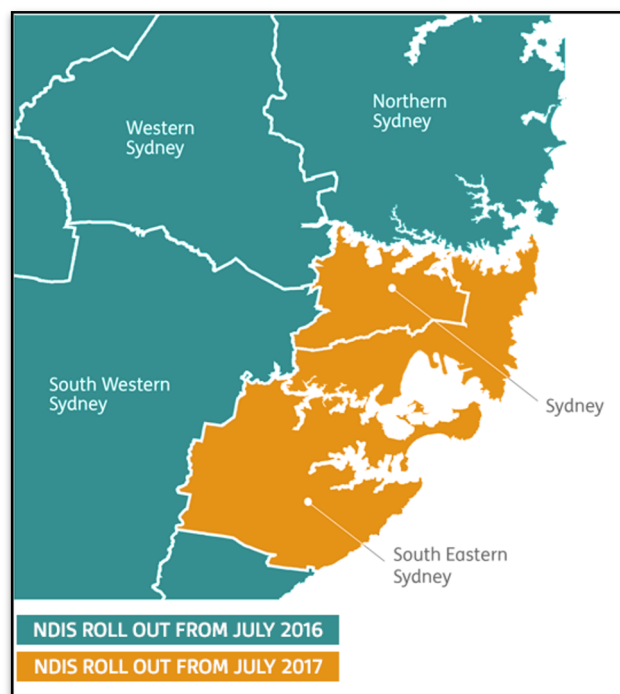
What barriers did stakeholders identify as contributing to the unsuccessful implementation of the MST-EA model in New South Wales?

The National Disability Insurance Scheme (NDIS) – A Non-Ignorable Australian Landmark Reform

When the decision to adopt MST-EA was made, a nation-wide policy reform was underway in Australia aimed at re-building the country's disability services. They had previously been diagnosed as being “underfunded, unfair, fragmented, and inefficient”

(Productivity Commission, 2011, p. 2), leading to new legislation that established the National Disability Insurance Scheme (NDIS). The NDIS represents a fundamental change in the funding of disability services in Australia. While provider-focused block funding was the predominant funding mechanism until 2013, the NDIS introduced a more personalized client-focused approach to the distribution of funds. Under the new scheme, individuals who – based on an assessment of their needs and personal goals – are eligible for funding from a central pool, receive this funding individually and can use it to purchase support and other services from providers that are registered and accredited under the NDIS (Olney & Dickinson, 2019). Its implementation commenced in the form of a three-year trial in July 2013. After this trial, the full rollout of the reform began.

Figure 4.1: Phases of NDIS Roll-Out in Sydney, Australia*



*Source: National Disability Insurance Agency - NDIA (2015)

This rollout is staged and structured into year-long phases, during which several sites in each state – including both individuals with permanent and significant disabilities and the providers of disability services – join the NDIS. The reform is expected to be fully implemented by 2020 with an estimated reach of 460,000 clients. As depicted in Figure 4.1, several sites in New South Wales – where MST-EA was implemented – commenced their transition to the NDIS in July 2016, among them Northern, Western, and South Western Sydney. Sydney Central and South Eastern Sydney were first to start their NDIS transition from July 2017.

The MST-EA implementation therefore occurred within a strong climate of policy reform. In this climate – and due to the similarities in the MST-EA and NDIS target populations – it was highly likely that the introduction of the new funding scheme would have implications for program implementation (Aarons & Sklar, 2014; Bunker & Lengnick-Hall, 2019; Despard, 2016). However, the direction and characteristics of this influence were unforeseeable when the MST-EA implementation began due to a high level of uncertainty surrounding the introduction of the NDIS.

4.1.2 Methods

This evaluation obtained ethical approval from the University of Melbourne Human Research Ethics Committee (ethics ID 1749129.1) in March 2017.

Theoretical Framework

The Consolidated Framework for Implementation Research or CFIR (Damschroder et al., 2009) guided the development of measures and data analysis of this study. The

CFIR synthesizes the content of nineteen different theories about implementation, encapsulated in five domains assumed to influence implementation:

1. The practice or intervention;
2. The individuals involved;
3. The inner setting in which the implementation takes place;
4. The outer setting surrounding the implementation;
5. The implementation process itself.

Across these domains, the CFIR suggests twenty-six different constructs with a potential to affect any implementation process. Intervention characteristics include whether an intervention is perceived as home grown or externally developed, the strength of its evidence, its relative advantage, complexity, adaptability, costs and design qualities. Individuals involved in an implementation process influence its quality through their knowledge and beliefs, perceived self-efficacy, individual readiness for change and their level of identification with the implementing organization. In the inner setting, organizations' internal structures, networks and communication processes, culture and climate, and implementation readiness can influence an implementation, whereas the outer setting contains policies, information about client needs and resources and external networks as factors contributing to, or hampering, an implementation. Finally, the quality of an implementation process will be affected by the diligence with which stakeholders are engaged, activities planned, and this plan executed and evaluated.

The CFIR has shown its usability in implementation research through an abundance of case studies and process evaluations (Keith et al., 2017; Mäkelä et al., 2018; Possemato et al., 2017; Wagner et al., 2019), making it a relevant choice for the examination of the NSW case.

While it was decided to utilize the CFIR framework in its entirety – because a broad range of factors was assumed to contribute to the failed implementation – a selection of its constructs was anticipated to be of particular importance. Given the policy reform context surrounding the MST-EA implementation, we expected the CFIR domain “outer setting” with its construct “external policies and incentives” – potentially enabling the identification and analysis of policy factors – to be crucial. Similarly, being familiar with the key ingredients of MST-EA and knowing about its complexity, we anticipated that this specific program characteristic would be a central implementation determinant. Since MST-EA was in operation for only a single year, the CFIR constructs “Planning” and “Engaging” were assumed to be important influences within the “Process” domain. Finally, within the inner setting, the focus of our inquiry was on structural characteristics, climate and readiness. Since the pilot MST-EA implementation occurred within a governmental human services organization, typically characterized by hierarchical structures, we anticipated that the high degree of flexibility with which MST programs normally are delivered, could be challenged by these structures. Furthermore, with previous studies pointing to the importance of supportive organizational contexts for the implementation of research-informed interventions (Glisson et al., 2013; Williams, Glisson et al., 2017; Williams, Wolk et al., 2020), the climate and readiness of the provider organization was assumed to be of particular importance for this study.

Study Design

This evaluation utilized an instrumental case study design (Merriam & Tisdell, 2015) to better understand situations of implementation failure. It was based on (a) reviewing written documents developed as part of the MST-EA implementation, and (b) collecting qualitative data by administering a semi-structured, CFIR-informed interview guide. Its twenty questions were selected using an online CFIR technical assistance website²⁹ and considering three factors: (1) All CFIR domains had to be present with at least one question to ensure that the identification of barriers occurred from multiple perspectives; (2) the timing and structure of the guide had to allow us to probe constructs of particular importance such as those highlighted above; (3) due to respondent time constraints, interviews had to be conducted within 45-60 minutes. The resulting interview guide is available as an electronic supplement to this article.

Participants and Procedures

Participation in the study was voluntary, and participants who did not wish to be interviewed could refuse participation. Individual interviewees were approached by e-mail, describing the purpose of the study, conditions for participation, and the composition of the research team. Informed consent was obtained from those who agreed to participate.

Of thirteen persons approached, twelve (N=12) accepted the invitation and one person did not respond. Six (N=6) interviewees were therapists, supervisors or paraprofessional coaches directly involved in the delivery of MST-EA services to clients; three (N=3) managed and supported the MST-EA team on a daily basis; two

²⁹ <http://www.cfirguide.org/>

(N=2) represented client organizations receiving MST-EA services; and one (N=1) interviewee represented a public advocacy organization supporting individuals and agencies in their NDIS enrollment who provided expert information on ongoing policy/NDIS reforms. As such, the sample composition had a focus on frontline experience with service delivery at the interface of multiple providers affected by national policy reforms. While the first eight stakeholders sampled were pre-defined by the research team due to their closeness to the implementation process, additional stakeholders were recruited based on the content of the first interviews, leading to the identification of relevant referral agencies and of the policy reform expert. Sampling ended when no additional barriers emerged through interviews.

The lead author (BA) conducted interviews between May and July 2017 using the CFIR Interview Guide. Questions targeted a wide range of barriers aiming to elicit the broadest possible range of information from interviewees – both in relation to barriers in general and to the experience of the mis-implementation. Due to its semi-structured character, the interview guide allowed for probing this information as new thoughts were brought up (Adams, 2010). This means that while interviewees were asked the same basic questions, the probing process could lead interviews in different directions.

Interviews were conducted either face-to-face (N=4) or by phone (N=7), with one interview including two interviewees and all others happening one-on-one. Interviews were audio taped, audio files transcribed, transcripts shared with interviewees for review and the correction of factual errors, and transcriptions then fully anonymized for analysis.

Data Analysis

All transcripts were uploaded to “*dedoose*”, an electronic platform for analyzing qualitative and mixed methods research. Thematic analysis was used to analyze the qualitative data. This approach employs a “factist perspective” (Vaismoradi et al., 2013, p. 400). In taking this ontological perspective, data are assumed to – more or less – truthfully indicate reality (Sandelowski, 2010), involving a lower level of interpretation than comparable approaches such as grounded theory or hermeneutic phenomenology.

The lead author applied a deductive approach to identifying themes and threads in the interview data as part of the following 6-step-framework (Braun & Clarke, 2006; 2014):

1. Familiarization with the data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining, labeling and locating themes
6. Reporting

As part of the familiarization phase (step 1), transcripts of all interviews were read multiple times in parallel with written documents. These primarily administrative documents had been developed by e.g. MST-EA’s developers, FACS/ADHC and the MST-EA team and were collected while conducting interviews. They documented how the program had been communicated to different stakeholders, and how its

implementation had progressed over time. As such, they served clarification purposes and made it possible to mirror interview data in the broader context of the implementation project.

This familiarization was followed by a first round of deductive coding, which was guided by the CFIR domains and constructs (step 2). While the use of “other” as a code to capture barriers that potentially fell outside the CFIR domains and constructs was allowed in this phase, its use ultimately proved unnecessary in this study. Sentences and text sections were assigned to CFIR domains and constructs to map the entirety of information. Text excerpts under each code were then compared in multiple rounds to identify the domains within which interviewees located the largest number and/or were stressed as among the most substantial barriers. This substantiality was assessed based on the frequency with which barriers were described across interviews and stakeholder groups and the level of importance attributed to them by interviewees (step 3). Codes derived from step 3 formed the key themes, which were then further condensed and labelled (steps 4 and 5) and are presented in the results section below (step 6). An example of the coding process is provided with electronic supplement 2. The mapping of data was based on excel spreadsheets that can be made available upon request.

At the time of data collection, the lead author was part of an organization involved in supporting the implementation of MST-EA in NSW. While in an independent research role, the organizational affiliation in itself may have influenced her understanding of the case. To minimize this potential source of bias, data and their interpretation were continuously discussed between both co-authors throughout the study process and critically reviewed by the second author during reporting. Furthermore, an early and unpublished report containing key data and their

interpretation was shared with eight interviewees who were invited to provide feedback on the report's consistency and accuracy. None of these interviewees raised any concerns.

4.1.3 Findings

Across the CFIR domains, multiple drivers contributed to the implementation failure in New South Wales. These are listed in Table 4.1 and further outlined in subsequent sections. The chronology with which these are presented is intentional and reflects that interviewees perceived that both the complexity of MST-EA and the strong policy reform climate that dominated its outer setting as the key factors that hampered local program implementation and exerted considerable influence on implementation domains presented subsequently. That is, the reform climate interacted with the characteristics of the intervention to produce the mis-implementation. Normal barriers, given enough time, could potentially have been overcome. But the outer reform context undermined the flexibility and resources needed to adapt the intervention to the inner client and organizational levels or to adjust these contexts to deliver the intervention well.

Table 4.1: Barriers to the Implementation of MST-EA and Their Consequences in NSW

CFIR Domain	Key CFIR Construct	Concrete barrier in NSW	Consequences for the implementation of MST-EA in NSW
Intervention Characteristics	<i>Complexity</i>	It took time to meet two key MST-EA requirements: • The 24/7 on-call availability of the team, and • a client centered approach to service delivery.	• Reducing fidelity: Before an on-call solution ensuring the availability of the MST-EA team 24/7 was found, MST-EA could not be delivered as intended because 24/7 coverage is a non-negotiable fidelity criterion for the program. • Decreasing referrals because government, while acknowledging the client-centered approach as important, did not adjust processes and structures to optimally implement this feature of MST-EA. The treatment team's inability to contact clients directly and the need to navigate service agencies first, before clients could be contacted, delayed quick intake decisions and prompt treatment start up.
Outer Setting	<i>External Policies and Incentives</i>	The National Disability Insurance Scheme (NDIS) was rolled out in parallel with the MST-EA implementation and impacted the project as a competing policy agenda.	• Lowering referral rates into MST-EA because only particular districts that had not yet begun their transition into the NDIS were eligible to referring clients to the MST-EA treatment team. • Decreasing the flexibility of collaborating service agencies' staff to allocate time to MST-EA because agencies already operating under the NDIS scheme could only assign limited time to supporting MST-EA implementation locally.

			- Reducing work hours available to service agencies to progress MST-EA related work because the transition to the NDIS was a time-consuming process. - Diminishing motivation of government staff to actively and consistently engage in MST-EA implementation because the transition to the NDIS implied that parts of the organization was to dissolve and transferred to other organizations.
Inner Setting	<i>Culture</i>	A more hierarchical and bureaucratic approach to decision-making within government contradicted MST-EA's client-centered and clinical approach to decision-making.	Decreasing referrals because government did not allow for the MST-EA supervisor to be the final decision-maker for client referrals into the team. Instead, a non-clinical manager made such decisions. This contributed to too few clients being considered for treatment, directly approached and provided the opportunity for treatment.
	<i>Readiness</i>	Lack in know-how and practical support to solve implementation problems within the government system	Adding prolonged problem-solving tasks to the MST-EA team's responsibilities because resources required to run the program had to be secured based on lengthy processes rather than swift solutions.
	<i>Implementation Climate</i>	The MST-EA team perceived a divide emerging in relation to government staff / colleagues	Increasing the MST-EA staff frustration over time bc. implementation success was not visible in e.g. referral rates or a general continuous support from government.
Implementation Process	<i>Planning</i>	Implementation activities typically part of preparation were covered during early implementation.	- Increasing the number of tasks, the MST-EA team had to solve during beginning implementation because the upstart of the implementation was rushed and the preparation phase too short. - Adding administrative tasks to the supervisor's work that were not part of the key responsibilities of an MST

			supervisor, who normally would spend all work hours on securing referrals, supporting therapists, and quality assuring program delivery.
Characteristics of Individuals	<i>Individual identification with organization</i>	Government stakeholders anticipated the closure of the services they were part of and focused on their own professional future rather than the MST-EA implementation.	Decreasing levels of engagement with MST-EA Implementation needs and support because it appeared more and more unlikely for the MST-EA implementation to succeed and relevant to the professional changes that were about to occur in the lives of individuals that would move to new organizations / agencies.
	<i>Knowledge and beliefs</i>	The MST-EA team had strong doubts about MST-EA's compatibility with NDIS requirements, and the likeliness for MST-EA to be maintained in the future.	- Increasing levels of frustration among MST-EA team members because enhancing the quality with which MST-EA could be implemented appeared more and more unlikely – as did the chance of maintaining the program under the NDIS regulation. - Decreasing levels of belief in implementation success among MST-EA team members because all individual and collective efforts to contribute to its proper implementation had failed.
	<i>Self-efficacy</i>	The experience of continuously not receiving sufficient referrals, together with other implementation barriers the MST-EA team faced, created a sense of defeat among team members.	

The Complexity of the MST-EA Intervention

In NSW, interviewees described the complexity of MST-EA as the biggest barrier for developing a good fit between the model and its context in the very short timeframe of only a few months. Given that the origins of MST-EA were in the US, and the model was not developed for a target group with intellectual disabilities, the team planning its implementation in NSW anticipated that it would need to tailor the intervention to the new context by, for example, aligning language to the NSW context, integrating content and services for a target group with intellectual disabilities, and defining new administrative principles with which to deliver the service. However, two key differences between the MST approach to client services and the approach normally used in NSW were not sufficiently identified in time to align processes or adapt it to context.

Firstly, the MST-EA model requires that treatment teams are available 24/7. Outside of normal work hours, one therapist – or the supervisor – would always be “on call” and available to clients by phone or – if the situation requires it – in person. In NSW, this requirement caused considerable work because seconded MST-EA therapists worked on contracts that only allowed for on-call compensation under specific circumstances. These had to be renegotiated to align working conditions with MST-EA requirements: [1] *“So, there was a lot of negotiation back and forth at the beginning about what could be done. A one-off payment, like a bonus payment to do 24/7 on-call or something like that [...] that was the biggest kind of challenge.”* During this time, FACS drew on the program supervisor’s time, who was tasked with securing this administrative alignment, leaving less time to focus on actual service delivery.

Secondly, MST-EA is described as a client-centered model that views the emerging adult as the “primary agent of change” (Sheidow et al., 2016, p. 358). This approach is fundamentally different from usual NSW services as this quote indicates: [2] “... *MST generally contact their clients directly and so they asked me for all clients’ mobile numbers. In our world, half our clients wouldn’t even have a mobile and we would never contact a client directly. We usually use the service providers and they would have [contacted them]– or they’d have a case worker.* Reflected in this quote is a substantial conflict between the philosophy inherent to the MST-EA program on the one hand and services as usual on the other. Rather than coordinating a disjointed set of services that clients are referred to, an MST-EA treatment team embodies the service, delivers interventions directly to their clients and engages and supports others in delivering services to these clients. This approach contradicted FACS’ service as usual, which were typically handed over to an independent provider whose staff then managed client cases from afar. In this approach, a complex net of service agencies and case workers is “*wrapped around*” the client as a “*pseudo-family*”: [1] “*I think the biggest difference between what MST-EA is used to and our clientele is that there’s just so many services wrapped around them usually when you start working with them. It’s very unlikely that [...] you’ll run into clients that you’re the main service provider.*”

While FACS staff perceived this difference as positive and acknowledged MST-EA as being “*truly client driven*”, the difference was also described as ‘*confronting*’, indicating MST-EA was an ‘eye opener’ and unveiled some of the weaknesses in the service as usual approach. In other words, it was ‘confronting’ because it became apparent that business as usual did not measure up to a real client-driven approach, despite rhetoric to the contrary in government communications and publications; that

such an approach would require far more from them, individually; and that they were unsure whether they had the skills to meet this higher standard of practice. The magnitude of structural and practice change required to implement and deliver MST-EA well cannot be understated.

The Outer Setting of MST-EA

In NSW, participants perceived the introduction of the NDIS as the most prominent outer setting barrier to the successful implementation of MST-EA because it was perceived as “[11] *a plane that’s being built while in flight*” involving “[11] *a lot of kinks and a lot of implementation issues*”.

The core challenges this policy initiative created for the treatment team stemmed from an administrative decision made by FACS. It implied that clients from sites that had begun their transition to the NDIS in July 2016 were ineligible for MST-EA until their transition to the NDIS was fully completed. This decision was not imposed by the scheme itself. It was made administratively as a response to the reform plans. Respondents described its rationale in different ways. Some saw it as a way to reduce complexity and a strategy of caution in the light of the many unknowns of the NDIS: “[2] *No one knew the answers to that [multiple questions raised by the NDIS]. And because we were already struggling with that on a day to day basis just in ADHC alone – to throw another program in such as MST-EA that didn’t even fit in anywhere either – [...] it was, you know, outrageous to even think about. And that’s when [NN] made the call to say, ‘let’s just not do that, it’s just too complicated’*”. From this perspective, the goal was to first ensure a full transition to the NDIS for each client, and to prepare MST-EA for an integration into services approved under the NDIS. While this process

unfolded, the MST-EA team could only accept clients residing in Sydney's Inner West and South East. Others explained that the decision intended to prevent clients from being funded twice, i.e., through the block funding provided to MST-EA services and the funding approved under the NDIS: “[5] *Because we were funded through ADHC [the original government provider and pilot funder], if clients had already transitioned over to NDIS funding, it would be seen as double dipping [...] as them receiving funding from two sources instead of one, which would be advantageous over a client who is still with ADHC and is only receiving one source of funding*”.

The MST-EA referral pool in the eligible areas of Sydney was much smaller than in areas that had begun their NDIS transition, contributing to a continuous lack of referrals into the treatment team. Several efforts were made internally in ADHC to address this problem including requests to reverse the decision, made to high-level decision-makers, and attempts to systematically identify additional clients from eligible sites. Yet, these failed, and the continued lack of success in increasing enrolment resulted in team frustration: “[6a]... *everybody threw up their hands [...] my understanding is it did go up the chain, you know, a number of times to ask again: [...] could we have an exception? [...] But it was a no, the decision would come back that, no we couldn't have exceptions.*”

The NDIS also created other challenges for the work with clients. Firstly, some client organizations already followed NDIS procedures and systems, which detailed precisely the activities and services for which funding was provided. This reduced the flexibility with which staff could pursue client-related activities and engage with the MST-EA team: “[10] *Before, they could have spent that time with MST, but now because the NDIS is trying to force them toward being more billable, claimable hours*

[...] they really don't have the flexibility in terms of how they use their time." Secondly, the NDIS reform was a time- and attention-consuming process influencing the priorities of service agencies responsible for clients referred to the MST-EA team. This challenged the communication, coordination and follow up needed to embed MST-EA into the work of service agencies: "[10] *there's so much NDIS work at the moment [...] it was a bit difficult for me to kind of coordinate that communication from a therapist to me, to my staff around the work that was being done ...*". For the MST-EA team, this meant that e.g. the local leadership support required to introduce the program to new service agencies, at times, was insufficient, that information was not always forwarded to service agency staff as necessary, or that this staff regularly had to prioritize NDIS over MST-EA related tasks. Finally, for government service agencies, the introduction of the NDIS was forcing their impending closure, with all services to be outsourced to non-government providers. This knowledge led to turnover and uncertainty for staff, which in turn may have decreased the motivation to actively and consistently engage in MST-EA implementation. One respondent indicated this linkage by commenting, [7] *"Obviously with the NDIS moving in as well, people are less motivated in themselves. They're also thinking, 'Where will I have a job? What can I do to help myself?'"*, while another more clearly described that: [1] *"I felt like there was almost a complete disengagement from ADHC."*

The Inner Setting of MST-EA

The combination of a complex intervention and a reform-focused outer setting influenced the inner implementation setting in New South Wales, where a hierarchical and non-clinical FACS culture and a lack of readiness in the organization posed major

challenges for the successful implementation of MST-EA. Despite acknowledging that the philosophy underpinning MST-EA was fundamentally different from the one guiding service delivery as usual, some of the basic changes required to appropriately embed MST-EA in the NSW service system were not made.

Firstly, while MST-EA calls for the supervisor to make final referral decisions based on face-to-face interviews and meetings with clients, in NSW these decisions continued to be assigned to a non-clinical FACS manager. This manager conferred with the MST-EA supervisor, but disagreements led, at times, to slow or rigid responses to potential referrals: [4] “... *in terms of assessing eligibility of a potential client, this would only ever have been done by the program manager, supervisor and/or consultant. As for having a service not allow the supervisor or therapist to meet with and inform the client of our program to allow them to decide should they be interested in participating – that was a shock. It goes against all that MST-EA stands for ...*” Hence, the predominantly hierarchical and bureaucratic culture for decision-making often seen in large and complex organizations contradicted the client-centered and clinically driven decision-making that MST-EA required, which contributed to low referral rates.

Secondly, and closely linked to the planning deficiencies highlighted previously, government did not appear to be ready for the uptake of the MST-EA program. The rushed preparation of the process contributed to this lack of readiness, but it was not the only factor. Multiple interviewees pointed to a lack of adequate resources and expressed a sense of fatigue about their own attempts to navigate the system. This was not a question of funding but was rather an inability to simply and quickly overcome administrative barriers, big and small. These included the 24/7 on-call issue but also smaller, practical questions such as room bookings – which had to be organized through

other staff in the first three months of the implementation – and parking spaces for treatment team members, which first became available 2-3 months post program start up.

Finally, the NDIS reform climate eventually contributed to perceptions among MST-EA treatment team members that there was an increasing divide between their own team and their host setting – the ADHC Unit of FACS. While perceived as accommodating and supportive to begin with, as NDIS reform work progressed, ADHC appeared to the team as becoming more distant to and disengaged from the MST-EA implementation because the organization was increasingly occupied with preparing for the transition of some of its services and personnel to other agencies. The MST-EA implementation climate – i.e. the degree to which ADHC staff perceived MST-EA as a priority, properly supported in its implementation through clear leadership, expectations, rewards and incentives – was therefore viewed as weakened. For the MST-EA team, this meant that, over time, they perceived that they were ‘left alone’ in the work to remove barriers to the implementation of the program: “ [7] *Since April or so, I feel like there's a complete divide between ADHC now and [us], and we as the therapists are part of one team and there's a whole separate thing going on with ADHC.*”.

The MST-EA Implementation Process

Given the highly complex setting of the MST-EA implementation in NSW, it is not surprising that interviewees characterized the process of implementing the program as a somewhat monumental task that suffered from poor integration with other processes and

structures, and from a limited time window available to help things happen well.

Multiple indicators were used to describe this lack of planning.

Firstly, the time between the date of the adoption decision made by FACS and the date for the basic 5-day training introducing therapists to the MST-EA model was six weeks. This was described as a faster program start-up than for any other MST-EA program, leaving less time for preparation: [6b] *“We [...] didn’t do any work to adjust or change the content or the structure of the model for this context in New South Wales. The approach that we took instead was to come and train, and the idea was [...] that we would identify things that needed to be shifted or adjusted as we were going and make those adjustments sort of over this first year”*.

Secondly, MST-EA team members described activities that normally would be part of the planning phase as instead occurring during the early implementation of MST-EA, e.g. deciding on measures, considering necessary model adaptations, meeting administrative needs, or preparing stakeholders: [4] *“... once we did the training it seemed like it was the wrong way around. Like then we were developing documents for Australian adaptation, [...] when we should be kicking off with clients.”*

Thirdly, service agencies were not sufficiently prepared – neither for clients to be contacted directly by MST therapists, nor for following up on interventions that the MST-EA team had initiated with clients. The treatment team therefore often had to navigate multiple service providers before an agreement to begin treatment could be established and also felt it was necessary to build the skills of provider organizations. This support was appreciated by those receiving it: [9] *“We have implemented all those strategies in terms of collecting data, you know, adding stuff to his routine, to his activities, identifying high-risk behaviors, identifying when the mental illness was at its*

peak, how to support. Yeah, they were very helpful [...], they were able to give us some helpful stuff". However, for the MST-EA treatment team, over time, this constant navigation and assistance contributed to perceptions of service agencies being "the second client" requiring more support than usual: [6b] "*... our therapists have done in-services [...] They've been training service providers as a way to ultimately help their client. ... We've never done it at that level before.*" Reflected in this quote is the realization that the needs for support in the service system were more profound than originally anticipated when beginning the implementation of the program. Clients were not the only ones who needed intensive support. The staff of service agencies who were supposed to wrap services around these clients had a substantial lack of competencies and skills to adequately support the interventions and adaptive changes initiated by the MST-EA team. If these were to be maintained, support had to be provided at a scale the team was ill-equipped to handle.

Taken together, this means that those closest to the MST-EA implementation at times also perceived the process of implementing MST-EA as a "building the plane as you fly" experience – requiring the treatment team to both establish routine operations while also addressing substantial adaptive challenges emerging from the existing implementation infrastructure.

Individuals Involved in the MST-EA Implementation

In NSW, the MST-EA treatment team, its managers and leaders at FACS, and their colleagues working for referring service agencies were the key service stakeholders of the implementation processes. For the two latter groups, the presentation of outer and inner setting findings revealed that the large-scale implementation of the NDIS led to a

certain level of disengagement with MST-EA implementation processes. The focus in this section therefore is the MST-EA treatment team.

When asked for their perceptions of MST-EA's compatibility with the target population of young adults with an intellectual disability, all team members agreed that the program was usable and of value for the clients they worked with in NSW. However, responses also showed increasing levels of frustration among team members about irremovable NDIS related implementation barriers, leading to considerable doubt as to whether the model could be tailored to NDIS requirements. The quotes listed in Table 4.2 reflect these doubts, and the contrasting narratives with which interviewees described key principles driving the NDIS and MST-EA respectively.

Table 4.2: Perceptions of Principles Driving the NDIS and MST-EA

NDIS approach	MST-EA approach
<i>"... It's much more individualized and so it's, you know – someone who has X number of – X level of support requirements would then get, you know, 50 hours of therapeutic support and someone else, you know, might get 30 hours of therapeutic support ..."</i>	<i>"... the MST-EA model is 'whatever it takes', but if 'whatever it takes' doesn't fall under a line item how do we charge for that, how do we get paid for that work basically ..."</i>
<i>"... Funding is more prescriptive. It's probably the simplest way to say it. So, because the funding is more prescriptive, organizations like ours are more accountable in terms of how it is used. However, there are more limitations on how it is used, and it means that in terms of it being flexible or responsive there really isn't that wiggle room there. Hours tend to be fillable now, so hours tend to be broken up into discrete units. So, a clinician will be billed for spending one hour developing a plan at a certain rate of pay, whereas before this it would be that the clinician just does it and it comes out of the funding that is used kind of at the organization's discretion. But it's much more prescriptive in terms of how that funding is used now ..."</i>	<i>"... I can't see how you can make it fit within the domains within the NDIS because unless you're going to kind of - because you have to estimate I think they're going to need this, and I think they're going to need that, and I think we can do that, but we really don't know. Unless there's a criteria where you can say, okay, we're going to give you \$25,000 for this client, you can use it however you want, then, yes, I think you can make it work, but otherwise I think you - it's really going to take away from the client work that you want to do to try and manage to make it fit and that's the whole point of what MST is about. ..."</i>

While the NDIS in these quotes is described as prescriptive and focusing on what is “billable”, MST-EA is characterized as the opposite – flexible and focused on clients’ needs.

Simultaneously, the challenges experienced by the team across all CFIR domains affected its perceived self-efficacy due to the continuous challenges with receiving appropriate referrals. Ideally, each MST-EA therapist would have held a case load of four clients at any time, while in reality this number was, on average, between one and two: “[3] *So it always felt like we would struggle to get clients, so that's - it was a bit demoralizing because I was getting ready to get started straightaway and have a full caseload and then to have no clients and then at - in the end mostly I had just one client*”.

Together with the range of other problems, this led to an increasing sense of defeat in the team, further represented by this quote: [4] *“I wasn’t probably the best that I could be [...]. I don’t know that they would say that [...], I really don’t know. I just felt, personally, it was a shemozzle and that’s just not how I operate, and I struggled with that.”* Reflected in this quote is the perception that the implementation of MST-EA, at times, was chaotic, confusing, and a muddle and as such conflicted with the ambitions and aspirations that its key stakeholders had – both for the program and for the way in which they wanted to operate and deliver services.

Hence, implementation challenges stemming from other CFIR domains, in particular the experience that MST-EA and the NDIS were incompatible, led to a steady erosion of individuals’ belief in the possible sustainment and growth of MST-EA.

4.1.4 Discussion

This case study describes the determinants of the mis-implementation of MST-EA – an intervention with some empirical support for use with emerging adults aged 16 - 26 with a mild to moderate intellectual disability who are at high risk of poor health and wellbeing outcomes – in New South Wales, Australia as viewed from the perspective of twelve key stakeholders involved in its implementation.

Barriers in all five domains of the Consolidated Framework for Implementation Research (CFIR) were identified as affecting the MST-EA implementation. However, particular challenges emerged from the decision to implement this highly complex intervention in parallel with a large, nation-wide policy reform – the introduction of the National Disability Insurance Scheme (NDIS), taking place in the outer setting of MST-EA. This combination of intervention complexity and major outer setting challenge (NDIS) created an inner implementation setting that was characterized by low readiness and a rushed implementation process. Attempts to improve this environment – by working to increase referrals, enhancing the fit between program and local setting and preparing it for the NDIS scheme – were unsuccessful and ultimately led to decreasing levels of self-efficacy in the MST-EA team and, over time, caused MST-EA's strongest advocates to experience a sense of defeat.

These findings raise important implications for both implementation practice and science.

Implications for Practice and Policy

The NSW experience illustrates that (mis-)implementation determinants – as represented within CFIR domains and constructs – are interrelated and recursive when

unfolding in practice. This means that one determinant affects another, which then loops back to the determinant triggering the effect in the first place. Hence, the influence of determinants on program or service implementation is dynamic – it is not a one-way, linear influence, and not all determinants have an equal role to play in every implementation. Instead, each implementation is unique and builds on a distinct array of determinants which – within the specific context in which it takes place – are of greatest influence on its success or failure. Single implementation factors (i.e. CFIR constructs), and the timing with which they pose a barrier or facilitate implementation, can influence whether and the extent to which other factors come into play. In NSW, the outer policy context ran as a thread throughout the implementation process, interacting with other factors and, ultimately, undermining the implementation of a complex social intervention.

As such, the NSW experience confirms a dynamic view of implementation reflected in recent publications discussing approaches to sustain the implementation of effective interventions in routine services (Chambers et al., 2013; Shelton, Cooper et al., 2018; Shelton & Lee, 2019). Translating this dynamic view on implementation to real world implementation practice implies that human service organizations and their staff require an ability to obtain a detailed, deep and dynamic understanding of the interventions they are implementing, and the settings in which they are embedded or upon which they rely. This includes an ability to assess key implementation outcomes of interventions (Proctor et al., 2010), for example, their acceptability, appropriateness, feasibility or costs, all of which can function as necessary pre-conditions to successfully enhancing service and client outcomes.

Thus, preparation and continuous quality assurance play key, not secondary, roles in implementation practice – in particular in cases of intervention transport and first time use in contexts in which an intervention has not been delivered. As part of these activities, it is crucial to assess how each single element of an intervention can be translated into organizational operations and practice, what resources are available to support the implementation effort, which potential implementation challenges might arise, and how these might manifest themselves across different actors and settings. Based on this assessment it is then important to consider the implementation strategies best suited to address the determinants that have been identified as being key to local implementation success, and to support ongoing learning and problem solving. These should be combined into multi-faceted approaches to implementation that can be monitored and adjusted dependent on the progress of the implementation. While the evidence base for specific implementation strategies is still being built (Powell, Fernandez, et al., 2019; Waltz et al., 2019), resources are available to inform strategy selection and tailoring in practice (Fernandez et al., 2019; Powell, Beidas, et al., 2017).

The NSW case also illustrates that in selecting strategies, it is crucial to consider determinants across all implementation domains, even those that appear to be rather distant from the implementation context that is in focus. In this case, it was the NDIS policy dynamic at play in the outer setting of the MST-EA implementation. This is of particular importance to human service organizations. They already operate under conditions of high complexity and are characterized by a diverse set of organizations, services, funding and delivery structures (Bunger & Lengnick-Hall, 2019). They experience substantial pressure emerging from competing stakeholder-interests, and they often have serious capacity limitations (Despard, 2016). Implementing evidenced

interventions within this context is a challenge in the best of circumstances. If policy pressure, e.g., a substantial policy reform, further complicates this context, it is imperative that organizational leaders understand how to identify, balance and mitigate this pressure and develop and maintain a strategic climate conducive to program implementation (Aarons & Sklar, 2014). This implies they are able to “read” and understand the potentially diverse priorities present in both the inner and outer setting of an implementation, are empowered to provide strategic leadership within these domains (Aarons, Green et al., 2016; Willging et al., 2018), and can act as boundary spanners – thinking and acting politically (Gilson, 2016; Willging et al., 2015) across both domains. In doing so, they may be better able to balance the many interests and preferences existing in, for example, a community service system and to make better informed decisions. This includes decisions supportive of the implementation and sustainment of local key initiatives and interventions but can potentially also include decisions to *not* begin an implementation process – simply because the current context is too challenging and implementation failure is too high of a risk.

Taken together, this highlights the urgent need to build the implementation capacity of human service organizations, their leaders and staff, and to develop the knowledge and skills required to adequately explore, plan, execute and evaluate implementation processes. While such capacity may be accessible through external support, scarce resources available in real world service settings mean it is also necessary to build local implementation capacity. Implementation science can play a key role in identifying how this can occur effectively (Jackson et al., 2018; Leeman et al., 2016; Matus et al., 2018), and policy developers and human service sector institutions should push for the

development of initiatives, projects and funding structures that support such capacity development.

Implications for Implementation Research

The key role of outer setting policy dynamics

The NSW experience also exemplifies the strong role that policy dynamics – in NSW represented by the NDIS influence – can play as highly paradoxical and irrational implementation barriers that trump all other determinants influencing whether a program or service is successfully implemented. Seen with a mis-implementation lens, certain barriers may be catastrophic, and others may be necessary but insufficient, on their own, to bring down an implementation.

Viewed from an implementation practice perspective, it seems surprising that a government department initiated the MST-EA implementation in an already reform-laden climate, and then added further to the implementation complexity by reducing MST-EA referral sources. This raises the question whether current implementation science is sufficiently developed to adequately examine the paradoxes of the policy sphere, in which shifting preferences, ambiguous goals, competing agendas and power struggles are daily realities.

A policy process can be defined as the sum of formal and informal actions and interactions that surround the production of written and unwritten outputs and rules from public policy bodies (Weible & Carter, 2017). Several key concepts aiming to capture the essential processes at play in implementation consider the policy context as an outer setting factor, typically described as the economic, political, social and legal context in which organizations establishing evidence-based practice operate. This

includes implementation frameworks (Aarons et al., 2011; Damschroder et al., 2009), strategies (Powell et al., 2016) and determinants (Krause et al., 2014). Multiple studies also indicate a growing interest in examining policy dynamics as part of implementation (Nilsen et al., 2013; Powell et al., 2016; Rubin et al., 2016). However, these are primarily descriptive or conceptual rather than empirical, and – comparable to the CFIR – treat outer setting dynamics in an often-cursory fashion. This leaves ample room to further develop our understanding of how policy processes can facilitate, or be detrimental to, implementation efforts, and how the design and use of “policy-oriented implementation strategies” (Bruns et al., 2019, p. 10) can help implementers to navigate policy influences.

Both the implementation and the policy literature suggest that discriminating between implementation and policy processes is essential. Within political science, the “implementation gap” has been identified as a problem common to many policy areas (Aberbach & Christensen, 2014; Cairney & Oliver, 2017; Hupe & Hill, 2015). It depicts the discrepancies between the intentions behind policies and their content as they appear ‘on paper’ and their translation and realization in real world settings when administered by public servants (Hupe & Sætren, 2014; May & Winther, 2009). This gap has increased the interest in examining implementation – formerly typically viewed as a residual and final step – as a central element in policy processes (Hupe & Hill, 2007; Wimmelman et al., 2018). Simultaneously, empirical studies conducted in implementation science show that policy processes affect efforts to implement research-supported interventions in practice (Powell et al., 2016) and that frontline workers operate as “situated agents” in a nexus between policy and practice (Willging et al.,

2015). This further emphasizes the importance of understanding the role of policy processes in implementation.

While there has been an increasing interest in the role of policy dynamics in implementation, scholars also bemoan the naïveté and lack of sophistication with which policy processes have been discussed in the field and hint at several weaknesses in current thinking about the uptake of evidence in and through policy processes. These tend to be centered on the following points:

1. The definitions of “policy” and “policy processes” used in current implementation models are rudimentary, contributing to policy being described as an “abstract construct” and “distant determinant” of implementation (Leeuw et al., 2014).
2. Implementation – the uptake of evidence in and through policy processes – is viewed primarily as a linear endeavor in which data inform policy development and policy enables the uptake of evidence in practice (Bernier & Clavier, 2011; Leeuw et al., 2014).
3. Current implementation models and frameworks rely on insufficient ‘stage heuristics’ (Leeuw et al., 2014) and suffer from a deficient integration of system level factors (Rütten, 2012; Rütten et al., 2011).

These authors explicitly call for a better elucidation of the policy side of implementation, including its actors, decision-making processes, interests and capacities (Cullerton et al., 2015). Multiple recent studies do exactly that and examine the potential contributions political science may be able to make if utilized within implementation science (Breton & Leeuw, 2011; Clarke et al., 2017; Cullerton et al., 2015; Lavis et al., 2014; Nilsen et al., 2013). However, these efforts are made at a

general level, and primarily highlight the extent to which there continues to be a limited exchange between both disciplines. Closing this “artificial, intellectual divide” (Roll et al., 2017, p. 18) between both streams of research could promote a better understanding of implementation failures of the type observed in this case study. They can also enhance the contribution to science each is able to make and thereby also their relevance for practice (Roll et al., 2017).

A Multiple Streams Approach to implementation

Bringing together implementation and political science requires a theoretical framework to understand, predict and evaluate implementation success and failure. In the following, we therefore discuss the potential contribution to be made by a policy process theory that was identified as relevant in three recent systematic reviews focused on the use of such theory in public health implementation studies (Breton & Leeuw, 2011; Clarke et al., 2017; Cullerton et al., 2015) – the Multiple Streams Approach or MSA (Kingdon, 2011). MSA was originally developed in the 1990s to explain how policy agendas are set under ambiguous conditions involving multiple actors who have unclear preferences, are embedded in a complex net of processes, and participate in decision-making under substantial time constraints with varying intensity and consistency (Herweg et al., 2017; Zahariadis, 2016). It has since been expanded to other stages of the policy cycle, including implementation (Ridde, 2009; Zahariadis & Exadaktylos, 2016). In doing so, Zahariadis & Exadaktylos (2016) suggest viewing policy decision-making as the opening of an “implementation window” (p. 61), a rather ambiguous phase, characterized by:

- *A set of actors – and entrepreneurs.* Implementation involves public servants, service agencies and other parties not involved in policy formation. They come with a new set of norms, ideologies, interests and cultures and, as for participants in agenda forming, they participate in implementation with varying intensity and consistency due to substantial time constraints and constantly changing preferences.
- *Independent streams of problems and solutions.* These can be coupled – and decoupled. If coupled, implementation is more likely to succeed. If de-coupled, implementation failure is more likely to occur.
- *Implementation entrepreneurs.* They work to promote particular solutions that can either enable or hamper the coupling of streams. In doing so, entrepreneurs use different types of strategies, including coalition building and integration, institutional rule manipulation, framing, and the use of incentives.
- *Context.* The success of using entrepreneurial strategies is bound by the contexts in which they are enacted. Described as particularly challenging for implementation is the context of reform, typically involving comprehensive change that creates high levels of ambiguity and, therefore, the potential to create tensions between competing interests.

In what way may the multiple streams model contribute to a better understanding of the failed MST-EA implementation in New South Wales? Answering this question in depth is beyond the scope of this paper. However, a general application of insights from MSA – and other theories of the policy process – into this implementation science-driven case study can be used to better understand our findings.

Firstly, MSA frames the policy context of program implementation as what some political scientists have called “organized anarchies” (Cohen et al., 1972, p. 1). Implementation does not take place in neutral, rational or in other ways “tidy” settings. Instead, multiple actors work to promote particular interests, preferences, norms, and

values, all of which may influence an implementation process. In this setting, evidence and the desire to promote evidence-based practice is only one of many competing preferences, making contestation over the objectives and outcomes of e.g. a program implementation highly likely even after the decision to adopt a program. This helps explain why a detrimental decision about referral pathways into the MST-EA program in New South Wales was made. The stakeholders who decided to adopt MST-EA were different from those who actually implemented it. These implementers – who worked to integrate MST-EA into organizational routines and structures – would have had to balance a number of different preferences linked to not only MST-EA but also the NDIS implementation. Such preferences may first have fully emerged while progressing the implementation in diverse interactions with others. Hence, MSA emphasizes the need to thoroughly map and analyze the interests and preferences present among stakeholders that participate in an implementation process, and to view these stakeholders as agents who represent other motives and goals than just the implementation of a particular intervention.

Secondly, MSA assigns “exerting influence”, and “convincing others” a central role in implementation. This is primarily put into the hands of entrepreneurs, who build coalitions, understand how to utilize existing processes, resources and rules for the benefit of an implementation, and offer incentives to those who are important to its success for joining implementation efforts. In implementation science, such a “brokering role” has been recognized in concepts such as implementation teams (Chaffin et al., 2016; Hurlburt et al., 2014; Metz & Bartley, 2012), intermediary organizations (Bullock & Lavis, 2019; Franks & Bory, 2017; Mettrick et al., 2017), or particular implementation interventions (Glisson & Schoenwald, 2005; Williams,

Glisson et al., 2017). However, these roles are rarely described as political or with an emphasis on the use of influence and power to convince others of, for example, implementation strategies, goals and outcomes. Rather, they are presented as supportive capacities with a strong focus on shepherding programs and practices through the different stages of implementation. While coalition building may be among their key implementation strategies, it primarily aims at “recruiting and cultivating relationships with partners in the implementation effort” (Fernandez et al., 2019; Powell, Beidas, et al., 2015). Competing, bargaining and forming alliances with others or exerting power over others are typically not included in descriptions of their role in implementation. MSA therefore adds *agency* or the capacity to exert power to the dimensions that need to be considered when analyzing implementation processes. For the study of the MST-EA implementation, this calls for a close examination of the government internal efforts to negotiate the conditions for implementing MST-EA in parallel with the NDIS and of the activities of both NDIS- and MST-EA-entrepreneurs within government.

Thirdly, MSA adds to our understanding of the outer context as an implementation factor. While there is a general acknowledgement among scholars of ‘context’ as an important influence on implementation, its maturity as a clearly defined, measurable key concept is emerging slowly (Bruns et al., 2019; McCormack et al., 2002; Pfadenhauer et al., 2015, 2017; Ziemann et al., 2019). In one of the most recent efforts to systematically map factors in the outer context that influence implementation (Watson et al., 2018), policy processes are represented in two ways: (1) In the form of “*political support*” defined as the “*extent of backing from public officials or special interest groups*” (p. 5); and (2) as “*policy and legal climate*” including “*external regulations in the form of rules, policies and laws*” (p. 7). These definitions still tend to

present policy-related implementation factors as unidirectional – they either support or hamper an implementation process. However, according to the MSA, a policy system is often characterized by high levels of ambiguity that make it possible for implementation efforts to be supported and hampered at the same time. In fact, “*ambiguity is amplified and conflict endogenized especially when reforms involve collision between internally generated processes of change and externally imposed ones*” (Zahariadis & Exadaktylos, 2016, p. 65). As part of an implementation study such as the NSW MST-EA implementation, MSA therefore draws attention to the clarity with which politicians or policy developers defined the goals and intended outcomes for the implementation. MSA also stresses the identification of the level of discretion with which government officials can shape and form the exact services delivered on the ground. With this in mind, the decision made within government to only allow for referrals into MST-EA from areas that had not begun their NDIS transition may be an indicator of high levels of both ambiguity and discretion within the government administration. Moreover, with its focus on ambiguities, the MSA approach also accentuates the importance of considering the influence of competing policy agendas on implementation processes – such as the NDIS – and their potential for disturbing or otherwise hindering ongoing implementation efforts.

Limitations

The qualitative case study – as a study design – has been defined as “*an in-depth description and analysis of a bounded system*” (Merriam & Tisdell, 2015, p. 40), assigning the researcher the responsibility to define where the system under examination begins and ends. The boundaries, or “fence”, around the case presented in

this article were drawn very close to the clinical treatment team, its managers and closest collaborators because its key interest was to understand the determinants contributing to implementation failure at the application level. Hence, upper echelons of government and service agencies were not involved in data collection, which limits this study's ability to provide detailed insights into the more strategic thinking about and decision-making around the NDIS and its relationship with the MST-EA. As the results presented here have shown, future studies of implementation failure should consider wider system factors, especially policy-driven factors, as dynamic and with potentially strong influence on implementation practice. Implementation studies may need to tailor their methods toward scrutinizing these factors in greater detail.

Another key characteristic of the case study is its dependence on the researcher as the primary source of data collection and interpretation. In personal interactions with study participants, the researcher “builds” the case which – for research purposes – makes crucial a high level of transparency about the role and point of view of the researcher throughout the study process (Hyett et al., 2014; Kyburz-Graber, 2004; Merriam & Tisdell, 2015). While this is not a limitation in and of itself, for the current study it is important to keep in mind that the lead researcher behind this case study was also part of an organization involved in supporting the implementation of MST-EA in NSW. While not being a part of the team working with the Department of Family and Community services, the organizational affiliation in itself may have influenced her understanding of the case. To minimize this potential source of bias, data and their interpretation were continuously discussed between both researchers throughout the study process and critically reviewed by the second author during reporting.

Finally, it should be noted that the sample of interviewees involved in this study was relatively small – driven partly by funding constraints, partly by the limited number of individuals actively involved in this program trial. While data saturation was achieved, future studies aiming to explore in greater detail how outer setting dynamics influence the implementation of evidenced interventions should expand the range of actors queried and especially involve those who are closer to policy decision making processes that impact implementation.

With the above limitations in mind, case studies provide context-dependent knowledge that helps to establish an in-depth understanding of complex, real-world dynamics. As such, they are valuable in developing, improving and testing hypotheses, theoretical concepts, and models used in research. While this case study does not allow for generalizable conclusions about the characteristics of implementation failure, it can contribute to theory development in this area and can also enhance our understanding of current implementation frameworks as well as provide potential pathways toward their refinement.

4.1.5 Conclusion

In-depth case studies of implementation processes, including failed implementation attempts, allow us to identify and understand the complex and often reciprocal influences that may be in play when (mis-)implementing evidenced interventions in real world service settings – and to learn from this experience. The case of implementing MST-EA in Australia reported here illustrates that the outer context of implementation, and in particular the policy dynamics present in this context, can exert a profound influence on an already complex implementation process.

While current implementation science helps to identify such dynamics, it falls short of explanations for why and how they unfold or how to prevent or use them in practice. Theories of the policy process developed within the field of political science may assist in the analyses of policy driven implementation barriers such as shifting preferences, ambiguous goals, competing agendas and power struggles. Integrating these in a manner that adds to current thinking and practice in implementation science will require clear definitions and specifications as well as the effort of multidisciplinary teams whose members are familiar with the two fields of science and their rather different research traditions and values.

Human service organizations and their staff require a detailed, deep and dynamic understanding of the interventions they are implementing and the settings in which they operate. Findings from this study indicate that, when settings are impacted by highly dynamic and potentially conflicting policy influences, thorough implementation preparation and quality assurance cannot be shortchanged. As well, our findings suggest that individuals in implementation leadership roles must be able to comprehend and navigate conflicting policy priorities if successful implementation, rather than (mis) implementation is to occur.

5. Chapter Five

5.1 Findings Phase 2: Case Study/Mixed Method Evaluation (II)

This chapter reports on the second part of phase two of the research conducted for this thesis. It continues to explore the usability of the CFIR as a tool to understand real world implementation processes surrounding the application of US-based RSIs, albeit within the context of multiple sites, multiple RSIs and the beginning implementation phase.

The both qualitative and quantitative data gathered through this evaluation project have been reported in two different manuscripts, one of which contains primarily quantitative data (Hateley-Browne et al., under review), whereas the other focused on primarily qualitative data. This second publication served as the foundation for this chapter:

Albers, B., Hateley-Browne, J., Steele, T., Rose, V., Shlonsky, A., & Mildon, R. (2020). The Early Implementation of FFT-CW®, MST-Psychiatric®, and SafeCare® in Australia. *Research on Social Work Practice*. <https://doi.org/10.1177/1049731520908326>

5.1.1 Research-Supported Interventions

In the past twenty years, many countries have shown an interest in building their child and family services on a stronger foundation of evidence, with the goal to improve service quality and the health and wellbeing of vulnerable populations requiring a broad range of support and protection services. In many cases, this has led to the uptake of

research-supported interventions (RSIs), i.e. interventions that are tested for their efficacy and/or effectiveness and defined in this study as “discrete, organized package[s] of practices, spelled out in guidance – sometimes called a manual or protocol – that explains what should be delivered to whom, when, where and how” (Axford & Morpeth, 2013, p. 268). There is considerable and compelling debate about whether and how to classify programs as “research-supported” (Centre for Evidence and Implementation, 2019; Gambrill, 2010; Gorman, 2014, 2015). At a minimum level of methodological rigor, classification systems require one rigorous trial and, on the more rigorous side, at least one systematic review including a meta-analysis of two or more randomized controlled trials that shows a positive, significant, and meaningful effect, and no negative effects, across one or more outcomes (Centre for Evidence and Implementation, 2019).

The US in particular is known for its distinctive turn toward RSIs (Shlonsky & Gibbs, 2004; Thyer & Pignotti, 2011) since the early 2000s. Multiple databases now exist that are aimed at providing practitioners and agencies with guidance on programs considered to be RSIs, as well as their effectiveness and implementability with different target populations and settings (Lyon et al., 2015; Martin et al., 2015; Mihalic & Elliott, 2015; Thyer et al., 2017; Walker et al., 2017; Wilson et al., 2019). Prominent examples of listed RSIs developed in the US and used in child and family services are Multisystemic Therapy (MST®), Functional Family Therapy (FFT®) and SafeCare®.

The Australian RSI Experience

The Australian experience with adopting and implementing foreign RSIs in child and family services has been limited. In 2016, the state government of New South

Wales decided to invest in RSIs more substantially and initiated the implementation of an MST adaptation targeting Child Abuse and Neglect (MST-CAN®) together with Treatment Foster Care (TFC-O®), SafeCare® and Functional Family Therapy-Child Welfare (FFT-CW®) within their child and family services (Ainsworth & Hansen, 2018), including (but not limited to) child protection. The state of Victoria followed shortly after and, in FY 2017-18, allocated \$29.2 million of its budget to expand family services program capacity and provide support to 1,200 additional families. This investment included \$5.1 million to test the implementation and delivery of five different family and parenting programs within family services. Three of these – SafeCare®, Functional Family Therapy-Child Welfare (FFT-CW®), and Multisystemic Therapy-Psychiatric (MST-Psychiatric®) – originated in the United States. The scientific evidence base of SafeCare® dates back to the early 2000s (National SafeCare® Training and Research Centre, n.d.) and includes both developer-driven trials and independent replications. The evidence base for FFT-CW® (Turner et al., 2017) and MST-Psychiatric® (Huey et al., 2004) is less developed because these programs are less-tested adaptations of the standard models FFT® and MST®. For these standard models, the amount and type of evidence is comparable to that of SafeCare®. All three programs are manualized and include implementation support in the form of, for example, readiness assessments, basic RSI training and ongoing support delivered post this training. These elements are designed to ease their implementation in new contexts. In Victoria, these programs were viewed as suitable alternatives to services as usual and adopted by three different service agencies. As such, their use also represents an attempt to move the child and family services sector toward greater use of

evidenced programs in practice, enhancing the skills of the work force and improving the quality of services.

Given the still limited experience with implementing RSIs in Australia and New Zealand, only a few studies exist that describe this experience (Curtis et al., 2009; Heriot & Kissouri, 2018; Heywood & Fergusson, 2016; Porter & Nuntavisit, 2016). None of these have examined the factors and elements of RSIs' implementation that stakeholders experience as challenging. This is concerning in light of the potential impact of implementation quality on child and family outcomes (Powell et al., 2014; Weisman & Montgomery, 2020) and many known obstacles faced by non-government organizations when implementing RSIs, including human and financial resource limitations, differences in organizational culture and a lack of support available to progress an implementation (Bach-Mortensen et al., 2018).

Early Implementation

Since the early 2000s, the growing use of RSIs in human services in general and child and family services in particular has contributed to a growing interest in better understanding how RSIs can be effectively implemented in routine service settings. This is reflected in the emergence of the field of implementation science, which for close to two decades has been focusing on “the study of methods to promote the uptake of research findings into routine practice” (Bhattacharyya et al., 2009, p. 491).

A key contribution made in this field is the implementation framework, a “coherent set of interlinked elements or factors that - together - constitute a generic structure for describing, understanding or guiding implementation processes” (Albers et al., 2017, p. 102). In efforts to capture the key characteristics of implementation and to guide both

scientists and practitioners in their implementation focused work, a large number of such frameworks has been developed (Escoffery et al., 2019; Moullin et al., 2015; Nilsen, 2015; Tabak et al., 2012), many of which have demonstrated their utility in child and family services (Albers et al., 2017; Hanson et al., 2016). Among the more prominent frameworks are the Exploration, Preparation, Implementation, Sustainment (EPIS) framework (Aarons, Hurlburt, & Horwitz, 2010); Getting to Outcomes (GTO) (Wandersman et al., 2000); the Reach, Efficacy, Adoption, Implementation, and Maintenance (RE-AIM) framework (Glasgow et al., 1999); and the Active Implementation Frameworks (AIF) (Metz & Bartley, 2012). The way in which these have been utilized range from supporting the implementation of research-supported interventions (Barbee et al., 2011; Metz, Bartley et al., 2015; Pipkin et al., 2013), to structuring the investigation of such interventions (Gannon et al., 2019; Hickey et al., 2018; Moullin et al., 2019), or informing the development of theoretical concepts and models (Isaacs et al., 2017; Mason et al., 2014). While implementation frameworks differ in purpose, content and form (Albers et al., 2017; Nilsen, 2015), they also have a number of aspects in common, among them the shared assumption that implementation occurs in stages – with 2-4 stages included in multiple frameworks (Albers et al., 2017). This is reflected most distinctly in the EPIS framework, named by its four implementation stages (see above) but is equally transparent in the AIF defining stages as one of five core frameworks and differing between exploration, installation, initial and full implementation. The linear understanding of an implementation process implicit in these frameworks is, of course, not fully representative of the often-circular realities of real-world implementation. That is, the stages often overlap or recur over time. However, the stage-based perspective has helped stakeholders to understand that

implementation is a long-term process, that the look and feel of implementation work changes over the course of this process, and that certain implementation tasks should occur before others in order to be successful in implementing research-supported interventions (Wang et al., 2016).

Among the different stages, “early” or “initial” implementation has often been described as a particularly vulnerable stage (Akin et al., 2017; van Dyke & Naoom, 2015). It covers the first months of testing out and actually using an RSI for the first time. When in it, stakeholders focus on obtaining a first-hand understanding of the innovation and how it fits within its immediate context. The *premier use* of new knowledge, skills, systems and structures is therefore the key characteristic of this stage. It increases the work demands for those involved in implementation efforts, contributing to the fragility of this stage. Stakeholders will still be relatively unfamiliar with new tasks and require more time and effort than usual to fulfill their roles. Simultaneously, multiple and often unforeseen barriers to the implementation of the RSI will emerge, necessitating continuous problem solving and quick responses to both technical and adaptive implementation challenges. This is illustrated in a recent study conducted within health, in which initial implementation was described as a process of “muddling through” (Conte et al., 2017, p. 804). However, there is still only sparse evidence available on the key attributes of early implementation (Landsverk et al., 2010), limiting our understanding of how to best facilitate activities during this stage to enhance the likeliness of positive implementation outcomes.

RSI Implementation Support

The risk of pivoting back toward practices as usual is considered high during early implementation. Given this reality, some scholars have recommended providing practitioners, managers and agencies additional support to build their implementation capacity and self-efficacy (Lyon et al., 2010; McLeod et al., 2018). For some RSIs, this implementation support has become a standard program ingredient. As such, it is typically offered to newly trained practitioners or supervisors immediately after pre-service training, e.g., in the form of ongoing coaching, technical assistance or consultation, and is focused on ensuring that an RSI is implemented as intended while also tailoring its delivery to conditions present in the local context.

This is the case for the aforementioned RSIs selected for implementation in Victoria: SafeCare® (Gunderson et al., 2018), Multisystemic Therapy® (Schoenwald et al., 2004) and Functional Family Therapy® (Robbins et al., 2016). When adopting any of these programs – be it in a standard version or an adaptation – provider agencies will automatically be connected with external program experts who are part of an intermediary or purveyor organization (IPO) and are trained in utilizing a range of implementation strategies. While purveyors typically represent expertise in a single RSI which they work to disseminate and support, intermediary organizations have a broader role, in that they focus on the implementation of multiple RSIs – and other types of evidenced interventions – and on building the organizational and system capacities required to maintain and scale this implementation (Bullock & Lavis, 2019; Franks & Bory, 2015; Proctor et al., 2019). In Victoria, either only the purveyor of the RSIs selected for implementation (this was the case for SafeCare®) or the purveyor plus an additional intermediary organization (this was the case for FFT-CW® and MST-

Psychiatric®) – all of which were located in the US – were involved in supporting implementation processes across sites. The focus of the purveyors was on conducting RSI training and providing the implementation support defined as standard for an RSI. The intermediary organization provided further, and broader support aimed at tailoring local structures and systems in ways that could help to fully accommodate RSIs in different Victorian settings. As such, the goal of this IPO support was to enhance local implementation efforts (Proctor et al., 2019) and enable “robustness of implementation” (Robbins et al., 2016, p. 554) across different stages. One could therefore assume that stakeholders working to implement IPO-supported RSIs would experience lower degrees of vulnerability when moving through the stage of early RSI implementation. However, with the existing “paucity of research on IPOs” (Proctor et al., 2019, p. 2), no evidence exists to confirm this assumption.

With the above research gaps in mind, this study aims to enhance our understanding of the fragility of early implementation based on an examination of initial efforts in Victoria to implement multiple IPO-supported RSIs within routine non-government child and family services in Australia. The primary research question was:

What were the challenges and barriers faced by service agencies and their staff during the initial implementation of the three IPO-supported RSIs SafeCare®, MST-Psychiatric®, and FFT-CW® in Victoria, Australia?

5.1.2 Methods

Study Design

The data analyzed and reported for this article were collected as part of a larger pragmatic, real-world observational study that examined the beginning implementation of five different family or parenting interventions in Victoria, Australia. That study built on mixed methods for data collection, involving the use of administrative data, the Stages of Implementation Completion (SIC) measure (Chamberlain et al., 2011), and the conduct of semi-structured interviews with key stakeholders responsible for implementing the programs.

The methods described in this article refer to the collection and analysis of interview data from stakeholders involved in implementing only the three US developed and IPO-supported RSIs: SafeCare®, FFT-CW® and MST-Psychiatric®. These are similar in that they follow a holistic and family-focused approach to enhancing the safety, health and wellbeing of children and youth and rely on home-based delivery. Full descriptions of each of the programs is beyond the scope of this paper. They are briefly described in Table 5.1, including a reference to a publication presenting the program in greater detail.

Table 5.1: A Brief Characteristic of Three Manualized Programs Implemented in Victoria

RSI	Functional Family Therapy-Child Welfare®	SafeCare®	MST-Psychiatric®
Target population	Youth aged 0-17 and their families in child welfare contexts	Parents of children aged 0-5 at risk of abuse and neglect	Youth with serious emotional disturbances / mental health emergencies and their families
Program aim	Reducing / eliminating family conflict and violence / child maltreatment; improving parenting / family functioning	Improving home safety, child health and parent-child interactions	Reducing youth's externalizing and internalizing symptoms; improving family functioning
Program delivery	<i>Staff:</i> Teams of one manager, one lead practitioner and three therapists. <i>Delivery:</i> Therapists deliver four program modules via outreach sessions occurring over four to six months. Flexible hours allow for tailoring service delivery to family availability.	<i>Staff:</i> Trained program educators with caseloads of up to 10 families each. <i>Delivery:</i> Educators conduct weekly home visits lasting 60-120 minutes. Over the duration of 18-20 weeks four program modules are delivered to families.	<i>Staff:</i> Teams of 1 supervisor / program manager, 4 therapists and 1 part-time psychiatrist. <i>Delivery:</i> Therapists conduct multiple weekly home visits for 4-6 months. Nine program principles guide program delivery. 24/7 on call support is made available to families.
Program pre-service training activities	Delivered concurrently with practice. Practitioners work through training as per program module.	4-day on-site, face-to-face workshop delivered by the program purveyor	5-day on-site, face-to-face orientation training delivered by the program purveyor
Standard post-training implementation support activities	Weekly one-to-one coaching sessions with an external, program-accredited coach from the program purveyor organization	Weekly coaching sessions with an external, program-accredited coach from the program purveyor organization	Weekly program supervision from treatment team supervisor (conducted in group); Weekly coaching sessions (conducted in group) with an external, program-accredited coach from the program purveyor organization; Quarterly 1.5-day booster sessions delivered by the program purveyor
Details presented in	(Robbins et al., 2016; Turner et al., 2017)	(Edwards & Lutzker, 2008)	(Henggeler et al., 1999; Rowland et al., 2005, 2000)

These RSIs also have a number of shared implementation support characteristics, including: support being facilitated through an IPO, using a manualized approach, defining clear pre-service training criteria, utilizing supervision and coaching in ongoing practitioner support, and monitoring fidelity and other clinical data. Given these similarities – and the fact that our main interest was to understand early implementation experience and not to assess the implementability of single programs – we anticipated that challenges to the implementation of each RSI would be comparable and thus we examined them together.

Theoretical Framework

This study was informed by the Consolidated Framework for Implementation Research, CFIR (Damschroder et al., 2009), a meta-theoretical framework synthesizing information and evidence about twenty-six constructs grouped under five domains assumed to affect implementation processes: Intervention Characteristics, Outer Setting, Inner Setting, Characteristics of Individuals, and Process.

Originally developed in 2009 – with the intention to support implementation researchers in conducting “diagnostic assessments” (Damschroder et al., 2009, p. 2) of implementation processes and in explaining study findings – the use of the CFIR has grown considerably over the past ten years (Kirk et al., 2016). Reflected in this use is the role of the CFIR as a “determinant framework” (Nilsen, 2015, p. 3) that specifies factors operating as barriers or facilitators (independent variables) and impacting implementation outcomes (dependent variables). As such, it can be used as an organizing structure that informs the entirety or parts of a research project such as hypothesis development, measurement design, data collection, analysis and reporting.

This is visible in multiple recent studies conducted within child and family services, which describe the use of the CFIR as an implementation planning tool (Flynn et al., 2018; Henderson et al., 2017), an instrument to organize and analyze data (Marques et al., 2016; Ordway et al., 2018), and as an object of research in itself in that the CFIR is examined in light of empirical research findings (Barwick et al., 2019). This latter in-depth use of the CFIR, which is aimed at advancing the framework itself as well as the discipline of implementation science, occurs less often (Kirk et al., 2016), highlighting the need to more systematically reflect on the utility and limitations of implementation frameworks and on ways to enhance them (Albers et al., 2017). In this study, the CFIR was used to develop the interview guide, structure data analyses and for reporting.

In addition to the CFIR – with the purpose to assess our assumption that RSIs selected in Victoria relied on similar IPO implementation support – we utilized a compilation of 73 implementation strategies previously identified through an expert-driven Delphi study as separate and distinct approaches helpful in creating hospitable environments for successful implementation (Powell, Waltz et al., 2015).

Implementation strategies have been defined as comprising “the specific means or methods for adopting and sustaining interventions” (Proctor, Powell, & McMillen, 2013, p. 1) and thus represent the “how to” of implementation practice. One of the few studies examining IPOs’ use of implementation strategies (Proctor et al., 2019), indicates that the implementation of RSIs is surrounded by comprehensive and comparable IPO support activities. To assure that this also applied to the Victorian trial of RSIs, and the implementation conditions across programs and sites were comparable, the strategy compilation was used to inform an interview guide and analyze IPO strategy use.

Research Team

The team that conducted this study included all co-authors and a further two research assistants, together representing first hand expertise in the RSIs implemented in Victoria (BA, RM), the agencies and funders involved (JHB, TS), study design, data collection and analytics (VR, AS, JHB, TS), and the science of implementation (BA, RM). One team member (JHB) coordinated the entire study and thus was in regular contact with both the implementing sites and the funder of this study. Research assistants came into contact with implementing sites through their work with data collection and received regular supervision from the study coordinator. All other team members had little to no contact with implementing sites.

During the conduct of the study, the team held regular meetings focused on joint decision making related to the research process and the provision of guidance and support to three research assistants who collected data and prepared these data for analysis, including preparing interview transcripts. The different types of expertise present in the group was actively used to jointly explore data, critically examine and challenge these, and to create a shared understanding of their meaning.

Three senior team members, including the first author of this paper and the study coordinator, reviewed interview transcripts and coding documents in detail and shared preliminary thoughts on salient features included in the material. Following this process, the first author of this paper (BA) conducted the first in-depth coding of the data and shared results with two team colleagues for comments and feedback. Upon agreement of revisions needed, she then coded the remaining data continuously sharing results with colleagues for input. The first author also drafted this manuscript, which all other authors reviewed and contributed to.

Participants

Two groups of participants were recruited for data collection:

1. Staff from agencies implementing one of the three RSIs, and
2. IPO representatives providing RSI implementation support, i.e. trainers, consultants or coaches external to the implementing agency with expertise in the model being implemented.

Purposive sampling was used to identify staff from each RSI implementing agency. Agencies were asked to provide the research team with potential recruits for the implementation study. At least one representative from each agency in each of three identified levels in the organizational hierarchy (executive leaders, managers / supervisors, frontline practitioners) were sought for participation in the study. As some RSIs were implemented by partnerships between a lead (N=3) and a partner agency (or multiple partner agencies; N=6), lead agencies were asked to nominate a practitioner based at each partner agency involved in delivering the program as a potential study participant. Partner agencies that did not have a practitioner employed at the time of interview were asked to identify an executive leader or manager with sufficient program implementation knowledge to take part instead. Following this process, email invitations with an attached Plain Language Statement were sent to 18 potential participants. Of these, three were executive leaders, four were managers / supervisors, and 11 were frontline practitioners. All accepted the invitation to take part. However, one frontline practitioner from an RSI partner agency was not available for an interview during the relevant time period, leaving a final sample of N=17. Six of these interviewees were recruited from agency A and seven from agency B – both of which

implemented FFT-CW® and SafeCare®. Agency C implemented MST-Psychiatric® only and participated with four interviewees in this study.

Implementation support was provided to each of five program teams (SafeCare®=2; FFT-CW®=2; MST-Psychiatric® = 1). Implementation specialists serving these teams (N=5) were invited to take part in the same short, structured interview via telephone or Skype. Email invitations, including a copy of the relevant Plain Language Statement, were sent to implementation specialists via a key contact at each lead agency. The key contact forwarded the invitation and invited the IPO's implementation specialists to be in touch with the study team if they agreed to take part. All five implementation specialists agreed to participate.

Measures

In anticipation of all CFIR domains being equally relevant as potential influencers of early RSI implementation in Victoria, one to two core open-ended questions were developed per CFIR domain (Intervention Characteristics, Outer Setting, Inner Setting, Characteristics of Individuals, and Process). These were integrated into a semi-structured interview guide for agency staff aimed at eliciting information about barriers and facilitators to RSI implementation.

The following is an example of a question targeting outer setting barriers: *“Have you experienced any barriers outside of your organization that have made it difficult to implement [the program]?”* Following this main question, the interview guide contained further prompts that interviewers could use to elicit information from interviewees. For the above question, the following prompts were available: (a) *“Did you get enough referrals? If no, why not?”*, (b) *“Were you able to reach the target population? If no,*

why not?”, and (c) “*Did you get enough support from partner organizations? If no, why not?*”. Questions for other domains were developed in the same manner.

The nature and type of implementation support provided to agencies by implementation specialists was explored using a short, structured interview guide prompting interviewers to elicit information about strategies utilized by IPOs. In preparing these interviews, we reviewed written documentation from program developers to summarize which strategies have been described as standard tools in supporting the implementation of an RSI. These brief summaries functioned as prompts for interviewers during their conversations with IPO representatives.

Both interview guides can be made available to readers upon request to the corresponding author.

Procedures

Ethics approval was granted by the University of Melbourne Health Sciences Human Research Ethics Committee. Written consent to participate was obtained via signed consent forms for face-to-face interviews (N=17). Consent for phone interviews (N=5) was obtained verbally, prior to commencement of the interview.

The agency staff interview guide was administered with all 17 agency-based participants as part of interviews conducted between September and October 2018. All interviews lasted between 19 and 66 minutes, 12 of which were conducted face-to-face on agency premises, and five as phone interviews. A team of two researchers facilitated each face-to-face interview and two of the five phone interviews. They also audiotaped the interviews and kept field notes for further follow up. Three phone interviews were

held by only one researcher, with the same audiotaping, field note and follow up protocol applied.

Upon reviewing written documentation about the implementation support available to service agencies for each RSI, the short implementation specialist interview guide was used with all five participants. The aim was to both confirm the content of written documentation and to elicit further and more detailed information about implementation support strategies used with sites. These interviews were held one-on-one by one researcher using phone or Skype. Interviews lasted between 30 and 60 minutes, with written notes made during interviews.

Data Analysis

For data analysis of agency staff interviews, this study utilized thematic analysis (TA), a method for “capturing patterns (‘themes’) across qualitative datasets” (Braun et al., 2019, p. 843), belonging to a broad range of qualitative approaches aimed at examining social phenomena from the perspectives of those experiencing them (Vaismoradi et al., 2013).

Of the different approaches identified for the application of TA (Braun et al., 2019), this study built on a deductive approach guided by the CFIR, with domains and constructs functioning as codes that helped organize and structure the data. The six phases of TA as described by Braun and Colleagues (Braun & Clarke, 2006; Braun et al., 2019) were applied as follows:

As part of the *familiarization* phase, interviews were transcribed and transcripts uploaded to ‘dedoose’, an online software package for organizing, analyzing and reporting qualitative and mixed-methods data (version 8.2.). Interview transcripts were

read multiple times and preliminary thoughts on salient features included in the material were generated as ‘first memos’. Upon establishing all CFIR domains and constructs as codes in the system, the second phase – *generating codes* – was begun. This phase aimed at a systematic screening of all text – with the unit of analysis being single sentences or longer text passages – to identify content that could be tagged with one or more CFIR codes. The focus of this process was at the semantic level, i.e. the meaning ascribed to content was most closely linked with the language used by interviewees. This was supplemented by using first memos (see above) to capture ideas and observations related to potentially larger themes that represented implicit meanings contained in the text. Table 5.2 illustrates how an excerpt was analyzed as part of this process.

Table 5.2: Coding and Theme Development - Example

Title	Excerpt	CFIR domains / constructs	Theme related thoughts
Depending on engaged partners	<i>“Certainly, Child Protection’s feedback is, ‘MST [Multisystemic Therapy] is fantastic. They get in there and they’re engaging with families that haven’t engaged with any other programs’ which is fantastic. And we go, ‘That’s fantastic but we’re concerned about A, B, C, D.’”</i>	D: PROCESS C: Engaging (external change agents) D: INTERVENTION CHARACTERISTICS C: Complexity	Child Protection (CP) views MST as a solution that takes the heat off things - it allows them to step back. MST views CP as a support - them stepping in when the time is right is important. Case management (CP) meets the ecological therapy culture (MST).

The latent level of analysis was the focus of phase three, *constructing themes* or “central organizing ideas that capture a meaningful pattern across the dataset” (Braun et al., 2019, p. 855). As part of this phase, all research memos and linked interview excerpts were exported from dedoose and organized in tables for examination and discussion. This phase moved the analysis to a more latent and conceptual level and was followed by further *revision* of themes in phase four, leading to their final *definition* in phase five. These are *reported* in the findings section (phase six), where illustrative quotes representing different themes are followed by numbers in squared brackets, i.e. the unique identifiers that were assigned to each interviewee.

Data collected among implementation specialists were coded using a compilation of 73 implementation strategies (Powell, Waltz et al., 2015) and their structuring into the following nine categories (Waltz et al., 2015): (1) evaluative and iterative strategies to facilitate continuous quality improvement; (2) providing interactive assistance, e.g. supervision or technical support; (3) adapting and tailoring to context; (4) developing stakeholder relationships; (5) training and educating stakeholders; (6) supporting clinicians; (7) engaging consumers; (8) financial strategies; and (9) changing infrastructure. Upon coding of each strategy, these were assigned to the above categories, allowing the frequency of use of each strategy to be summed for each site and program.

5.1.3 Results

Implementation Support

Table 5.3 shows that implementation specialists from IPOs utilized between 30 and 34 of 73 possible implementation strategies in their work with supporting sites in RSI implementation (mean = 31.2; min = 30; max = 34; SD = 1.6).

There were only marginal differences in the total number, range and composition of strategies used across sites and IPOs, indicating that for all three programs, implementation specialists had taken a similar approach to providing implementation support.

Table 5.3: Implementation Strategies Utilized Across five RSI Teams

Cluster	Implementation strategies defined for cluster	Strategies used SafeCare® site 1	Strategies used SafeCare® site 2	Strategies used FFT-CW® site 1	Strategies used FFT-CW® site 2	Strategies used MST-Psychiatric® site	Average
Use evaluative and iterative strategies	10	8	8	8	8	9	8.2
Provide interactive assistance	4	1	1	2	2	2	1.6
Adapt and tailor to context	4	4	4	4	4	4	4
Develop stakeholder interrelationships	17	4	3	4	4	5	4
Train and educate stakeholders	11	8	7	8	8	7	7.6
Support clinicians	5	3	3	2	2	3	2.6
Engage consumers	5	1	1	0	0	1	0.6
Utilise financial strategies	9	1	1	0	0	0	0.4
Change infrastructure	8	2	2	2	2	3	2.4
SUM	73	32	30	30	30	34	31.2
Percentage	100	44%	41%	41%	41%	47%	42.8%

The majority of these strategies (mean = 23.8) fell into the four different categories evaluative and iterative strategies, adapt and tailor to context, develop stakeholder interrelationships, and train and educate stakeholders.

Implementation Challenges

A central finding emerging from the agency staff interview data is the strong presence of a narrative about the early implementation stage being structured into further implementation phases.

In Victoria, participants indicated that initial implementation could be broken down into three distinct phases, characterizing the RSI implementation as something that (1) was initially “arranged” by someone, then (2) everyone involved was required to rapidly and intensely learn new skills until (3) a consolidated, realistic understanding of the innovation was achieved. Interviewees described the experience of moving through these phases as highly ambiguous and at times rather challenging for participants in the process. One interviewee captured this process well when stating, *“I think – it’s almost like an arranged marriage. You’re not 100% sure what you’re walking into, but you kind of like the look of them. [...] and you learn to love them. And you find more and more things that you love about them.”* [18]. While having overall positive connotations, the story of a fairy tale ending highlighted in this quote – of a practitioner learning to love the RSI at the end – also contains two other implicit narratives: One about ‘not knowing’ to begin with, and the other about “needing to patiently learn” over time. In the following, we therefore label the three identified phases “initiation”, “learning” and “contextualizing” and present findings for each.

Initiation

During initiation, the CFIR domain “inner setting” – i.e. the organizational setting of agencies implementing and delivering an RSI – with its constructs “implementation climate”, “tension for change” and “compatibility” best described the RSI implementation experience in Victoria.

Introducing a Major Culture Change

Within this inner setting, service agencies and their leadership prepared to undertake what interviewees described as a fundamental culture change – moving from a basic case management approach to a holistic, family-based service delivery approach: *“Because you're literally asking staff to go from case management where you can do one-on-one and you can get away with one-on-one, and you can kind of work with mum if dad's not there, and if the kids don't want to see a bar of you, you can still kind of make your referrals and do your bits and pieces. Whereas here, we're actually now being asked to facilitate and have that balanced alliance. ‘I need to understand you’, ‘I need to keep you engaged’ - it's a whole different ball game”* [24]. This quote illustrates that until the introduction of the RSIs, service delivery in Victoria had been characterized by the norms, rules and values of a ‘case management’ culture. Case management in Victoria is generally described as a process *“that assists clients to access available and relevant resources necessary for the client to attain their identified goals”* (Case Management Society of Australia & New Zealand & Affiliates – CMSA, n.d.), including phases such as screening and assessing clients; stratifying risks; planning, coordinating and monitoring care; transitioning clients and evaluating services (CMSA, n.d.). This approach allowed workers in Victoria to deliver services in one-on-

one relationships with clients – primarily in office settings – and to focus their activities on needs and service identification, referrals, and coordination. In this context, the introduction of RSIs represented a fundamentally different – ecological – approach to client service. Here, individual clients are viewed as parts of a system that “can only be understood by considering the individual characteristics of elements within the system, and the relationship between these elements” (Tickle & Rennoldson, 2016, p. 124).

Client problems are therefore seen as being embedded in relationships and requiring workers to involve multiple individuals in service delivery, to understand the dynamics between them, and to develop and deliver individualized, tailored interventions.

Accordingly, the RSIs necessitated working with entire families, delivering services in the home, and continuously tailoring interventions to meet the concrete and individual needs of clients. This approach extends well beyond case management and requires a new set of skills as well as an enabling environment.

Underestimating Change Implications

To a certain degree, interviewees described this change in service culture as an intended response to the problems caused by services’ reliance on case management, thereby indicating a strong tension for change in the inner setting: *“We never really had something that swings against case management. And it’s [the RSI introduction] really good because if you think about it, it’s questioning dependency. We are creating huge levels of dependency and we know that because there are 80% repeat notifications in our system. So, 80% of families are coming back in again”* [16]. However, this quote also indicates that the tension for change and the perceived compatibility of the RSIs with local norms and values may have primarily been driven by long-term goals and the

broader picture and less by a detailed understanding of what the change of service approach would imply for frontline practitioners. Indeed, multiple participants recognized that – to begin with – there was a general lack of deeper knowledge of the RSIs and what would be required to deliver them. For example, one specialist states, “... *I think for workers, we knew that flexibility was required of the model. We knew that it was around being available to families when they're available. Until you see that in practice and how that relates to your area. I think we underestimated the change in, I guess, the change in the work cycle for practitioners*” [17].

Implicit in this quote is the realization that when putting the clients at the center of services rather than making a service available and fitting clients into it, implications emerge at all levels of the system, ranging from case conceptualization to operational concerns like working hours and transport arrangements.

Facing a Lack of Knowledge

While it would be natural to explain this underestimation of change with a lack of implementation planning, interviewees in general described their agencies as well-prepared for the uptake of the RSIs and instead justified it by emphasizing: “*You don't know what you don't know, and as you begin to know what you don't know you become less confident. But unless you keep on that journey you don't ever develop the competency and say yes, this model's great*” [26]. This quote represents the perception of multiple interviewees who pointed to a lack of access to knowledge as one of the main barriers to RSI implementation in this first, vulnerable stage, reducing the agencies' readiness to implement the RSIs. This refers to the fact that no one in Australia had used these RSIs before and that knowledge about how to do this work in

the Australian context was scarce and dependent on US IPOs – despite the fact that a parallel RSI implementation was taking place in New South Wales, a neighbor state to Victoria, to which this interviewee is referring: *“You haven’t got other people to kind of ring up and get a bit of advice, there’s really only New York and New York’s a very different context to here. New South Wales? We’re very isolated, there’s no link”* [16]. Upon initiation of the RSI implementation in Victoria, stakeholders were therefore in a situation characterized by both enthusiasm and uncertainty, and by a growing realization that extensive learning would be necessary.

Learning

Described in CFIR terms, the phase of learning in Victoria was characterized by an intense interplay between three domains: Intervention characteristics, the characteristics of individuals, and the inner setting. As the characteristics of the individual RSIs, and especially their complexity, became increasingly visible, individual practitioners were required to increase their knowledge about the RSIs as quickly as possible and to rely on ‘other personal attributes’ such as resilience. Similarly, agencies had to urgently expand their implementation readiness.

Grappling with RSI Duality: Firmness and Flexibility

The complexity of the RSIs was the key trigger for a generally steep learning curve – a complexity that was primarily described as a duality between flexibility on the one hand and firm core principles on the other: *“It’s a very structured program, in the sense that the phases are very specific, and we are expected to stay within certain places, but within that, there is a huge scope for flexibility and creativity. [...] I’ve been a*

counsellor for a long time and, you know, I'm used to people coming to see me in an office who want therapy. [...] I've had to get really creative about how to engage people that actually don't want me in their home or are very resistant to or have had bad experiences with the system" [20]. In describing firmness - program structure - as something that sets the stage for unfolding creativity (flexibility), this respondent is representative of multiple interviewees pointing to RSI duality as something to get used to. They described how the program aim - to ensure flexible service delivery meeting the needs of families - is enabled through program requirements such as practitioners working in constant movement between their own and families' homes and their office space, or being available outside of office hours, be it for home visits or on-call services. These program structures and principles therefore form a firm core that is non-negotiable for agencies adopting the RSIs – they have to be adhered to as part of implementation. To this core also belongs the principle of accountability – RSI practitioners view it as their responsibility to help families change and improve – and a requirement to participate in continuous cycles of quality improvement of the therapeutic work, based on data collection in families used to inform feedback that therapists receive from both internal supervisors and external coaches.

Feeling De-skilled

While being experienced workers, most practitioners recruited into the RSIs in Victoria had gathered most of their previous professional knowledge in case management or individualized service models. These were fundamentally different from the world view reflected in ecological parenting and family programs. At the outset of the RSI implementation, they therefore needed to un-learn old habits and acquire new

knowledge and skills. Most interviewees described this process as both satisfying and unsettling: “*One day it’s like ‘I’m doing FFT and it’s really exciting’ – because they’ve had a win. And the next day they’re like, ‘Oh my God I don’t even know what’ – and it’s adult learning really*” [24]. This quote reflects that learning for practitioners meant accepting that they would feel de-skilled at times, and to patiently go through a number of professional ups and downs before they could get to a point at which they felt more competent in applying the model. With the fundamental differences to case management in mind, it is not surprising that learning at times was challenging. One interviewee stated, “*... it was very hard to teach the therapeutic stuff that you do need for this. And so, what you’d see is that she would fall back into the stuff that she used to do. And so, it was more case management. And she wasn’t doing FFT ...*” [18].

Lacking Full Organizational Readiness

Such challenges were also experienced at the agency level, where responsibilities such as equipping staff, establishing relations with external change agents or securing referrals into treatment teams needed to be established. Similar to the experience of individual practitioners, agencies, too, had to break with old habits and learn how to align their actions with program requirements and practitioner needs. This did not go well in the beginning because agencies did not anticipate that their operational routines would hamper implementation: “*So they got the Surface Pros [laptops] right and the phones right and all the team members have vehicles, which is good, but it’s, like, really, we could use screens at home because our base, we’re really more based out of home, and we’re not, you know, ones that would be coming into the office to check in and check out*” [13]. This quote illustrates how an artefact of the case management

culture – an office-based computer screen – had become obsolete with the introduction of an RSI and necessitated to reconsider workers' daily set up. Further aspects of these working conditions that needed to be re-designed and were mentioned in interviews included rules for taking leave, checking in and out of work, and managing on-call duties.

Agencies also needed to learn how to clearly communicate and explain the RSIs to external change agents such as agencies referring cases to treatment teams or child protection units involved in the case work: *"There was a lot of work around trying to set up the referrers, about why this is different and why it needs to be different. But you still have that rub and tension on the ground: 'Why can't you just do that?' 'Because it's a model and then we're not adherent [...] and then all of a sudden we're case managing everyone'" [2].*

While the above quotes can give the impression that the RSI learning process occurred in a somewhat orderly fashion, this was not the case. There are clear indications in the data that the pressure on participants at times was massive, constant, and was associated with unanticipated challenges at both the practice and operational levels. As one interviewee explains: *"It's been a myriad of changes the whole time. That's where it's been hard for them" [10].* In fact, some managers and supervisors decided to shield their staff in this learning phase because of this pressure: *"[I] made a deliberate decision to corral off [my staff from the rest of the agency] and that was really to reduce contamination and the tendency or the human desire to slip back into business as usual if things got a bit tough" [26].* Viewed in this way, shielding was an effort by some participants to ensure 'incubation time', i.e. creating the right conditions for practitioners and treatment teams to develop their knowledge and skills needed for

the interventions, thereby acknowledging the vulnerability of being in a state of learning. It is this vulnerability and its attendant risk of exhaustion that appeared to then lead into the third phase of the initial implementation stage: Contextualizing.

Contextualizing

The term “contextualizing” was used for this phase because interviewees - at the time at which interviews were held - appeared to have reached a point at which they wanted the intensity of the learning phase to be reduced and the ‘fitting’ of the RSIs further tailored to their own working conditions and needs, as well as those of their provider agencies. The following quote represents this perspective: *“So, I knew kind of what I was walking into [...] what was going to be expected from me on the ground of what this model was going to look like. Particularly for me and my family. And I guess, I have started to love that less, of like having later hours”* [18]. It indicates that those involved in RSI implementation began to reflect more critically about the long-term maintenance of the RSIs and raised questions about how particular aspects of RSIs, for example, the requirement to work flexible hours, could be better aligned with individual and organizational needs.

This implies that a key dynamic of this phase was the interplay between intervention characteristics and their complexity, on the one hand, and individual practitioners’ knowledge, personal attributes and agencies’ implementation readiness on the other. The mix of CFIR domains and constructs at play was, therefore, very similar to that of the learning phase. However, it changed character – both at the individual practitioner and agency levels.

Feeling the Pressure

Practitioners indicated a desire to “normalize” work life while implementing a complete, home-based RSI for vulnerable children and families in this phase: *“I’ve got a better perspective because I don’t think it’s healthy putting that pressure on it and that’s where we were probably putting in so many hours and just working, working, working. [...] My perspective around that’s changed a fair bit, and I think I’ve had to because this feeling of pressure was taking over every day. You think about your clients. You think about what you can do. You try and follow up your interventions all times of the day outside hours, and it just becomes too much”* [14]. Other participants pointed in similar ways to the risk of “compassion fatigue”, “burn out” or a lack of “work-life balance” as a consequence of their work with an RSI and, like the respondent above, pointed to primarily two factors contributing to this pressure: The RSIs’ demand for practitioner flexibility, reflected in flexible work hours and a work life mostly occurring “on the road”, and the unexpected complexity of family cases referred to the treatment teams.

Struggling to Set Boundaries

In realizing that meeting these demands in sustainable ways would require practitioners to establish an acceptable work-life balance, the question of how to set boundaries had a strong presence in the interview data. At the individual practitioner level, the most prominent strategy described was to actively manage expectations: *“I don’t meet on Wednesdays because that’s when I do my training [recreational sport]. Also, whenever I’m meeting with families, if you give them two options, like you say, ‘I can’t meet between 9:00 and 5:00’ - that’s fine. ‘How about we can meet either at 5:00 or 6:00 or 6:30?’ So, you’re not pushing it too late, you’re not saying, ‘I’ll meet you at*

8:30 at night', because that's no good for anybody" [19]. However, defining personal preferences and protecting themselves did not come equally easy to every practitioner. Some interviewees described how teams continued to struggle with keeping boundaries despite their efforts to establish and maintain them: *"I think I've set some good boundaries with my families around time, but I know there's a couple of other therapists that haven't. In particular [NN], she'll be out all hours attending to her families and I just say to her, 'That is so not sustainable'. But at the same time, she's saying, 'There's no one telling me not to - but where do I stop?'"* [14]. Reflected in this quote is a request for support in setting boundaries and for making it legitimate to set them, highlighting that practitioners in Victoria felt a strong obligation to meet program demands and family needs. This assigned the agency a central role in the contextualizing phase.

Tensions Between Program and Staff

Contextualization at the agency level meant creating a set of procedures and rules that enabled the high-quality delivery of an RSI locally while also ensuring that treatment teams worked under acceptable and sustainable conditions. As for individual practitioners, the key challenge for agencies in Victoria in this phase was the RSIs' demands for flexibility and the realization that these demands over time would take a toll on the workforce if not curbed or restrained in some way. Agency representatives – both supervisors and managers – therefore described multiple situations in which RSI requirements had to be translated into feasible organizational practice: *"So, this model, I don't know whether in America they ever sleep, but this model is very kind of [...] they don't have annual leave, and staff were kind of like, 'woah'. And we were sort of clear.*

Look, initially it was only going to be an eight-month trial as we know, so I think staff were okay to give it a go for eight months and we mapped leave. When it got extended, I think people were kind of [...] ‘Okay so does that mean ...’? So, we’re clear that ‘no of course that doesn’t mean that you can’t take more than a week or two at a time’” [24].

This quote highlights the curating and protecting role an agency has in implementing an RSI, operating like a mediator between program and practitioner and negotiating the requirements and demands of both ‘parties’ between them. Especially supervisors, team leaders who oversaw RSI practice and were deeply immersed in the daily routines of their therapists, had a key role in this negotiation, helping to make it legitimate for workers to take time off in the middle of a long day, to not take the phone when colleagues had on-call duties or to go to the gym after working with a complex case. However, as the quote from a practitioner above shows, these attempts were not always successful, and supervisors indeed confirmed that “... *helping them [practitioners] to find that balance within themselves and helping them to turn off, managing the on-call recall is something we’re still struggling with, to be honest*” [13].

Experiencing Capacity Shortages

One of the central factors preventing a more satisfying balance between program demands and practitioner needs was a lack of capacity because greater balance depended on sufficient numbers of therapists and teams to distribute work across. However, because RSIs come with particular staffing demands (e.g. process for selecting and developing supervisors) and because the initial implementation of RSIs in Victoria began with only a few teams, agencies were limited in their opportunities to lower workload and pressure. As one respondent described: “... *you know, we’re like a*

lone duck out here. For me, as a supervisor, I don't have anyone else that I can go to as well, like, at that level. [...] Just to have more hands-on deck [...] where I could more quickly identify a back-up supervisor. [...] Because they were, like, 'Oh, you have to identify a back-up supervisor.' I was like, 'How am I supposed to identify a back-up supervisor [from] the get go?' " [13]. This quote is representative of the many comments that described RSI supervisors and team leaders as highly exposed due to their need to simultaneously learn the models and take on supervisor responsibilities while having little or no back-up. Training was only accessible via the US, and local support was limited since no or few other program sites had been established in Victoria. While the expectation among some participants was for this to change in the long term, through further growth of treatment teams, others were more pensive in their comments and questioned the long-term sustainability of the RSIs in Victoria: *"I'm a great believer in looking at it and going, 'Okay what's taxing about this and how could we balance that to support staff?' I don't think [the agency] is really engaged with that question. And I'm not sure they're aware of the conversations among the team that, 'I'm not sure how sustainable it's going to be for me.' That's what a number of people are saying. 'I might stay for a year,' that's the kind of comment"* [25]. This quote is yet another expression of the tensions experienced by staff between program requirements, workplace expectations, and workforce needs, and indicates that a fully sustainable approach to RSI implementation in Victoria had not yet been identified during contextualization.

5.1.4 Discussion and Applications to Practice

Summary

This study explored the challenges faced by three service agencies in Victoria, Australia during the beginning implementation of three research-supported interventions targeting child welfare and protection populations: SafeCare®, Functional Family Therapy-Child Welfare (FFT-CW®) and Multisystemic Therapy-Psychiatric (MST-Psychiatric®). To our knowledge, this is the first time that the use of US developed and IPO-supported RSIs in Australia has been examined through an implementation science lens focused specifically on the voices of those doing the implementing.

Table 5.4 provides a summarizing overview of the Victoria RSI implementation experience – including phases, main barriers (themes) identified and the CFIR domains and constructs to which they belong.

Interview data collected among IPOs' implementation specialists reflected a broad and comparable range of implementation strategies used across all sites. This confirms similarities in the ways in which IPOs approached the provision of implementation support in Victoria and those in the US where a previous study reported the use of an average of 32 strategies among 54 surveyed IPOs (Proctor et al., 2019).

Table 5.4: Three Phases of Initial Implementation and Their Key Implementation Challenges

Phase	Initializing	Learning	Contextualizing
Key implementation challenge (theme) Brief characteristic CFIR DOMAIN / CFIR construct	<i>Introducing a major culture change</i> The RSI introduction implied a deep culture change: Agencies had to move from case management approaches to systemic family therapy INNER SETTING / Implementation climate - Tension for change - Compatibility	<i>Grappling with RSI duality</i> Programs require simultaneous flexibility and adherence to firm core principles from practitioners, and this takes time to learn and translate into practice INTERVENTION CHARACTERISTICS / Complexity + CHARACTERISTICS OF INDIVIDUALS / Knowledge and Beliefs about the Intervention & Other personal attributes	<i>Feeling the pressure / Struggling to set boundaries</i> The RSIs' demand for flexibility and the complexity of cases exerts pressure on practitioners and requires them to set realistic boundaries around their work life INTERVENTION CHARACTERISTICS / Complexity + CHARACTERISTICS OF INDIVIDUALS / Other personal attributes)
	<i>Underestimating change implications</i> While being prepared, agencies still experienced a lack of deep and detailed knowledge of the RSIs INNER SETTING / Implementation climate - Compatibility + CHARACTERISTICS OF INDIVIDUALS / Knowledge and Beliefs about the Intervention	<i>Feeling de-skilled</i> Culture change requires practitioners to unlearn, acquire unfamiliar skills and accept feeling de-skilled CHARACTERISTICS OF INDIVIDUALS / Knowledge and Beliefs about the Intervention & Other personal attributes	<i>Tensions between program and staff</i> Agencies need to translate RSI requirements into feasible organizational practice and operate like a mediator between program demands and practitioner needs. INTERVENTION CHARACTERISTICS / Complexity + INNER SETTING / Readiness for Implementation – Compatibility
	<i>Facing a lack of knowledge</i> Agencies experienced a lack of access to Australian RSI knowledge and experience INTERVENTION CHARACTERISTICS / Intervention source + INNER SETTING / Readiness for Implementation – access to knowledge and information	<i>Lacking full organizational readiness</i> Programs require flexible working conditions and eligible referrals, and agencies needed time to understand this INTERVENTION CHARACTERISTICS / Complexity + INNER SETTING / Readiness for Implementation – available resource + CHARACTERISTICS OF INDIVIDUALS / Knowledge and beliefs about the intervention	<i>Experiencing capacity shortages</i> RSI tasks could only be distributed across a limited number of RSI practitioners and teams INTERVENTION CHARACTERISTICS / Design Quality and Packaging + OUTER SETTING / External Policy and Incentives

The analysis of interview data from seventeen participants, representing provider agencies and involved in the implementation process, showed that

- The beginning implementation stage was characterized by three phases – initiating, learning, and contextualizing.
- The domains and constructs primarily challenging the implementation of the RSIs were
 - The inner setting: Within this setting, a deep change of the current service culture was initiated, based on a strong tension for change but a programmatic rather than operational implementation readiness.
 - Intervention characteristics: RSIs were characterized by a complex duality of flexibility and firmness perceived as compatible with strategic goals but also putting individual practitioners as well as agencies on a steep learning curve.
 - Characteristics of individuals: The uptake of RSIs required commitment and resilience from individuals who needed to tolerate a temporary loss of competence and demands for flexibility that caused feelings of passion fatigue and exhaustion.
- The outer setting further influenced the interplay among these constructs in that capacity shortages emerged due to the limited number of RSI teams established.
- Initiating the use of RSIs within a new cultural context like Victoria was possible. However, to achieve sustainability and ensure effectiveness, the RSI implementation will require further and ongoing attention by multiple stakeholders. This is particularly important in terms of lining up program requirements (e.g. after-hours visits; on-call status) and workplace norms and requirements in the family services sector.

The findings from this study highlight that even for RSIs that are implemented with the comprehensive support of highly experienced IPOs, early implementation can be a challenging process for stakeholders.

Implications

While the support helps provider agencies learn and problem solve, when adopting and implementing new RSIs there remains a strong need for local decision-makers at both the policy and the service levels of a sector to anticipate implementation challenges and effectively mediate between the demands of the intervention chosen and the context in which it is being delivered. This implies a need to be competent in assessing how implementation barriers manifest themselves in different contexts, estimating capacity requirements as well as developing and executing implementation strategies aimed at building these capacities. This can – despite all good intentions – be difficult in a situation where external intermediaries are not readily familiar with local workplace rules and norms and local providers not readily familiar with the RSI selected for implementation. This disconnect points to the need to build local implementation capacity well before, or at the very least at the same time, as new RSIs are selected and external IPOs engaged. Local implementation specialists and IPOs have complementary types of expertise, with IPOs best versed in the specifics of the intervention, and local specialists being experts in the context in which interventions are being deployed. In other words, implementation support requires both in-depth knowledge of the specific functioning of implementing organizations and the context in which implementation is occurring as well as the specific capacities required to successfully implement an RSI within that context (Flaspohler, Duffy et al., 2008).

While the presence and work of internal and external IPOs in Victoria has helped to install an implementation-informed service perspective, the findings from this study underline the need for substantial local implementation expertise when translating and adapting RSIs designed and tested in other countries. The findings also underscore the relative absence of such expertise in Australia and raise the question of how to build and maintain this expertise in the long-term. With some of the identified implementation challenges in mind, sustaining RSIs in Victoria will depend on the State's ability to continuously build a workforce with the knowledge and skills needed to learn how to implement and deliver complex social interventions. This includes:

- Facilitating the development of local implementation expertise and enabling local implementation leadership;
- Training the practitioner workforce, new and experienced, in the common modalities and strategies deployed by effective interventions;
- Training in specific interventions, when needed;
- Assessing and building individual and organizational implementation readiness;
- Selecting RSIs that are both relevant and potentially implementable in this context;
- Selecting and designing relevant implementation strategies based on context;
- Accommodating and tailoring RSIs as well as implementation strategies to local context;
- Continually monitoring and improving both the interventions and their implementation over time.

It is unlikely that the long-term fulfilment of these functions can be sustainably covered by US-based organizations or smaller local Australian providers because they

require a broad set of expertise, centered around fields such as evidence-based practice, implementation, quality improvement and system change, in combination with stable policy support and funding structures (Cooper et al., 2012; Mettrick et al., 2017). While the use of IPOs is not unknown in Australia (Bell & Head, 2017), there is currently no organization or system developed for the targeted support of agencies wanting to enhance their use of research-supported programs or practices. In the future, policymakers may want to consider such a development.

Viewed from a broader perspective, these capacity building needs also raise the question to what degree – in the long term – the goal to establish widespread evidence-based practice in Australian human service organizations can build on the use of RSIs alone. The Victorian case illustrates that RSIs are complex – and to a certain degree standardized – interventions that require great effort and considerable human and financial resources to implement while at the same time serving highly specified target groups representing only small parts of the entirety of people with diverse and complex service needs. Unsurprisingly, the recent literature confirms that the dissemination of RSIs has been consistently limited (Bruns et al., 2016) suggesting that the development of a widespread research-based human service culture will need to utilize a broader range of strategies than the commissioning of RSIs alone. In efforts to identify alternative pathways toward this use of evidence in practice, scholars have increasingly pointed to a need for approaches to service design that focus on the key functions of interventions (Bonell et al., 2012; Hawe et al., 2004) or components (Barth et al., 2012) rather than the particular form of interventions or packages of services. While the terminology used to describe this research is generally diverse, the label “common elements” appears to best describe its presence in the field of child and family services.

These common elements have been described as “building blocks that are present in numerous effective treatment modalities” (Barth et al. 2014, p. 301) and used to engage clients and facilitate behavior change. They can be flexibly combined into modular interventions that are tailored to the resources available to human service organizations and the often-multiple needs of children and families. While the empirical research in this area is still in its initial stages, first studies exist demonstrating how common elements can be identified (Chorpita & Daleiden, 2009; Garland et al., 2008; McLeod et al., 2016; Temcheff et al., 2018), used to design interventions (Orlando et al., 2019), implemented in practice (Cheron et al., 2019; Dorsey et al., 2016), and rigorously evaluated for their effectiveness (Hagen et al., 2019; Weisz et al., 2012).

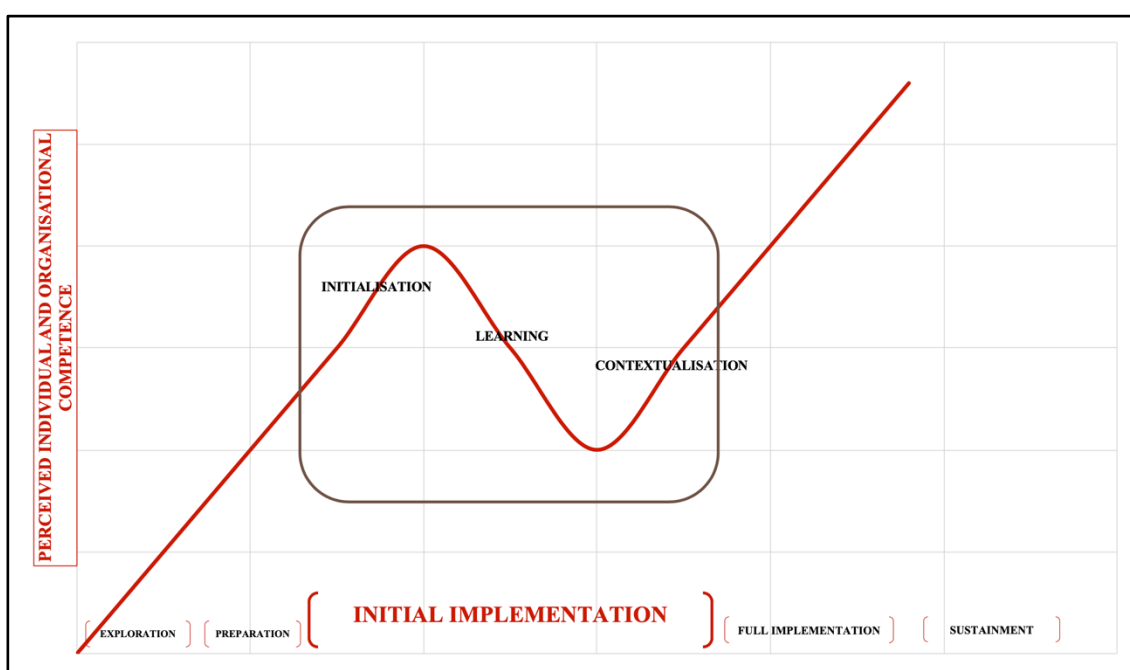
Against this backdrop, it is encouraging to see Victorian funding set aside for “The Common Elements Approach”, a project aimed at trialing the implementation of a shortlist of common elements for client engagement and behavior change in seven sites across a range of Victorian child and family service settings. Further initiatives supporting this approach may help to better understand its feasibility within Australian communities.

This study also contributes to a more refined understanding of the framework “implementation stages”. Few studies have detailed the characteristics of such stages, or defined criteria for reaching them or moving between them (Nadeem et al., 2018; Palinkas, Holloway et al., 2011, 2018; Saldana et al., 2011; Turner et al., 2019), most of which are centered around the understanding of stages as described by the “Stages of Implementation Completion (SIC)” tool (Chamberlain et al., 2011). In describing activities viewed as crucial for advancing through each stage, these tools help to build our understanding of how activities and stages may be interlinked, and how

implementation efforts fail or succeed. However, they do not depict the detailed “ups and downs” of an implementation that are embedded within single stages and therefore provide little guidance on how to navigate these.

In Victoria, the trajectory of the beginning implementation stage would have been comparable to the curve displayed in Figure 5.1.

Figure 5.1: Theoretical U-Curve: The Three Phases of the Beginning Implementation Stage



This figure is similar to the theoretical U-curve often used to describe processes of individual professional development (Lyon et al., 2010), labeling what has been called the “learning phase” in Victoria as the phase of “survival” (Lyon et al., 2010, p. 240) or the “beginner dip” (Devaney et al., 2017). However, unlike this individually oriented U-curve, Figure 5.1 describes a trajectory that in Victoria applied to individuals as well as organizations. It indicates the fragility and vulnerability of early implementation, during which implementers first experienced a brief period that let implementation appear easy

– likely carried by an enthusiasm characterizing new beginnings. In entering into the learning phase, implementers slowly began to recognize that implementation was difficult and, in fact, led them to feel de-skilled and less competent than they felt when they began. This was followed by a phase of regaining confidence and competence – contextualizing – which was incomplete when these interviews were conducted. Agencies were still working to tackle ongoing contextualization challenges, with some interviewees doubting the long-term sustainability of some RSIs.

This illustrates a need to initiate further research to enhance our knowledge about the more detailed content and characteristics of implementation stages, focusing not only on linear determinants but also on multi-directional pathways these stages can take, and strategies that can help provider agencies navigate them. Agencies not only depend on guidance for how to progress through stages but also how to return to previous stages, how to remain in stages while fixing unexpected problems, or how to fully terminate an implementation based on knowledge and experience gained during a particular implementation stage.

Our findings also have implications for our understanding of the relationships between different implementation domains and constructs included in the CFIR. Limitations of determinant frameworks often involve the implicit assumption that determinants of implementation – i.e. constructs and domains in the case of the CFIR – generate implementation outcomes in a linear fashion, with a notable absence of consideration about how these determinants might be linked to, and interact with, each other (Albers et al., 2017; Nilsen, 2015). Indeed, continuous and recursive “construct interaction” has been a key characteristic of the Victorian implementation effort. While the CFIR developers have always acknowledged potential dynamics between

constructs, these have not been described in detail. Perhaps this is because the research available to make appropriate assumptions was sparse in the early developmental stages of implementation science, when the CFIR was created. More recent studies have begun to build the evidence base, confirming that constructs do, indeed, work in interrelated and synergistic ways (Li et al., 2018). This stronger recognition of complexity has also become visible in novel implementation frameworks aimed at better capturing the interactions between determinants (Pfadenhauer et al., 2017) and supporting the understanding that the context in which implementation takes place is a *process between* rather than a *map of* different constructs and domains (May et al., 2016). When viewed through this process lens, implementation can be seen as “the product of continuous accomplishments that require constant work to hold together and keep moving forward” (May et al., 2016, p. 4), and that this set of accomplishments can be achieved through “non-linear, emergent and dynamic” processes (May et al., 2016, p. 4). This process logically means that instability is a norm that practitioners and organizations both create and have to manage in their implementation efforts.

Closely related to this discussion are questions about the linkages between implementation strategies and determinants. While frameworks exist for both concepts, these have hardly been connected, due to a lack of evidence on how to effectively match strategies with determinants (Waltz, Powell, Fernandez, Abadie, & Damschroder, 2019). Recently, this has led to calls for greater integration of causal theory within implementation science (Williams & Beidas, 2019), potentially enabling the rigorous testing of implementation strategies and how they affect implementation barriers and facilitators. Understanding these dynamics is likely to be one of the more important areas of implementation research in the coming years.

Over time, this would provide a better evidence base from which IPOs and agencies can work to develop impactful and efficient implementation plans.

Limitations

This study was guided by a research question that – by solely focusing on challenges and barriers – yielded data that were largely problem-focused, potentially diverting attention away from the many strengths that were present among the individuals and organizations involved in the Victorian RSI implementation. In utilizing the findings from this study, it is important to acknowledge these strengths as a resource that helped stakeholders to progress their implementation. For example, the fact that agencies were able to accommodate new practices and could identify and recruit staff who were willing and able to try something new speaks volumes and facilitated extensive learning throughout the process. Similarly, individuals showed strengths and a solution-focused approach to implementation in their ability to learn new ways of engaging and working with families and to accept and work around the initial challenges that emerged from RSI implementation.

Each RSI included in this study is represented by a relatively small sample of participants potentially limiting the breadth of implementation experience that could be elicited through interviews. Due to budgetary constraints and the slower than anticipated rollout of the interventions, the data are also cross-sectional (single point in time) rather than longitudinal in nature and cover only early implementation. Thus, while the experience presented here, the very early implementation stage, provides rich context to a very specific timepoint of the implementation process, it does not include a more dynamic analysis of implementation changes and developments over time.

The RSIs explored for this study were also looked at collectively, with no attention being paid to differences between them. This decision was made due to time and budget constraints but also because they share a number of core, relevant characteristics – being developed in the US, manualized, IPO-driven, holistic programs serving child welfare populations – that made them comparable for an analysis of implementation challenges occurring as part of their transport to Australia. However, it is important to note that combining the RSIs might have blurred distinctions between, for example, programs that require staff to ‘only’ work some evening hours vs. those that imply 24/7 on-call support. Hence, program-specific analyses that focus on particular features or requirements of specific RSIs and that cut across later implementation stages would add considerably to our knowledge about transport of interventions between high-income countries.

Further research will also be necessary to understand the implementation challenges that foreign RSIs present for Aboriginal and Torres Strait Islanders, the Indigenous population of Australia. While some partner organizations involved in the project were Aboriginal community providers, the number of interviewees included from these agencies was limited due to their delayed entry into the implementation process. Future studies of Australian RSI implementation should devote considerable attention to the cultural compatibility and adaptability of these programs for Aboriginal and Torres Strait Islander communities.

5.1.5 Conclusion

This study of the early implementation of three US grown RSIs in Victoria, Australia illustrates that even when highly experienced intermediary and purveyor

organizations (IPOs) are available to support program implementation, provider agencies and their staff face considerable implementation challenges. When adopting an RSI, implementers should be prepared to enter into a non-linear process of constant interaction between programs, staff and agencies, each of which have competing demands and needs that will have to be reconciled. These challenges draw attention to support structures and implementation capacities that need to be in place for RSIs to become a sustainable part of routine services. While the support from overseas IPOs is necessary and helpful in initiating an implementation, it should be immediately supplemented with sustainable local implementation expertise for the ongoing facilitation of program training, tailoring, coaching and problem solving. Building these capacities for child and family services in Australia will be important for the scale-up and sustainment of RSIs.

6. Chapter Six

6.1 Preliminary Discussion: Consolidating a Diverse Evidence Base - The Implementation Support Practitioner

The findings of phase one and two of this research suggest that the Consolidated Framework for Implementation Research can be useful as an analytical tool for categorizing the implementation experience of a broad range of stakeholders. As part of both studies, it functioned as a lens for observing implementation processes and guiding ones attention to particular features of these processes. However, in doing so, limitations of the framework became apparent, pointing to a lack of sophistication in the way the CFIR conceptualizes the outer setting and the dynamic nature in which different implementation factors influence and respond to each other. This means that, as an analytical tool, the CFIR alone may be insufficient to fully understand implementation processes. Furthermore, when used as a heuristic by practitioners, organizational leaders or policymakers in their daily implementation decision-making, the CFIR may falsely invite to view implementation as a rather straightforward and linear process by overly reducing its complexity.

With implementation frameworks being one of many implementation science concepts and displaying limitations in their ability to serve as tools that can help to plan, understand and reflect real world implementation processes, it is relevant to ask how, if not through simple tools, implementation science knowledge can be better integrated into service systems and be used by practitioners, supervisors and leaders.

This chapter uses the findings gathered thus far to develop a conceptual idea, the implementation support practitioner, as a strategy to bridge this gap. The following publication served as the foundation for this chapter:

Albers, B., Metz, A., & Burke, K. (2020). Implementation Support Practitioners – A Proposal for Consolidating a Diverse Evidence Base. *BMC Health Services Research*, 20(Article 368). <https://doi.org/10.1186/s12913-020-05145-1>

It is worth noting that while child and family services are the focus of this thesis, the literature consulted and reviewed in both this and the subsequent chapter seven is linked to a broader range of human service sectors, especially health and nursing. With implementation being a universal challenge in, for example, mental health, nursing or education, and its science often being interdisciplinary, knowledge generated in one sector can be transferable and applicable in other sectors. Furthermore, the implementation focused research reported in child and family services is still relatively limited when compared with other human services, making it necessary to consider findings generated outside of the sector.

6.1.1 Background

The applied discipline of implementation science includes both implementation research and implementation practice. It aims to integrate research and practice in ways that improve the outcomes of those being served by human services (Estabrooks et al., 2018). Implementation research seeks to understand and evaluate the approaches that work best to translate evidence to the real world. Implementation practice seeks to apply

and adapt these approaches in different contexts and settings to achieve positive outcomes (Ramaswamy et al., 2019). For implementation practice and research to complement each other in constructive and effective ways, specific competencies are needed on both sides: Implementation researchers require knowledge and skills to conduct rigorous and relevant implementation studies; those who practice implementation, the users of the research, depend on high levels of familiarity with implementation science and the ability to select, use and tailor this science to different contexts.

The need for major research centers (e.g., the National Institutes of Health in the United States) to train researchers in dissemination and implementation research and the importance of identifying competencies for implementation research training programs has been a conversation in the field for some time (Carlfjord et al., 2017; Padek et al., 2015; Padek, Mir et al., 2018; Proctor, Landsverk et al., 2013). Part of this conversation has also been the role of “*embedded researchers*” or “*researchers-in-residence*” as a potential strategy for ensuring a collaborative and participatory implementation research production that is informed by and relevant to local contexts (Brunner et al., 2015; Churruca et al., 2019; Vindrola-Padros et al., 2017). While this role holds promise in bringing researchers and implementers closer together in the execution of implementation projects, its main purpose remains to carry out research (Vindrola-Padros et al., 2017), emphasizing the importance of *research competencies* for this role. In recent years, this emphasis on developing implementation *research* rather than *practice* competency and capacity has raised concerns about an unnecessary “wedge” between the producers and users of implementation science (Brownson, Colditz &

Proctor, 2018; Westerlund et al., 2019), potentially creating silos in a field originally committed to their break down.

The shortage of practitioners trained in the science and practice of knowledge translation and implementation has been cited as a reason for a persistent failure to optimize the use of evidence and improve population outcomes (Straus, Tetroe, et al., 2011). As a result, workforce development for implementation practice has been identified as a “grand challenge” in human services (Bornbaum et al., 2015; Estabrooks et al., 2018). This has increased the scholarly interest in systematically reviewing evidence-based practice capacity building (Leeman et al., 2015, 2016; Mallidou et al., 2018).

Findings from these systematic reviews suggest multiple core competencies needed by practitioners to adopt and implement evidenced interventions, together with strategies helpful in teaching and building such competencies. However, due to the limitations of the studies included in the reviews, these findings cannot be stratified by different audiences: Knowledge brokers as well as knowledge users, frontline staff as well as staff in formal leadership roles were considered “practitioners”. Systematic reviews that *are* focused on particular implementer roles (Bornbaum et al., 2015; Cranley et al., 2017) aim to create a broad understanding of these roles and their contribution to evidence use but do not explore questions of competencies and capacity building.

This reflects the still embryonic nature of implementation workforce development research.

In human service practice on the other hand, educational institutions increasingly offer programs to upskill students of health disciplines in implementation³⁰. However, these programs do not serve the need for practical skill development of workers, preparing them to practice implementation in the field. This signals the need to pay greater attention to particular implementation support roles and the competencies needed to pursue them. Therefore, this article aims to set the stage for a broader debate about one particular type of implementer: The “*implementation support practitioner*”.

6.1.2 Implementation Support Practitioners Defined

Currently, a wide range of terminology is used to describe different implementation support roles. *Facilitator, knowledge broker, coach, consultant, or technical assistance provider* are among the common labels found in the literature, indicating that multiple streams of research and practice co-exist, focused on related, and potentially overlapping concepts and models.

Facilitators – sometimes also labelled “practice facilitators” – have been widely acknowledged in healthcare as a role aiming to make “*things easier for others by providing support to help them change their ways of thinking and working*” (Cranley et al., 2017). Facilitators have been described as using “*a range of organizational development, project management, quality improvement, and practice improvement approaches and methods to build the internal capacity of a practice to help it engage in improvement activities over time*” (Agency for Healthcare Research and Quality, n.d.). However, the evidence on the effectiveness of utilizing the implementation support of

30 MSc in Implementation Science, Trinity College, Ireland; Specialist Certificate in Implementation Science, University of Melbourne, Australia.

facilitators remains scarce and equivocal. In a recent European, multi-site study (Seers et al., 2018) that was based on a cluster randomized design no significant differences could be found in the compliance with continence recommendations (the primary outcome) across three study arms, two of which received different types of facilitation and one functioning as the control condition. Systematic reviews on the other hand have suggested that facilitation may help to improve different health outcomes, for example, within chronic disease care (Wang et al., 2018) and primary care (Baskerville et al., 2012; Nagykaldi et al., 2005).

The situation is similar for knowledge brokers, who have been described as primarily connecting *“researchers and decision-makers, facilitating their interaction so that they are better able to understand each other's goals and professional culture, influence each other's work, forge new partnerships and use research-based evidence”* (Canadian Foundation for Healthcare Improvement, 2019). While this definition is focused on the linking function of knowledge brokers, others have provided a broader description of this role, including the *“creation or synthesis, translation, dissemination, implementation, and adoption of evidence to change practice”* (Hoens & Li, 2014), thereby expanding the scope of knowledge brokering to active implementation support functions. The authors of a systematic review examining the role of knowledge brokers in pediatric rehabilitation, concluded that there is a limited understanding of this role – among others due to the few studies that could be identified (N=4) and the diverse frameworks used to anchor the work of knowledge brokers (Taylor et al., 2014). A slightly higher number of studies (N=29) could be included in a systematic review focused on knowledge brokers working in any health-related setting (Bornbaum et al., 2015) While this enabled the characterization of the knowledge broker as *“knowledge*

manager”, “*linking agent*” and “*capacity builder*”, an assessment of the effectiveness of this role could only be built on two of the included studies with findings being inconclusive.

The role of coaches and consultants as professionals supporting other professionals in their practice is less prominent in healthcare. While “quality improvement coaches” have been used in single recent studies (Coombs et al., 2017; Karamagi et al., 2018; Nyström et al., 2014), the terms “coaching” and “consultation” are otherwise primarily linked to patient-centered approaches to improving health outcomes (McMillan et al., 2013) in the form of e.g. health and life coaching (Ammentorp et al., 2013; Long et al., 2019; Wolever et al., 2013), decision coaching (Stacey et al., 2012) or diagnosis-specific consultations (Mitchell et al., 2017). However, in mental health and education, coaches and consultants are frequently utilized to offer “*ongoing support ... from a specialist to improve EBI [Evidence-Based Intervention] implementation after training*” (Gunderson et al., 2018, p. 2). This support is typically offered to frontline service providers in the form of in vivo observation, practice feedback, roleplay and other strategies aimed at improving the quality with which programs are delivered to clients, students or patients (Artman-Meeker et al., 2015; Ashworth et al., 2018; Edmunds et al., 2013; McLeod et al., 2018; Nadeem, Gleacher & Beidas, 2013; Reinke et al., 2012). As for other roles, the evidence on the effectiveness of coaches or consultants is limited and ambiguous. This is due to the still novel character of coaching and consultation as implementation strategies, leading to a large number of conceptual studies. These aim to unpack what is viewed as a black box of coaching or consultation and to detail these strategies and the characteristics of the individuals utilizing them (Gunderson et al., 2018; Jacobson et al., 2019; Nadeem, Gleacher & Beidas, 2013). Moreover, the few

empirical studies that examine the impact of coaching and consultation focus primarily on provider behavior (Artman-Meeker et al., 2015), with those examining recipient outcomes only slowly emerging (Egeland et al., 2019; Quanbeck et al., 2018).

Finally, technical assistance (TA) has been defined as involving “*information sharing, expertise, instruction, training, and other supports for improving program, organization, or system capacity to achieve specific goals, objectives or outcomes*” (Dunst et al., 2019a, p. 109). This definition reflects a high degree of similarity between the role of TA providers and that of the implementation support roles presented above. In healthcare, the use of the term TA at times is restricted to the implementation of specific techniques such as electronic health records or particular billing or data systems (Alagoz et al., 2018). It can also be found to depict a broader type of personal support aimed at improving healthcare practice in general (DeCorby-Watson et al., 2018). As part of a systematic review of the effectiveness of system-level interventions in improving the delivery of and outcomes from HIV/AIDS prevention services, technical assistance was characterized as a “*promising*” strategy based on a narrative synthesis of nine included studies that described TA as being part of the intervention (Bauermeister et al., 2009, p. 340). A more recent review of the literature about TA provided in prevention, including 111 public, behavioral and mental health studies (Katz & Wandersman, 2016), points to consistent weaknesses in the ways in which TA is offered, including the absence of a conceptual model informing the TA provision, and a great diversity in tasks described as core to the TA offering. The authors also highlight that the current knowledge about TA primarily stems from adoption and implementation studies and to a much lesser degree from sustainment trials.

Taken together, this shows that existing labels for implementation support roles are “*not well defined nor rigorously applied in the research literature*” (Alagoz et al., 2018), and that the evidence base for these roles is only emerging. To both consolidate and progress the debate and research agenda in this particular area of implementation science, we therefore suggest unifying its rather diverse terminology – under the label “implementation support practitioner” – and to develop a program logic that both utilizes past and informs future research into this role.

Implementation support practitioners are proposed to be conceptualized as professionals not involved in direct service delivery or management. Instead, they work closely with the leadership and staff needed to effectively deliver direct clinical, therapeutic or educational services to individuals, families and communities and support them in implementing evidence-informed practices, policies and programs, and in sustaining and scaling evidence for population impact.

A key focus of the work of implementation support practitioners is to build *provider implementation capacity*, the ability to select and apply appropriate and contextually informed implementation frameworks, strategies or other concepts and tools and to tailor these to different interventions, contexts, populations, and settings in real world health services. The educational and professional backgrounds of implementation support practitioners therefore vary. They include specialists such as clinical psychologists, social workers or nurses and generalists trained in sociology, organizational change and other fields. What connects these professionals is their knowledge and experience in supporting implementation efforts in service systems to achieve outcomes. They are therefore referred to as *implementation support practitioners*.

6.1.3 Locating Implementation Support Practitioners

An explicit recognition of the need to actively build the capacities of evidence users and their organizations first occurred with the development of the ‘Interactive Systems Framework’ (Wandersman et al., 2008), which describes evidence implementation as an interactive process unfolding between an *evidence synthesis and translation system* and a *delivery system*, assisted by a *support system*. This support system specializes in providing implementation support and building general and intervention-specific capacity to adopt and integrate research evidence into day-to-day practice. It is this support system that implementation support practitioners are part of.

Multiple studies report on how the idea of a support system can be operationalized in routine service settings (Barbee et al., 2011; Cooper et al., 2013; Flaspohler et al., 2012). In many cases, its operationalization has centered around an *externally situated* intermediary organization established for the explicit purpose of providing technical assistance to service providers implementing specific evidence-informed programs or interventions commissioned by government organizations (Franks & Bory, 2015; Mettrick et al., 2017; Proctor et al., 2019; Short, 2016). Simultaneously, support systems have been built *within* and *between* provider organizations – in the form of distinct individual or team roles with knowledge translation and implementation support responsibilities. Examples include practice facilitators used in health (Baskerville et al., 2012; Wang et al., 2018), or change agents (Glisson et al., 2013; Glisson & Schoenwald, 2005; Williams, Glisson et al., 2017) and implementation teams (Brown et al., 2014; Chaffin et al., 2016; Metz, Bartley et al., 2015) used in child welfare services.

These examples illustrate that a support system can lie within or outside of the delivery system, with implementation support practitioners being situated within the

delivery system, outside, or both. They also highlight that implementation support practitioners can and should move flexibly across the different systems that form the Interactive Systems Framework, thereby ensuring that knowledge from one system is transported to and meaningfully applied in another system. To do this work, implementation support practitioners require specific competencies.

6.1.4 A Model for Determining Implementation Support Practitioner

Competencies

The literature on competence and competency in relation to different human service disciplines is vast and provides a multitude of definitions (Cowling et al., 1999). While there is no single, shared understanding of what competencies are, most authors agree on viewing competency as being “*more than a set of skills*” and instead a “*mix of aptitudes, attitudes and personal attributes*” (Cowling et al., 1999, p. 151). This understanding is reflected in a definition describing competency as “*the capability to choose and use an integrated combination of knowledge, skills and attitudes with the intention to develop a task in a certain context*” (Ruzafa-Martinez et al., 2013 p. 2). This definition guides the program of work presented here. It emphasizes that a key characteristic of “competency” is the ability to activate knowledge, skills and attitudes and convert them into effective “action” and observable behavior (Laibhen-Parkes, 2014).

In the context of implementation, this implies that implementation support practitioners need to be able to activate implementation-relevant knowledge, skills and attitudes, and to operationalize and apply these in the context of their support activities in ways that build the capacities and promote competencies in others. To determine the

range of competencies they require it is therefore necessary to both identify the basic components of these competencies – knowledge, skills and attitudes – and the both personal and contextual factors that contribute to these components being combined and translated into a support practice that makes a positive difference for individuals and organizations. This thinking is reflected in an overarching logic included in Figure 6.1.

In outlining this logic, it is crucial to capture the potential mechanisms of change that connect the competencies of implementation support practitioners with the relational and behavior changes in the individuals and organizations they support – thereby explaining why and how such a change might occur. Rooted in scientific realism, mechanisms of change have been characterized as generating outcomes but also being unobservable, context-sensitive (Astbury & Leeuw, 2010), and requiring considerable effort to operationalize in program theory development (Connell et al., 2016; Lacouture et al., 2015; Shaw et al., 2018). It is therefore not surprising that only few models aiming to capture the essence of different forms of implementation support include such mechanisms (Leeman, Myers, et al., 2017; McLeod et al., 2018; Williams, Glisson et al., 2017; Williams, Burton et al., 2013) – reflecting the still limited theoretical and empirical understanding present in the field.

Figure 6.1: A Preliminary Logic for Implementation Support Practitioners

INTERVENTION	MECHANISM OF CHANGE ³¹		OUTPUT	OUTCOME
	Resource	Reasoning		
<i>The implementation support practitioner role</i>	<i>Resources included in the intervention offered to stakeholders</i>	<i>Stakeholders' response to the offer embedded in the intervention</i>	<i>Changes in individual/organizational capacity</i>	<i>Changes in individual/organizational implementation behavior</i>
- Facilitator - Knowledge broker - Consultant - Coach - Intermediary - Other	Implementation support practitioners' - Position (int./ext.) - Professional background - Knowledge / experience - Attitudes - Skills	Stakeholders' - Relationships: Trust (inter/intra); Communication - Behavioral pre-conditions: Capability, Motivation, Opportunities³²	Stakeholders' - Implementation capacities: - o Individual = attitudes, knowledge, skills - o Organizational = general / innovation-specific³³	Stakeholders' - Implementation outcomes³⁴
	CONTEXT - Whether resources can unfold properly, and reasoning occur, will depend on contextual factors ³⁵			

31 Dalkin et al. (2015)

32 Michie et al. (2011)

33 Flaspohler, Duffy et al. (2008)

34 Proctor et al. (2010)

35 Damschroder et al. (2009)

In a refined approach to operationalizing mechanisms of change, scholars (Dalkin et al., 2015) suggest disaggregating a mechanism of change into its constituents, namely “resources” and “reasoning”. “Resources” describe the intervention that is introduced in a particular context to enable change. “Reasoning” is the response from participants to the intervention, ultimately enabling change.

Using this realist approach, we view an implementation support practitioner – who may be a facilitator, knowledge broker, consultant or some other similar role – as a resource with a unique mix of qualities, including

- The formal position – implementation support practitioners can be fully embedded into the organizations and systems they support; they can be part of an intermediary organization; or they can belong to academic research settings. At times projects and initiatives may also rely on the parallel provision of services from internal as well as external implementation support practitioners. This “blended approach” has been frequently used in the work of the United States (US) Department of Veterans Affairs (Kirchner et al., 2014; Pimentel et al., 2019; Ritchie et al., 2017).
- Professional background – i.e. training in specialist disciplines such as psychology, nursing or psychiatry or generalist education in e.g., ethnography or sociology. For example, a review of practice facilitators operating in healthcare showed that in most cases facilitators were individuals with an educational background in healthcare (Nagykaldi et al., 2005).
- Knowledge – i.e. the factual information implementation support practitioners bring to and acquire about the contexts in which they work, e.g. about the evidence-based practice or policy in focus, individual and organizational change processes or implementation concepts. As an example, in a realist review of studies examining characteristics of

effective change agents operating in healthcare both practice, academic and local knowledge together with practical experience was highlighted as crucial for successful knowledge translation (McCormack et al., 2013).

- Attitudes – the predispositions that influence implementation support practitioners’ work-related actions and responses, e.g. a positive attitude toward evidence-based practice, a collaborative mindset or flexibility. Among the key characteristics of effective facilitators identified through a recent systematic review were for example self-awareness, self-management and social awareness (Elledge et al., 2018).
- Skills – the ability to activate attitudes, utilize resources and apply knowledge in ways conducive to achieving goals, e.g. the ability to engender trusting relationships, facilitate interpersonal processes or select and utilize relevant implementation strategies. For example, “goal setting”, “assessing progress and outcomes”, and “providing tools and resources” (Moussa et al., 2019) emerged as the three implementation strategies that showed to be most effective in a systematic review of 35 studies focused on the role of change facilitators operating in healthcare settings (Moussa et al., 2019).

We anticipate that when this resource – a unique combination of the above qualities represented in a single or multiple implementation support practitioners – unfolds as intended and required, implementation stakeholders, be it individuals, groups or entire systems, will respond positively.

In the first instance, this response will primarily be demonstrated by *trust*, which we view as foundational for implementation support practitioners to be successful. Two types of trust are important (Palinkas & Soydan, 2012). *Intrapersonal trust* is represented by the belief that the implementation support practitioner is reliable, competent, and committed to

the change effort on behalf of the organization they are supporting. *Interpersonal trust* is represented by the perception of both implementation support practitioners and their stakeholders that they are in a collaborative and reciprocal relationship focused on achieving identical aims. Hence, trust describes a quality of relationships in implementation partnerships that affects information exchange and opportunities for learning (Asen & Gurke, 2014). While strained relationships limit the diffusion of unfamiliar and complex information, such as research evidence for implementation strategies (Barnes et al., 2014; Daly et al., 2014), trusting relationships enable individuals to engage in the risk taking, learning and behavior change required in implementation efforts.

Taking on board the concepts from the Capability-Opportunity-Motivation-Behavior (COM-B) system (Michie et al., 2011), we also suggest that relational outcomes such as trust put stakeholders in a position to enhance their implementation capability, opportunity and motivation, ultimately enabling concrete behavior change at the individual and the group/system level. *Capability*, the psychological and physical capacity to initiate behavior change, may show in changed stakeholder intentions to use research evidence, support inquiry driven service improvement, or implement an evidence-informed intervention; *motivation* in improved attitudes toward using evidenced implementation concepts; and *opportunity*, factors enabling or prompting an intended implementation behavior, in changes to the organizational climate surrounding an implementation effort.

We suggest that the consequence, or output, of this process of “reasoning” (stakeholders’ response to working with an implementation support practitioner) is two-fold. In the first instance, it will result in enhanced stakeholder implementation capacities. At the individual level, this will be demonstrated by an increase in implementation

knowledge, skill and competency. Organizations and systems, on the other hand, should experience increased *general capacities*, e.g. improved organizational structures, implementation leadership, infrastructure for continuous improvement, or more evidence-focused policies, and *innovation-specific capacities*, related to the intervention in focus of the implementation support practitioners' assistance (Flaspohler, Duffy et al., 2008). Ultimately, the output (increased implementation capacity among stakeholders) will contribute to positive implementation outcomes measurable in the form of, for example, greater acceptability and appropriateness of an intervention, improved fidelity assessments or an extended penetration rate, linking to the Outcome for Implementation Research framework (Proctor et al., 2010) and its inherent pathway toward better service and client outcomes.

Finally, successful implementation also requires enabling contexts, i.e. constructive adaptive system behavior (May et al., 2016) that supports the intended change process. Viewed from a realist perspective, the effectiveness of the processes occurring between implementation support practitioners and their stakeholders will be impacted by the influences exerted by the dynamic environments that surround and influence them.

6.1.5 Steps Toward Building the Knowledge Base About Implementation Support Practitioners

Recent literature illustrates that implementation support is frequently institutionalized in complex human services systems (Franks & Bory, 2015; Leeman et al., 2015; Proctor et al., 2019). It also tells us that most technical assistance is provided without the benefit of an

organizing framework or conceptual model (Katz & Wandersman, 2016; Le et al., 2014).

This leaves many questions unanswered about the role, work and competencies of implementation support practitioners, potentially resulting in duplication of effort, misuse of resources and negative impact on implementation science and practice.

A more unified understanding of implementation support practitioners' role could be achieved by specifying what these actors do, the skills they need to execute their roles, and the ways in which the stakeholders they assist might respond to their offering. This should permit better analysis of implementation support practitioners' impact on implementation processes and outcomes. It should also address recent calls for a classification system specifying the implementation actor and the implementation target to examine how specific strategies delivered by certain actors can facilitate an effective use of evidence in practice (Leeman, Birken, et al., 2017).

The proposed logic presented here is of preliminary nature and requires critical review and refinement. This will be part of an ongoing program of work, involving two parallel activities:

1. An analysis of data gathered from an international sample of implementation support practitioners, reflecting on the competencies they require in their day-to-day work to support implementation efforts in different service settings. This analysis will facilitate the integration of practice-based knowledge potentially not reflected in the literature.
2. A systematic integrative review of the vast and diverse literature on implementation support roles to examine our thinking through this lens, enabling the improvement of our logic. This review will build on the many studies – some of which have been highlighted in this article

– that examine different aspects of the work of facilitators, knowledge brokers, consultants and others and allow for the extraction of data on e.g. the knowledge, skills, or attitudes these implementation support practitioners require, and on the contextual factors influencing their efforts.

The goal of this work is to (a) integrate this knowledge into the joint program logic, (b) describe the competencies that can be derived from this model as being potentially important for implementation support practitioners, and (c) discuss how these competencies can be developed, built and researched within real world practice settings. This last and final step will also imply comparing findings with already existing work focused on competencies as they relate to implementation science and practice. Multiple studies exist describing the curricula used with and results achieved from different types of implementation research training (Proctor, Landsverk et al., 2013; Straus, Brouwers, et al., 2011; Tabak et al., 2017), while other studies have focused on identifying the knowledge, skills and attitudes needed to practice implementation or knowledge translation in real world settings (Leeman et al., 2015; Mallidou et al., 2018). This literature will provide an opportunity to discuss to what degree implementation support practitioners appear to require a unique set of competencies and in which way these competencies overlap with those required by other actors involved in implementation. As part of this work, it will also be important to identify potential dilemmas and challenges faced by implementation support practitioners. The literature in general tends to be optimistic about the potential of this role as a strategy to enhance implementation practice. However, studies also point to its limitations, emerging from, for example, professional boundaries, organizational norms,

and a lack of authority and career pathways (Chew et al., 2013; Kislov et al., 2016, 2017). This indicates that the role itself and the institutional structures surrounding it may require further debate and development.

Hence, additional research activities will be necessary to enhance the knowledge base on implementation support practitioners, and to critically examine whether their support is adding value in practice contexts, and how this translates into positive client outcomes. First then, will it be possible to evaluate to what degree the substantial investment made in this support by local, state, and federal institutions (Proctor et al., 2019) is justified. The conduct of rigorous trials comparing the effects of different implementation support practitioner reliant strategies has been, and will remain to be, an important step in this process (Bradshaw et al., 2012; Chinman et al., 2018; Leathers et al., 2016; Quanbeck et al., 2018).

Additionally, rigorous qualitative studies should be prioritized to more deeply explore the mechanisms of change, together with the contextual influences affecting implementation support practitioners and their work. Relational and behavior changes build on more than a simple link between stimulus (i.e. implementation strategy use) and response (i.e. implementation behavior). It is a complex process involving the relationships, motives, identities, self-regulation, habits and rituals of individuals and groups (Kwasnicka et al., 2015). How implementation support practitioners and their stakeholders act and respond within implementation systems will depend on the unique configuration of these factors present in implementation actors and on the interplay between them.

6.1.6 Conclusion

Implementation support practitioners may be a valid strategy in enhancing the use of knowledge developed within the field of implementation science, such as implementation frameworks, in child and family services.

However, the development of implementation support practitioners as a *profession* necessitates improved conceptual thinking about their role and work and how they enable the uptake and integration of evidence in real world settings. Such enhancement is possible by synthesizing the diverse literature on different implementation support roles aimed at not only consolidating what implementation support practitioners know, display, do and achieve but, importantly, also the potential mechanisms of change unfolding between their offering and the responses of their stakeholders.

7. Chapter Seven

7.1 Findings Phase 3: Systematic Integrative Review

Following this conceptual proposal for understanding the roles of ISPs, it was only natural to ask the third and final research question guiding this thesis: *How might the use of implementation support practitioners help to improve the use of implementation frameworks (and of other implementation research findings) in human services in general, and child and family services in particular?*

With this question in mind, phase three of this research commenced aimed at refining and consolidating the ideas contained in the program logic through a systematic integrative review of the literature. Its findings are reported in this chapter, centered around a synthesis of multiple bodies of research about different ISPs. In using the ISP program logic as a guide, the final research question was further broken down into the following subquestions:

1. What implementation support roles can be identified in the literature?
2. What emerges as important characteristics of ISPs as a resource: What knowledge, skills, and attitudes do they require?
3. How does ISP work affect the implementation capacities of individuals or agencies?
4. What implementation outcomes improve through the work of ISPs?
5. What determinants influence the work of ISPs?

7.1.1 Methods

Approach

The research questions outlined above represent different research interests, including the need to understand how ISP interventions are assembled (descriptive interest), how these interventions unfold and have been used and received (exploratory interest), and whether they have been shown to work (explanatory interest). This necessitated the use of multiple types of evidence for this review (Petticrew & Roberts, 2003). For example, randomized controlled trials are best suited to pursue explanatory research interests in that they, next to systematic meta-analyses, represent the strongest design for assessing outcomes achieved through the use of an intervention. However, they rarely describe or examine the processes that contribute to generating these outcomes. This is the strength of qualitative studies, which in examining e.g. how interventions were delivered, how they were perceived among stakeholders or how contextual factors influenced their use, can help to pursue descriptive and exploratory research interests.

With this in mind, the integrative review was chosen as the key method because it “allows for the combination of diverse methodologies” (Hopia et al., 2016, p. 663), i.e. the inclusion of studies that use different and diverse designs. It belongs to a group of emerging knowledge synthesis methods for integrating rich contextual data (Saini & Shlonsky, 2012; Tricco, Antony et al., 2016) and addressing complex practice and policy questions (Greenhalgh et al., 2018). With theory building being among its key purposes (Kastner et al., 2016), it was particularly suitable for this project. While novel methods suffer at times from a lack of clarity on how to apply them (Tricco, Antony et al., 2016), all operational

steps have been defined for the integrative review (Whittemore & Knafl, 2005). Originally developed and widely applied within the context of nursing sciences (Flinkman et al., 2016), integrative reviews have also been used to address questions within the broader health sector (Cadorin et al., 2014; Johnson et al., 2013), family services (Foster et al., 2016; Kanter & Schramm, 2018), and education (Arthurs & Kreager, 2017; Fulmer et al., 2015).

The conduct of the integrative review presented here utilized the framework developed by Whittemore and Knafl (2005), which has five stages as outlined in Table 7.1. While part of the first stage (problem identification) was described in chapter six, its remaining actions, together with all other review steps taken, are presented in the following.

Stage 1: Problem Identification

A range of different implementation support roles were of central interest to this review based on the key definition of ISPs as professionals not involved in direct service delivery or management but rather supporting service leaders and staff in implementing research-supported policies, programs and practices. This included knowledge brokers, facilitators, consultants, coaches, intermediaries, improvement advisers, and mentors, etc. Given the diversity in terminology reflected in just these examples, further labels for implementation support roles were expected to exist and be of relevance for inclusion.

Table 7.1: Stages of an Integrative Review*

Stage	Activities
Problem identification	• Identify the problem to be addressed / review purpose / research question • Determine concepts of interest • Determine studies of interest
Literature search	• Define and document search strategies (minimum 2-3 strategies) to ensure comprehensiveness • Define and document eligibility criteria
Data evaluation	• Consider if and how to evaluate the quality of included studies • Provide a rationale for the approach to data evaluation taken
Data analysis	• Data reduction ○ Determine an overall classification system for data management (e.g. by concept, study design, setting, sample characteristics etc.) ○ Define and apply techniques for data extraction from included studies and the coding of these data • Data display ○ Assemble data from multiple primary sources around particular variables, codes, study characteristics as a starting point for interpretation • Data comparison ○ Iteratively examine data displays and identify patterns, themes, relationships etc. • Conclusion drawing and verification ○ Move previously identified patterns to higher levels of abstraction/interpretation ○ Constantly compare this expanded interpretation (conducted e.g. in the form of a conceptual model) with all data and revise it to ensure it includes a maximum of data ○ Address conflicting evidence
Presentation	• Report findings and conclusions covering both the breadth and depth of data • Identify implications for practice, research and policy • State limitations

*Developed based on (Whittemore & Knafl, 2005)

Stage 2: Literature Search

Search Strategies

While a comprehensive, representative set of the literature should be the basis of an integrative review, with its key purpose being research integration for theory and framework development, it is not necessary to include every study ever published in the area of interest (Snyder, 2019). Rather, the aim is to achieve a level of “conceptual saturation” (Gough et al., 2012, p. 109) through studies representative of, in this case, the work of ISPs.

We combined five different search strategies to identify relevant publications for this review. Systematic searches of nine electronic databases (ASSIA, CINAHL, Criminal Justice Abstracts, ERIC, Family and Society Studies Worldwide, Medline, PsycInfo, Scopus and SocIndex) were conducted and combined with searches of 42 different organizational websites, a targeted call for publications among selected experts, an open call through a newsletter, a website and social media, and reference checks of all included studies. Searches were conducted between February and April 2019. A detailed account of all strategies has been included in Appendix B.

Eligibility Criteria

Eligible studies were those conducted within human service sectors, including health, social welfare and education, which described, explored or assessed the role of ISPs. Studies of support provided through individuals in formal leadership roles or opinion leaders were excluded. All primary study designs were eligible; only reviews, expert

commentaries, editorials, books, book chapters, and dissertations were excluded. No geographical limitations were defined. Publications had to be written in English, German, Danish, Swedish or Norwegian.

Following the retrieval of the literature through electronic databases and subsequent de-duplication, the author and two research assistants screened the literature using *Covidence*, an online screening and data extraction tool for the conduct of systematic reviews. Double-screening was used during both title and abstract and full-text screening, with conflicts being solved by the third team member. The flow of studies through the screening process is outlined in Appendix B.

Stage 3: Data Evaluation

Given the extensiveness and diversity in eligible material sourced for this review, it was carefully considered how the quality of included studies could be assessed. Taking into account available resources and instruments, it was decided to focus this assessment on studies using randomized controlled trials.

While the revised Cochrane Risk of Bias (RoB 2) tool (Sterne et al., 2019) would be the natural choice for their assessment, its application with implementation studies proved to be difficult because the guidance for the tool's use does not take into account that the focus of these studies is on testing the effectiveness of different implementation strategies. Items of the RoB 2 questionnaire such as "Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?" were developed with clinical interventions – delivered by clinicians to patients – in mind. They would therefore require a complicated translation for studies testing implementation support

delivered to professionals by internal and/or external ISPs. Further guidance developed by the Cochrane network to improve the quality with which implementation is considered as part of systematic reviews also only focuses on assessing how clinical interventions have been implemented (Cargo et al., 2018) or on reporting how the evidence from implementation studies has been synthesized (Flemming et al., 2018). Similarly, within the field of implementation science, the few tools that exist for implementation studies focus on how to report these (Pinnock, 2015; Pinnock et al., 2017a, 2017b) rather than how to appraise their quality, revealing a need for tool development in this area.

However, as part of a recent systematic review, suggestions were made for three “considerations important in the design, conduct and reporting of implementation research” (Hodder et al., 2016, p. 1055). Their aim was to enhance the quality of this research through better theory integration, consistent use of terminology and balanced consideration of both benefits and harms of implementation interventions. For the review presented here, these considerations were summarized and translated into five questions (listed in Table 7.2), which were answered for all included randomized controlled trials. The outcomes integrated in this tool build on the “Outcomes for Implementation Research” framework (Proctor et al., 2010), which is briefly summarized in Appendix B.

This means that the quality of all other studies included in this review remains unassessed. Its final result may therefore build on weak evidence derived from studies that suffer from multiple biases. Readers of this review should be aware of this possibility, which was deemed acceptable in the current context because implementation support work is a novel field of inquiry and hence in development. Under these conditions, it can be

valuable to review the entire range of existing evidence because even weaker studies may contain important information (Petticrew & Roberts, 2003).

Table 7.2: Quality Assessment Questions used with RCTs

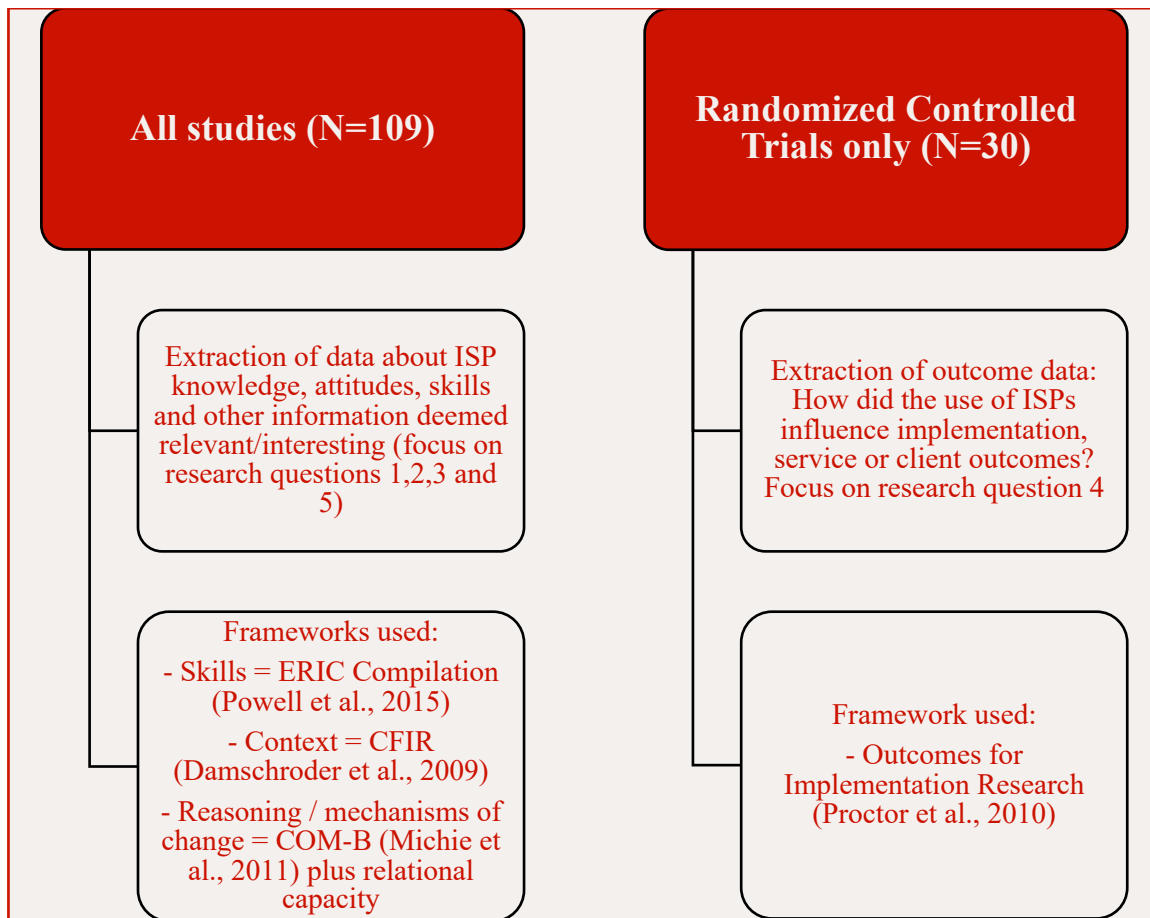
Consideration	Questions	Responses
Appropriate implementation intervention development	(1) Has the design of the implementation intervention been informed by appropriate theory or an implementation framework?	Yes / No Please name the theory / framework
	(2) Has the design of the implementation intervention been informed by local empirical evidence?	Yes / No Please describe the empirical evidence
Categorization of implementation strategies	(3) Has a taxonomy been used in describing implementation strategies used in the study, e.g. the ERIC compilation (Powell, Waltz et al., 2015) or the Effective Practice and Organization of Care (EPOC, 2015) taxonomy?	Yes / No Please name the taxonomy
Appropriate outcomes for implementation research	(4) Which outcomes have been reported for this study?	(1) IMPLEMENTATION OUTCOMES: Acceptability; Adoption; Appropriateness; Costs; Feasibility; Fidelity; Penetration; Sustainability (multiple responses possible) (2) SERVICE OUTCOMES (3) CLIENT OUTCOMES
	(5) Have adverse effects of the implementation intervention been considered?	Yes / No

*Stage 4: Data Analysis*Data Reduction

As a general rule, all included studies were used to pursue descriptive and exploratory research interests, i.e. to understand how ISP interventions were e.g. assembled, used, or perceived. While experimental studies were expected to contribute to this interest to a lesser extent than e.g. non-experimental, qualitative studies, it was still deemed important to capture their information on, for example, the educational background of ISPs or the key ingredients of their work, even though these might only be presented in passing.

Implementation and other outcomes from ISP work on the other hand was only extracted from randomized controlled trials, the strongest research design available to pursue such explanatory research interests. This is displayed in Figure 7.1, which also lists the implementation science frameworks used during data analysis. Further details on this use are outlined in the following.

Study data was extracted using a standardized extraction form with 19 items to extract, including study design and aim, method, geography, sector, setting, sampling strategy, sample size, clinical intervention, ISP information, outputs, and outcomes. All studies using a randomized controlled design were listed separately for a categorization of their outcomes as implementation, service or client outcomes, using the “Outcomes for Implementation Research Framework” (Proctor et al., 2010). Each study was extracted by one research assistant and subsequently quality assured by the lead author.

Figure 7.1: Data Extraction Approach

Thematic Analysis (Braun et al., 2019), presented in previous chapters, was selected to capture patterns and themes across qualitative data included in all studies. These were therefore uploaded to *dedoose*, an online qualitative data analysis platform, with systematic coding occurring in two rounds. The first round involved purely deductive coding guided by pre-defined codes used to identify information of interest. The focus was on the semantic level of texts, i.e. the direct linguistic meaning of words. A coding scheme functioned as a guide describing each coding category (N=9: ISP role term, professional

background, knowledge, attitude, skill, stakeholder, reasoning, context, and other) and providing examples of information that would belong under these categories.

For three types of information – skills, reasoning and contextual factors – specific implementation science frameworks were used to establish subcodes:

- The code “ISP skill” described the activities conducted by ISPs as presented in study reports. Their coding was guided by the ERIC compilation, which differs between 73 implementation strategies (Powell, Waltz et al., 2015). Those that did not fit with any of the compilation strategies were coded as “other”.
- For the coding of contextual factors influencing the work of ISPs, we utilized the five domains of the Consolidated Framework for Implementation Research (Damschroder et al., 2009) and differentiated between intervention characteristics (i.e. the ISP viewed as an intervention), factors related to the individuals with whom ISPs collaborate, inner and outer setting factors, and processual influences.
- Text excerpts describing how ISPs influenced the implementation capacities of individuals or agencies were coded at two levels: Firstly, it was registered whether ISP knowledge, attitude or strategy use – or a combination of these – were presented as the reasons for capacity development among stakeholders. Secondly, information about the stakeholder capacities that were described as being affected by the ISP was coded using the three elements of the COM-B framework (Michie et al., 2011): capability, opportunity or motivation, and a fourth element included in our original program logic: relational capacity.

The coding scheme was tested by three research team members on a sample of five studies, and results discussed for further improvement of the scheme. It was then used with

all studies, each of which was coded by one research team member. 42% of these were double coded by a second member of the research team, with any conflicts solved by me. The coding of the remaining 58% of studies were quality assured by me, through a review of all text excerpts during data analysis, and a re-coding of these as necessary.

Simultaneously with coding, all coders generated memos to capture ideas related to potential larger themes, gaps or questions emerging from the textual data.

Weekly calls with all research assistants were used to discuss any issues emerging from screening, data extraction or coding activities.

Data Display

The data extracted from all studies through extraction forms were imported into two separate excel spreadsheets to facilitate comparison and generate quantitative statistics about included studies. Coding results for all studies were exported from *dedoose* by coding category, generating 56 different excel spreadsheets each of which contained the raw coding data for a single code used, including: (a) publication identifiers, (b) the text excerpts relating to a particular code, and (c) the ISP category to which a publication belonged. Memos (N=277) were exported separately grouped under nine different topics, each of which had been defined by different coders during the coding process. The first author reviewed each spreadsheet separately to assure the quality of all coding and highlight key content for each excerpt.

Data Comparison

With data comparison, the second round of coding began, which involved further inductive coding at the conceptual level of text information moving beyond the purely linguistic meaning of words and instead identifying broader themes present in the literature. This type of inductive coding was applied to the codes “ISP professional background,” “knowledge” and “attitudes.” Data coded as skills were further compared with each other, leading to the integration of the implementation strategies “facilitation” and “providing ongoing consultation” as their content stood out as highly similar, with no clear differences between them. Material coded under reasoning was reviewed to identify whether data fell outside of the pre-defined categories, and text coded under one of the five CFIR context domains was screened for themes using the constructs included in the CFIR and assigned to each of its domains (Damschroder et al., 2009).

For each of these steps, the first author reviewed all text excerpts in detail, assigned codes as relevant, identified preliminary ideas for themes and finally refined these through constant comparison with other text excerpts belonging to the same code. At this stage, a large number of findings was available but some of these were derived from only a single or very few included studies. To ensure that the content of the revised ISP program logic built on an acceptable minimum of scholarly agreement, it was therefore decided to only consider findings if they emerged from a minimum of 10 studies.

Conclusion Drawing and Verification

The key findings for each research question were integrated into the program logic, and this program logic was further refined. Its updated version was discussed in the

research team using each team member's knowledge of the literature and experience with implementation support. Other conceptual literature describing the work of ISPs was integrated into this process and implications of the new program logic were discussed. In the following, the results of this work and process are presented.

7.1.2 Stage 5: Results

Overview of Included Studies

A total of 109 publications formed the final sample of included articles, representing 99 separate studies. A full list of these publications has been provided in Appendix B.

Studies were primarily conducted in North America (US N=67, Canada N=15), followed by the UK (N= 7), Europe (N=4), Australia (N=2), and New Zealand (N=1). One further study involved multiple international locations, whereas geographical information was missing from two studies. The vast majority of studies were conducted within health services (N=67), and fewer linked to social welfare (N=15), education (N=14), and crime and justice (N=1). A mix of sectors was used in two studies. The type of RSIs implemented and supported included evidenced practices (N=40), programs (N=28), guidelines (N=11), and policies (N=2). Quality improvement approaches were the focus of a further 18 studies.

All included articles were published between 2000 and 2019 with 2015 being the median confirming the newness of this field of inquiry and indicating a growing research interest in implementation support in the most recent years. Both quantitative (N=48), qualitative (N=31) and mixed methods designs (N=30) were used across included publications. Thirty of these were randomized controlled trials, with the majority being

randomized at the cluster level (N=24). The remaining studies used quasi-experimental (N=4), pre-post evaluation (N=22) or case study methods (N=25). Cross-sectional designs were used in 12 studies, and a final small group of studies used a multiple baseline (N=2) and a single case approach (N=3). One cohort study was included.

Most studies were not guided by an explicit implementation framework (N=76). However, for the articles stating such framework use (N=33), the Promoting Action on Research Implementation in Health Services (PARIHS) framework (Rycroft-Malone, 2004) was the most frequently utilized (N=10), followed by the Reach, Efficacy, Adoption, Implementation, Maintenance (RE-AIM) framework (Glasgow et al., 1999, 2019) (N=4), and the Knowledge to Action Cycle (Kitson & Straus, 2010; Straus & Holroyd-Leduc, 2008) (N=3). Further frameworks were included – for example the Exploration, Preparation, Implementation, Sustainment (EPIS) framework (Aarons, Hurlburt, & Horwitz, 2010) or the Active Implementation Frameworks (Metz & Bartley, 2012) – but only used in one to two studies.

What Implementation Support Roles Could be Identified in the Literature?

Table 7.3 summarizes the terminology that was used to label implementation support roles across included studies. Among the most common terms were facilitator, consultant, technical assistance provider, knowledge broker, coach, and intermediary. Less common and therefore included in the “other” category were role labels such as knowledge transfer associates, mentor, trainer, or regional champion.

Typically, these roles represented single individuals operating on their own or in collaboration with colleagues with only a small sample of studies (N=4) explicitly

describing the provision of implementation support as being delivered through teams of ISPs, named implementation or improvement teams.

Table 7.3: Commonly Used ISP Role Terminology

ISP role term	N studies
(Practice) facilitator	22
Consultant	22
Technical assistance provider	12
Knowledge broker	10
Other	9
Coach	8
Mix	5
Non-specified	5
Intermediary	3
Implementation team	4

In most cases (N=46), ISPs were positioned outside of the agency or system to whom they provided assistance. In a further 16 studies, the implementation support was delivered by the research team conducting the study, and in 11 studies ISPs were internal staff, i.e. part of the organization they served. In all other studies (N=23), implementation was supported through different combinations of ex- or internal or researcher ISPs. For example, part of the implementation support could be provided by a research team (for example, a clinical audit) while other support activities (for example, the concrete application of plan-do-study-act cycles in daily practice) were the responsibility of internal facilitators. Four studies included no information about how the ISP roles examined were positioned.

Key definitions used for the four ISP role terms that were most present in the literature (N=66), are listed in Table 7.4 also describing in which sector these studies were conducted, which type of intervention the ISP supported and how the ISP was positioned.

ISP role definitions contained some of the key foci of ISP work (bolded and underlined in Table 7.4.), including to enable evidence use, individual and/or organizational change, problem solving and capacity building. However, multiple studies contained striking examples of the blurriness of the terminology in this field. For example, the labels consultation and coaching were frequently used interchangeably (Murray et al., 2018; Quanbeck et al., 2018), and studies described e.g. the provision of technical assistance as containing elements of coaching and consultation: “TA providers commented on their role as being to ‘build capacity’ and often spoke about the use of implementation science, coaching, organizational change, and facilitation in their role to promote the capacity of TA recipients.” (Rushovich et al., 2015, p. 370).

Table 7.4: Key Features of Studies examining the Four Most Prominent ISP Roles

ISP role	N studies	Sector distribution	Role definitions	Intervention supported	Positions
Consultant	22	- Health: N=12 - SW: N=5 - Edu: N=5	“We follow Caplan and Caplan’s (1993) definition of consultation as ‘a process of interaction between two professionals – the consultant, who is a specialist, and the consultee, who invokes the consultant’s help in a current work problem that he believes is within the consultant’s area of specialized competence’ (p. 11).” [Edmunds et al., 2013] “The focus of consultation is typically limited to the delivery of an intended treatment, which under preferred circumstances is an EBT [<i>evidence-based treatment</i>].” (McLeod et al., 2018)	Programs: N=13 Practices: N=6 - QI: N=2 - Guidelines: N=1	External: N=12 Research: N=5 Internal: N=2 - Ext + Int: N=1 - Research + Ext or Int: N=2
(Practice) Facilitator	22	- Health: N=20 - SW: N=2	“Facilitation is ‘the process of enabling (making easier) the implementation of evidence into practice’ (Rycroft-Malone, 2004, p. 300) and support to help practitioners change their attitudes and ways of working (Kitson et al., 1998).” (Dogherty et al., 2013) - Facilitation involves “planning for change, leading and managing change, monitoring progress and ongoing implementation, and evaluating change.” (Dogherty et al., 2012)	QI: N=10 Guidelines: N=6 - Practices: N=4 - Programs: N=2	External: N=9 Internal: N=4 Ext + Int: N=4 - Research + Ext or Int: N=3 - Research: N=1

					N/A: N=1
Technical Assistant	12	- Health: N=7 - SW: N=3 - Edu: N=1 - Mix: N=1	“TA is a more individualized and hands-on intervention intended to <u>address specific barriers</u> in the context of a single individual or organization.” [Duffy et al., 2012] “Technical assistance (TA) is a broad term that has been used to describe services that an <u>outside entity</u> provides to an agency or organization to help <u>build its capacity</u> to implement an <u>innovation or improvement</u> to their current operations.” (Rushovich et al., 2015)	Practices: N=5 Programs: N=4 - Policies: N=2	- External: N=8 - Research: N=3 - Research + Ext or Int: N=1
Knowledge Broker	10	- Health: N=9 - SW: N=1	“A KB has been defined as someone who is capable of ‘bringing researchers and decision-makers together, <u>facilitating their interaction</u> so that they are able to better understand each other’s goals and professional culture, influence each other’s work, forge new partnerships, and use research-based evidence. Brokering is ultimately about supporting <u>evidence-based decision making</u> in the organization, management and delivery of health services’ [...] A common feature among different types of brokering models is the concept of <u>interactive engagement</u>.” (Russell et al., 2010) “The role of a knowledge broker (KB) is to support this process [<i>the movement of knowledge</i>	Practices: N=9 QI: N=1	- External: N=3 - Internal: N=2 - Ext + Int: N=1 - Research: N=1 - Research + Ext or Int: N=1 - N/A: N=1

			<i>from one place or group of people to another]</i> and facilitate the integration of <u>research evidence</u> into practice.” (Rivard et al., 2010		

Definitions also reflected subtle differences across roles in that ISPs appeared to (a) be differently positioned (inside vs outside the entity supported), (b) work with different types of evidence (RSIs vs. research evidence vs. improvement), and (c) emphasize different stages of an implementation (decision-making vs. capacity building vs. monitoring/evaluation). The literature did not allow for creating greater clarity around these differences because no authoritative, commonly acknowledged definition could be identified for any of the ISP roles.

All four role terms were most frequently used as part of studies conducted in health, but they could all also be linked to at least one social welfare study. Included educational studies only utilized the consultant and technical assistant role term.

When comparing the types of interventions supported by these four ISPs, the majority of facilitation studies focused on guidelines and quality improvement approaches (N=16 out of 22), whereas consultation studies to a greater degree focused on evidenced practices and programs (N=19 out of 22). ISPs supporting the implementation of evidenced policies could only be found in the literature on TA providers, albeit with a small sample of only two studies. Finally, of the studies examining knowledge brokers, the majority centered around the implementation of evidenced practice (N = 9 out of 10).

What Emerged as Important Characteristics of ISPs as a Resource: What Knowledge, Skills, and Attitudes do They Require?

ISP Knowledge

100 text excerpts containing information about ISPs' professional background could be extracted from 70 publications. The majority of these publications focused on consultants (N=18), facilitators (N=16) and knowledge brokers (N=12), followed by coach (N=6), and TA provider (N=4). Further 10 publications fell into the categories "other" (N=6) and "non-specified" (N=4). A single excerpt could be extracted for the ISP categories, implementation team, intermediary and mix. Data extracted described ISPs education and degree, and their length and type of professional experience. Across these data, the following three key features emerged:

ISPs are specialists with a primarily clinical background. School teachers, social workers, psychologists, psychiatrists, nurses, physicians, dietitians, occupational therapists, physiotherapists, epidemiologists, and pharmacists were the most dominant education descriptors across all ISP categories. Other markers used to describe this specialist status were "clinically trained" (Kirchner et al., 2014), "clinical practitioners" (Aasekjær et al., 2016) or "clinical expertise" (Tierney et al., 2014). While the majority of professionals involved in studies on knowledge brokers were health personnel, no particular profession could be identified as dominating any of the ISP categories in focus of this review. For example, professionals with a nursing background could be identified among studies on consultants (Holtrop et al., 2008), as well as on facilitators (Bidassie et al., 2015),

knowledge brokers (Gerrish et al., 2011 & 2012) or knowledge transfer associates (Waterman et al., 2015). Generalists with an educational background in, for example, anthropology, political science or organizational change were rarely used as ISPs. Only seven studies described e.g. “non-clinicians with an interest in knowledge transfer” (Tierney et al., 2014), “community administrators” (Chung et al., 2015) or individuals with project or data management background (Dogherty et al., 2012) as involved in implementation support, and in these cases they were part of a set up that also included clinical specialists.

ISPs have a mix of both clinical and more general types of professional experience.

Aligned with the specialist educational background of ISPs, the literature reviewed contained a broad range of markers for the type of clinical expertise they bring to their role. This included program-specific expertise related to the RSI to be implemented, for example, Parent Management Training-Oregon (PMT-O) (Akin, 2016), the Modular Approach to Therapy for Children with Anxiety, Depression, Trauma and Conduct Problems (MATCH) (Cheron et al., 2019), Cognitive Behavioral Therapy (CBT) (Kauth et al., 2010) or the Diabetes Population Risk Tool (DPoRT) (Rosella et al., 2018). Additionally, broader sector-specific expertise was described as necessary for ISPs, e.g. in the form of primary care experience (Waterman et al., 2015), experience from working in childhood disability and pediatric practice (Russell et al., 2010) or with evidence-based treatments (Nadeem, Gleacher, Pimentel et al., 2013).

The assumption of ISPs not being directly involved in frontline service delivery inherent to this review’s definition of ISPs could not be fully confirmed. For example, one

study described the ISPs who constituted an implementation team as holding their own caseloads required to maintain their skills in the use of SafeCare® (Chaffin et al., 2016), while another presented a range of facilitators trained in evidence-based practice, for example, nurses, occupational therapists and social workers, as working with the same tasks and patients as the peers whom they supported in their uptake of evidence in clinical practice (Aasekjær et al., 2016).

Finally, also more general types of expertise were highlighted as required by different ISP roles, including, for example, “experience of previous change initiatives, teaching skills, opinion leaders and leadership abilities” (Kristensen & Houngsaard, 2013, p. 2022), project management experience (Lavoie-Tremblay et al., 2012; Lessard et al., 2016), or expertise in implementation science and evaluation (Rosella et al., 2018). This implied that ISPs were generally described as experienced in that they had worked in their profession for some time. While few studies detailed this experience in years, those that did (N= 14) portrayed ISPs as having a minimum of three years’ experience of working in the field in which they provided implementation support (Shernoff et al., 2015; Sanetti et al., 2013; Dogherty et al., 2013), oftentimes exceeding even 10 years of experience (Shernoff et al., 2015; Dogherty et al., 2013; Rivard et al., 2010; Russell et al., 2010; Chilenski et al., 2007; Chaffin et al., 2016).

ISPs utilize knowledge about evidence-based practice in general, clinical practice in particular, implementation, improvement and change processes, and local contexts. In analyzing information about the types of knowledge that ISPs require and/or use in their work, of the 66 publications providing such information, 45 highlighted the importance of

knowing the intervention to be supported, its target population and/or the wider clinical research in the area to which it belonged. While this applied to all roles, slight differences emerged from the literature in that the theme “knowing the intervention and its target population” had a stronger presence in the literature on coaches and consultants, whereas the somewhat broader theme “knowing the research in the clinical area” dominated the literature on knowledge brokers. The literature on facilitators was mixed in this regard, with both themes being equally represented. A similar difference could be found when examining to what degree a broader type of knowledge about “evidence-based practice” was described as being used by ISPs. While this was rare for studies on coaches (N=1; Bradshaw et al., 2012) and consultants (N=1; Sanetti et al., 2018), it was seen to be slightly more emphasized in studies on facilitators (N=4) and knowledge brokers (N=7). The theme “knowing evidence-based practice” implied familiarity with its key principles (Aasekjær et al., 2016; Gerrish et al., 2012; Graaf et al., 2017;), with criteria for high-quality research and evaluation (Dogherty et al., 2013; Duffy et al., 2012; Gerrish et al., 2011 & 2012; Elnitsky et al., 2015; Sanetti et al., 2018), and with approaches for selecting RSIs for implementation (Fortney et al., 2018). For knowledge brokers in particular, it also involved being familiar with strategies for sourcing, synthesizing and translating evidence (Anaby et al., 2015; Dogherty et al., 2013; Gerrish et al., 2011 & 2012) – a type of knowledge that was not described as being used by consultants and coaches.

Information about ISPs’ use of implementation and/or improvement knowledge could be extracted from 38 publications broadly covering all ISP categories. They illustrated a need for ISPs to be familiar with, for example, the principles of high-quality implementation support (Shernoff et al. 2015; Barac et al., 2018, Eiraldi et al., 2018;

Holtrop et al., 2008; Stirman et al., 2017; Gerrish et al., 2012), specific improvement/implementation approaches (Rivard et al., 2010; Rosella et al., 2018; Gustafson et al., 2013; Williams, Glisson et al., 2017; Chinman, McCarthy et al., 2017; Chinman et al., 2018), ways to guide implementation through appropriate educational materials (Becker et al., 2013, Beidas et al., 2012), the collection and utilization of data for implementation work (Bradshaw et al., 2012; Dogherty et al., 2013), fidelity measurement and monitoring (Sanetti et al., 2013; Caron & Dozier, 2019) or the adequate selection of implementation strategies (Holtrop et al., 2008; Elnitsky et al., 2015; Cameron et al., 2011; Dobbins et al., 2018). Notably, studies of knowledge brokers also highlighted the need to understand the purpose of one's own implementation support role, described as "the purpose of their [KBs'] activities in promoting knowledge and use of the tools" (Rivard et al., 2010, p. 1583), "the primary functions of their role" (Graaf et al., 2017, p. 61); or "roles and responsibilities of the KB" (Russell et al., 2010, p. 5). This type of "understanding of own role" information was not included in studies of other ISP roles.

Being knowledgeable of the local conditions for an implementation effort emerged as another type of knowledge described as central to the work of ISPs across all categories. This implied understanding local (a) policy priorities (Gunderson et al, 2018; Graaf et al., 2017) and service conditions (Shernoff et al., 2015; Kirchner et al., 2014) – including any local constraints in the form of e.g. funding limitations (Mader et al., 2016; Worton et al. 2018) or work pressures (Gerrish et al., 2012; Rivard et al., 2010); (b) target populations (Waterman et al., 2015); (c) organizational structures, including hierarchies, and the sensitivities, barriers or opportunities emerging from these structures (Barac et al., 2018; Jacobson et al., 2019; Quanbeck et al., 2018; Byrnes et al., 2018; Mader et al., 2016,

Saldana & Chamberlain, 2012; Yazejian et al., 2019]; and (d) key stakeholders influential to the implementation (van der Zijpp et al., 2016; Waterman et al., 2015).

Finally, a further 20 studies described all ISPs as using knowledge about supporting change processes. These described ISPs as being knowledgeable about the principles of individual and/or organizational behavior change (Acolet et al., 2011, Rushovich et al., 2015), about how to enhance such change in practice (Becker et al., 2013), and to support groups (Dobbins et al., 2018, Dogherty et al., 2012, Holtrop et al., 2008, Murray et al., 2018, Worton et al., 2018) or leaders (Duffy et al., 2012) in their learning and development. Additionally, more universal types of project management knowledge was linked to ISPs, e.g. about how to communicate (Cameron et al., 2011, Dogherty et al., 2012), plan, prepare and manage time effectively (Funderburk et al., 2015, 2015), train and teach stakeholders (Rivard et al., 2010, Rushovich et al., 2015), or solve logistical issues pertinent to an implementation (Eiraldi et al., 2018).

ISP Skills

In the study reports reviewed, ISPs used 37 of the 73 implementation strategies that are included in the ERIC compilation (Powell, Waltz et al., 2015) and guided the coding of ISP work descriptions. Of these, 18 emerged as particularly common because each was named and/or detailed in more than 10 studies. Table 7.5 lists these strategies, the number of publications in which they appeared and the cluster of strategies (Waltz et al., 2015) they belong to, as defined in a previous study aimed at validating the ERIC implementation strategies and grouping these into strategy clusters. A detailed analysis of the literature relating to each strategy has been provided in Appendix B.

Table 7.5: Common Implementation Strategies used by ISPs*

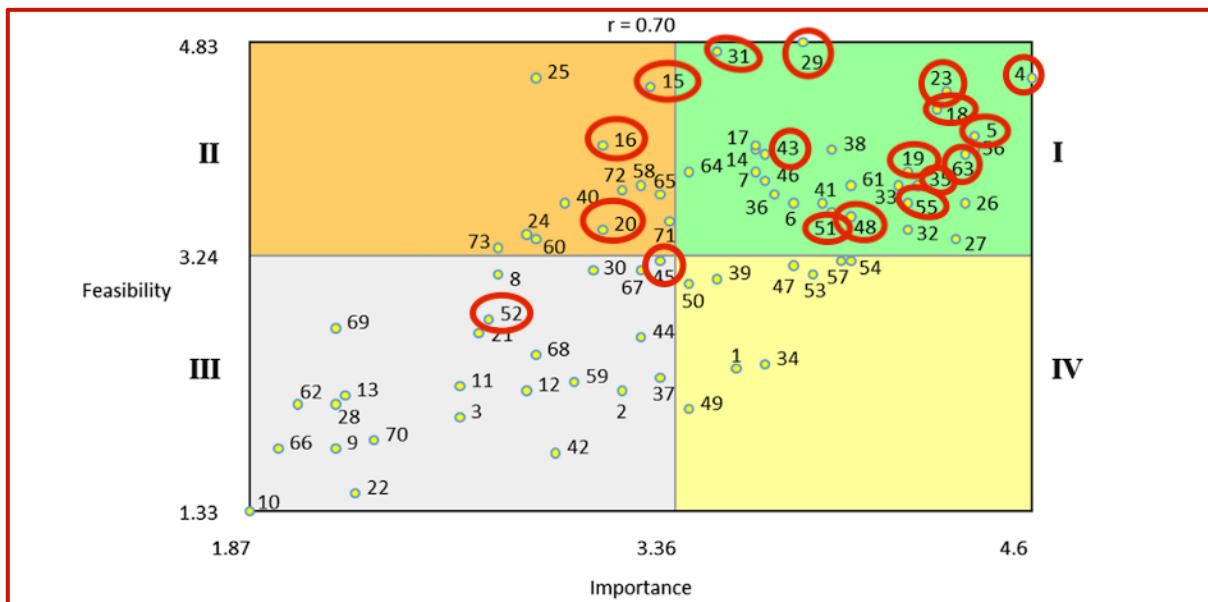
Implementation strategy	N studies describing use of strategy	Implementation strategy cluster
Provide consultation/facilitation [55 - I]	75	Train & educate stakeholders/ provide interactive assistance
Conduct educational meetings [15 - II]	53	Train and educate stakeholders
Distribute educational materials [31 - I]	39	Train and educate stakeholders
Conduct ongoing training [19 - I]	20	Train and educate stakeholders
Conduct educational outreach visits [16 - II]	17	Train and educate stakeholders
Make training dynamic [43 - I]	17	Train and educate stakeholders
Develop educational materials [29 - I]	17	Train and educate stakeholders
Create a learning collaborative [20 - II]	12	Train and educate stakeholders
Audit and provide feedback [5 - I]	44	Use evaluative and iterative strategies
Develop formal impl. blueprint [23 - I]	25	Use evaluative and iterative strategies
Conduct local needs assessment [18 - I]	21	Use evaluative and iterative strategies
Assess for readiness and identify barriers and facilitators [4 - I]	18	Use evaluative and iterative strategies
Promote network weaving [52 - III]	22	Develop stakeholder interrelationships
Model and simulate change [45 - III]	17	Develop stakeholder interrelationships
Identify and prepare champions [35 - I]	15	Develop stakeholder interrelationships
Org. clinician impl. team meetings [48 - I]	13	Develop stakeholder interrelationships
Tailor strategies [63 - I]	37	Adapt and tailor to context
Promote adaptability [51 - I]	19	Adapt and tailor to context

* This table only contains strategies described in 10 or more studies. Additional strategies (N=19) identified in texts, but in less than 10 studies each, included: conduct local consensus discussions (N=6); conduct cyclical small tests of change (N=7); facilitate relay of clinical data to providers (N=1); increase demand (N=4); purposely re-examine the implementation (N=8); develop and implement tools for quality monitoring (N=6); develop and organize quality monitoring systems (N=5); identify and prepare champions (N=6); use train-the-trainer strategies (N=6); recruit, designate and train for leadership (N=6); provide local technical assistance (N=4); obtain and use patient/consumer and family feedback (N=5); access new funding (N=4); remind clinicians (N=3); start a dissemination organization (N=2); stage implementation scale up (N=1); revise professional roles (N=1); provide clinical supervision (N=1); centralize technical assistance (N=1)

Table 7.5 shows that the majority of strategies described as being used by ISPs fell within the cluster of training and educating stakeholders (N=8). These were followed by evaluative and iterative (N=4) and interpersonal strategies (N=4). A further two strategies focused on adapting and tailoring. No strategies belonged to the clusters of “engaging consumers,” “changing infrastructure” or “utilizing financial strategies.”

The squared parentheses in Table 7.5 include a unique identifier (the Latin numerals) previously used in a study conducted by Waltz et al. (2015) and aimed at locating each strategy in a diagram (Figure 7.2) by its degree of importance and feasibility.

Figure 7.2: The Feasibility and Importance of ISP implementation strategies*



* This figure is adapted from its original version and licensed under a Creative Commons Generic License (CC BY 4.0 OA). It is attributed to Waltz et al. (2015)

That study, which was based on a concept mapping process involving 35 experts, led to the positioning of each strategy in one of four quadrants – labelled I-IV (the Roman

numerals in Table 7.5) – each of which represents a particular combination of perceived strategy importance and feasibility. This is displayed in Figure 7.2, in which all strategies used by ISPs in the studies included in this review (listed in Table 7.5) have been circled in red. It shows that the vast majority (N=13) of these 18 strategies falls into quadrant I. This quadrant represents strategies that were rated as highly important and highly feasible. Three further ISP strategies fall into quadrant II representing strategies deemed equally feasible as those in quadrant I but less important. Finally, two strategies – “promote network weaving” and “model and simulate change” – belong to quadrant III displaying strategies viewed by experts as being less feasible and less important. None of the ISP strategies identified as part of this review fell into quadrant IV, i.e. were strategies viewed to be of higher importance but less feasible.

Other Implementation Strategies

While the ERIC strategies supported the extraction and coding of substantial amounts of text material, not all ISP activities could be covered through this compilation. Forty-three publications examining all ISP roles presented information that initially was coded as “other” and could be synthesized into further two strategies. While the literature on knowledge brokers contributed considerably to the identification of these strategies, it is important to note that also studies covering other roles described their use.

The first strategy was labeled “source, share, and translate evidence of relevance to stakeholders involved in the implementation”. ISPs applying this strategy were described as “culling through the research” (Cameron et al., 2011, p. 28), selecting journal articles, or measures (Anaby et al., 2015; Hurtubise et al., 2016; Waterman et al., 2015), sharing and/or

summarizing these resources (Chew et al., 2013; Gerrish et al., 2011) and helping to apply them (Gerrish et al., 2011; Dogherty et al., 2012). This application could relate to the intervention to be implemented (Beidas et al., 2013), but it could also be used for advocacy and other efforts to influence policy or practice (Franks & Bory, 2015). A small sample of studies also highlighted a pre-condition of using this strategy, namely, for ISPs to be avid and competent consumers of research (Dogherty et al., 2013; Rivard et al., 2010; Gerrish et al., 2012; Hurtubise et al., 2016).

The second strategy falling outside the ERIC compilation was “contribute to intervention design” and refers to situations in which ISPs were involved in developing clinical protocols (Aasekjær et al., 2016; Holtrop et al., 2008), behavior support plans (Bice-Urbach & Kratochwill, 2016; Sanetti et al., 2018), guidelines (Byrnes et al., 2018; Gerrish et al., 2011), practice policies (Lemelin et al., 2001), best practice models (Franks & Bory, 2015) or evidenced interventions to be integrated into clinical practice (Dobbins et al., 2018; Hurtubise et al., 2016; Waterman et al., 2015). Few studies provided further detail on the look and feel of this involvement.

Strategy Nesting

While the above outline of implementation strategies used by ISPs may give the impression that their application occurred separately from each other, in the literature reviewed they often stood out as being “nested”. That is, one or more specific implementation strategies were embedded within another, slightly broader strategy. For example, audit and feedback could be nested within consultation as indicated in this quote: “Three full sessions were rated for fidelity; one that was submitted at the beginning of the

consultation period (baseline), one at mid-consultation, and one at the end of the 6-month consultation period. Clinicians were provided with written feedback and CTRS scores for those sessions.” (Stirman et al., 2017, p. 6). Further “nesting” was possible in that, for example, the conduct of a local needs assessment could be integrated into the first stage of an audit and feedback process if this process led to considerations about introducing a new practice (Quanbeck et al., 2018, Preast & Burns, 2018). Numerous examples of such “nesting” were included in the literature and indicate that ISPs not only require skills to apply each of the aforementioned strategies separately but also to flexibly combine them as relevant during an implementation.

ISP Attitudes

Attitude has been defined as “*psychological tendency*” in individuals, expressed “*by evaluating a particular entity with some degree of favor or disfavor*” (Eagly & Chaiken, 2007, p. 582). In using this definition, 146 text excerpts about ISP attitudes described as influential to their work could be extracted from 45 ISP publications, the majority of which covered the facilitator (N=10), knowledge broker (N=9), consultant (N=7), coach (N=5) and TA provider (each N=4) role. Across all of these, six broad categories of attitudes emerged, each of which has been briefly characterized in Table 7.6.

Professional

The attitude most dominant in included publications is that of professionalism. Twenty-seven studies covering all ISP roles described a *professional* attitude as central to ISP work. Detailed descriptors of this professionalism were an ability to stay focused— on e.g. the key

target population, stakeholders or intentions behind an implementation initiative (Yazejian et al., 2019; Waterman et al., 2015) – to help maintain its momentum (van der Zijpp et al., 2016; McCullough et al., 2017).

Table 7.6: Attitudes Supportive of ISP Work

ISP attitude	Attitude description	N contributing studies
Professional	ISPs stay focused in their work, are reliable, predictable and credible. They are responsive to the needs of their stakeholders without taking over others' roles or responsibilities. They are resilient and persistent when needed.	27
Encouraging	ISPs encourage and motivate their stakeholders through a strengths-based approach aimed at empowerment. They display vitality and positive confidence in their support of RSI implementation efforts.	25
Respectful	ISPs are sensitive to the challenges and barriers their stakeholders face as part of an implementation. They recognize and acknowledge these and take them into account in the support they provide.	20
Collaborative	ISPs value the diverse perspectives and experience different individual and organizational stakeholders bring to an implementation. They actively involve and engage these in their work.	19
Authentic	ISPs act as role models: They are willing and able to “walk the talk” when needed.	13
Flexible	ISPs are flexible in their approach to supporting implementation processes. They can tailor this approach to different stakeholders and contexts.	10

It also implied for ISPs to be consistent, e.g. in their approach to promoting an intervention (Eiraldi et al., 2018), and to be responsive, e.g. to the needs and sensitivities of

stakeholders (Barac et al., 2018; Beidas et al., 2013; Chaffin et al., 2016), including being accessible when called for (Gunderson et al., 2018; Kaasalainen et al., 2015; Mackenzie et al., 2011). Few studies discussed the importance of putting boundaries around this responsivity, ensuring that ISPs only cover needs for which no local capacities exist, yet (Rushovish, 2015). Part of professionalism was also to be perceived as credible, e.g. on the basis of clinical expertise (Gerrish et al., 2012), and an understanding of the RSI in focus (Mackenzie et al., 2011) or of the local context into which this RSI was implemented (Shernoff et al., 2015). Studies of facilitators, knowledge brokers and intermediaries also highlighted resilience and persistence as necessary features of a professional attitude - described as a need to be “thick skinned” (Dogherty et al., 2013, p. 135), stand up to “peers, over whom one does not have official power” (McCullough et al., 2017, p. 1020), and to endure a lack of support (van der Zijpp et al., 2016) or weeks of no visible progress or success (Chew et al., 2013).

Encouraging

An *encouraging* attitude was also described as supportive of ISP work, as reflected in 50 text excerpts from 25 studies covering all ISP categories. A consistent element described for this mindset was enthusiasm – for research in general (Graaf et al., 2017), the RSI that ISPs supported in particular (Chaffin et al., 2016; Leather, 2016), the broader project in which they were involved (Dogherty et al., 2012 & 2013; McCullough et al., 2017), and for their own role as ISP (Gerrish et al., 2012). It was often this enthusiasm that was presented as a fuel for the encouraging mindset, one that could be shared with those supported

(Gerrish et al., 2012) or even compensate for a lack of enthusiasm elsewhere in the organization (van der Zijpp et al., 2016).

This meant that reflective of an encouraging attitude was to be appreciative of strengths and successes present in the implementation context (Bidassie et al., 2015; Dogherty et al., 2012, Kousgaard & Thorsen, 2012; Dusenbury et al., 2010), providing constructive, motivating feedback and support (Aasekjær et al., 2016; Brown, 2018_c; Gerrish et al., 2012), or validating and encouraging the work of implementers (Gunderson et al., 2018, Shernoff et al., 2015; Williams et al., 2013). As such, the encouraging attitude focuses on the positive. However, a smaller sample of studies (N=6) covering multiple ISP roles indicated that ISPs may need to modify this focus at times to ensure that e.g. changes necessary for an implementation to succeed are clearly identified and addressed. These studies described a need for ISPs to also be forthright (Olson et al., 2018) when relevant, or honest and direct (Waterman et al., 2015; Akin, 2016), to tell their stakeholders what to do (Rushovich et al., 2015) if needed, to take risks through candid conversations (McCullough et al., 2017) or even to take “a more aggressive approach” (Kousgaard & Thorsen, 2012, p. 4) in efforts to challenge the individuals, organizations and systems they work with.

Respectful

In 20 studies, ISPs were described as pursuing a *respectful* attitude, mirrored in a sensitivity toward the challenges and barriers faced by the stakeholders they assist. This implied recognizing the uniqueness of different implementation contexts (Hurtubise et al., 2016), being non-judgmental (Shernoff et al., 2015) and non-authoritative (Mancini et al., 2009; Olson et al., 2018) in their work, sometimes also providing emotional support

(Shernoff et al., 2015), and meeting stakeholders at whatever developmental stage they were in their change process (Rushovich et al., 2015).

Collaborative

A *collaborative* attitude was reported as a central ISP characteristic in 19 studies representing multiple ISP roles. It represents a willingness to recognize and actively engage a broad diversity of individual or organizational stakeholders and their perspectives in the implementation support process. In studies, this willingness was described as “*an interest in others*” (Hurtubise et al., 2016, p. 13) displayed in inclusive efforts to involve stakeholders in the implementation and to listen to their perspectives with an open mind (Aasekjær et al., 2016; Dogherty et al., 2012 & 2013; Rushovich et al., 2015). It also showed in actively engaging with stakeholders (Gerrish et al., 2012), and in continuously building new relationships (Rosella et al., 2018), thereby adding to the relational resource ISPs represented for their stakeholders (Leathers et al., 2016; Yazejian et al., 2019). In the support of those most directly involved in an RSI implementation, pursuing a collaborative mindset could also show in ISP efforts to tone down one’s role as an expert and instead position oneself as a “partner” to those supported (Shernoff et al., 2015) – for example, by continuously inviting stakeholders to provide input (Dogherty et al., 2012), to define the agenda for the support required (Barac et al., 2018), and to “share thoughts before the coach shares” (Olson et al., 2018) (p. 33). Few studies discussed the potential tensions that might emerge from this collaborative attitude, for example for ISPs who also hold an evaluative role and monitor fidelity and other implementation performance data for those they support (Gunderson et al., 2018; Barac et al., 2018).

Authentic

Further 13 studies described an *authentic* attitude to be important for ISPs, representing a state in which ISPs are prone to be real, true, or genuine in their work. Authenticity was described in primarily two ways, both of which were presented as also contributing to ISPs' credibility among their stakeholders: (1) ISPs went into the field and supported stakeholders directly at the frontline of service delivery (Becker et al., 2013; Shernoff et al., 2015; Gerrish et al., 2011) or (2) ISPs embodied the knowledge and methods they taught others and used these directly in their implementation support techniques (Barac et al., 2018; McCullough et al., 2017; Gunderson et al., 2018; Jacobson et al., 2019; Hurtubise et al., 2016). The former was described as a willingness and ability to support implementation directly in e.g. classrooms or clinics through “hands on” support, demonstrating for those supported how an RSI can be applied in real practice. The latter was reported as ISPs' willingness and ability to “walk the talk” by role-modeling the knowledge and techniques that they wanted others to use in their own coaching, consulting, or facilitation – for example, the principles of evidence-based practice or Motivational Interviewing. That made it possible for those supported to have a direct experience with this approach. Other aspects of authenticity covered in studies were ISP self-awareness (van der Zijpp et al., 2016), a willingness to give the implementation support provided “a personal touch” (Quanbeck et al., 2018) and to genuinely empathize with stakeholders based on a true understanding of the realities of practice (Williams et al., 2013).

Flexible

Finally, 10 studies included descriptions of a *flexible* attitude as a key characteristic of ISPs, referring to a willingness to accommodate the preferences and constraints that individuals, organizations and systems present as part of an implementation initiative (Quanbeck et al., 2018). In displaying this flexibility, ISPs ensure making information and support relevant and useful to their stakeholders; they source, use and combine implementation resources as well as strategies in creative ways (Cameron et al., 2011), “think outside the box” (Dogherty et al., 2013, p. 135), and remain curious (Leathers et al., 2016; Rivard et al., 2010) throughout an implementation process. This curiosity was described as being supportive of their own learning – about new ISP techniques and tools – thereby further expanding their flexibility. None of the included studies discussed how ISPs manage potential tensions existing between a flexible attitude and the need to ensure that the implementation of RSIs adheres to specific quality criteria.

How Does ISP Work Affect the Implementation Capacities of Individuals or Agencies?

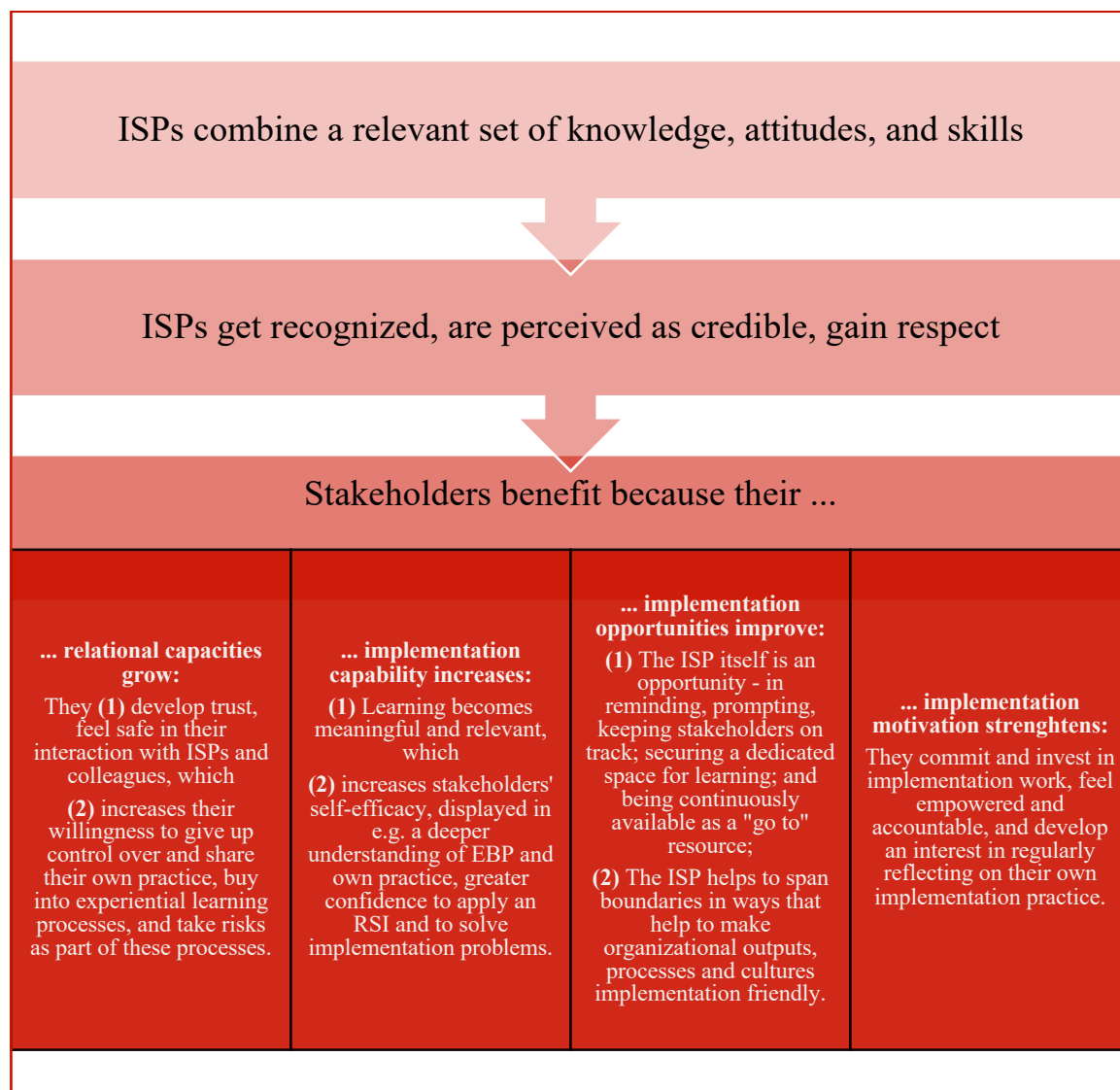
Data on potential mechanisms of change for ISP work could be extracted from 50 publications. The vast majority of these text excerpts (66%) presented ISPs’ use of strategies as the trigger for changes in the capacities of their stakeholders. Further 23% of excerpts described attitudes and/or a combination of strategy use plus attitudes as the reason for such change. Only few excerpts focused on ISP knowledge and position as factors that activate responses in those who receive implementation support. The majority of publications including these excerpts described changes in stakeholders’ relational

capacity (N=24), capability (N=23), and opportunity (N=22) as an output of ISPs work.

Motivational changes were presented in 13 publications.

Figure 7.3 summarizes these key findings and how they are interlinked and is followed by a detailed presentation of each ISP mechanism of change as it emerged from the literature.

Figure 7.3: ISP Mechanisms of Change



Relational Capacity

Across the publications describing stakeholders' relational capacities, typical labels used to describe these capacities were stakeholders developing trust (Akin, 2016; Bidassie et al., 2015; Duffy et al., 2012; Dusenbury et al., 2010; Kaasalainen et al., 2015; Olson et al., 2018; Rushovich, 2015; Williams et al., 2013; Yazejian et al., 2019), or experiencing a sense of safety in the interaction with the ISP (Akin, 2016; Anyon et al., 2016; Tierney et al., 2014; Shernoff et al., 2015; Duffy et al., 2012; Barac et al., 2018). Their development was described as emerging from skilled *strategy use* lending credibility to ISPs' expertise (Barac et al., 2018), *knowledge use* helping ISPs to gain "respect and recognition among their colleagues" (Aasekjær et al., 2016, p. 37), and *attitudes* when e.g. perceived as a sign of respect for the stakeholders whom ISPs worked with (Beidas et al., 2013).

Studies reported that for stakeholders experiencing this trust and sense of safety, it became easier to share details about their own clinical or educational practice (Bidassie et al., 2015), and to buy into and experiment with new approaches to this practice (Anyon et al., 2016, Akin, 2016, Duffy et al., 2012) – because they felt that they were not being judged or evaluated negatively (Shernoff et al., 2015) and therefore could give up a part of their control (Hurlburt et al., 2014). This implied that ISPs' focus on relationship building was presented as referring to the relationship between the ISP and his or her stakeholders *and* to the relationships existing among these stakeholders (Beidas et al., 2013; Rosen et al., 2012; Rushovich et al., 2015; Gustafson et al., 2013) – both of which were presented as preconditions for a willingness to share experience as well as learning. Unsurprisingly, relationship or rapport building were often described as being the focus of initial implementation support (Olson et al., 2018; Rushovich et al., 2015; Bidassie et al., 2015;

Dusenbury et al., 2015; Akin, 2016; Kauth et al., 2010; Mader et al., 2016) because they were viewed as a type of social capital that could help to “make later activities run more smoothly” (Waterman et al., 2015, p. 6). While fewer studies included descriptions of unsuccessful efforts to increase relational capacities with stakeholders, these indicated that a lack of familiarity with local contexts and difficulties with validating stakeholders’ experience could lead to decreased trust toward the ISP (Shernoff et al., 2015). Further studies pointed to the ISPs’ position as a source of distrust in that external requests for data and information coming from ISPs who did not belong to the service system they supported were met with suspicion by stakeholders (Waterman et al., 2015). Further two studies described that ISPs struggled to be taken seriously by their stakeholders – in one case because they were not in a formal leadership role (Sanetti, 2013), and in a second study “due to tensions regarding professional autonomy” between nurses and medical professions (Gerrish et al., 2012, p. 35).

Opportunity

Opportunity refers to all “factors that lie outside the individual” (Michie et al., 2011, p. 4), which make it possible for stakeholders to enable the implementation of a new intervention through their behavior. With this definition in mind, publications were screened for information about such opportunities and the ways in which ISPs were involved creating them.

Across the quantitative studies using randomized controlled designs, six studies (Chung et al., 2015; Dickinson et al., 2014; Murray et al., 2018; Williams, 2016; Acolet et al., 2011; Glisson et al., 2013) measured to what degree ISPs contributed to creating such

opportunities. Of these, four reported positive results describing ISPs as creating more training opportunities (Chung et al., 2015), ensuring more frequent contact with those who need support (Murray et al., 2018) and improving the culture of organizations (Glisson et al., 2013) in ways that eased the removal of implementation barriers (Williams, Glisson et al., 2017). However, further two studies reported less positive results, one of which measured unchanged practice cultures following the use of facilitators (Dickinson et al., 2014), and one identifying only marginal, non-significant improvements in an assessment of whether an active strategy for the dissemination of research findings was more likely to change policy and practice than their passive dissemination (Acolet, 2012).

In further examining the non-experimental literature, two types of opportunities emerged, with the most prominent being the ISP itself, followed by opportunities to change organizational norms.

A broad range of studies presented the ISP itself as an opportunity for making implementation behavior possible – because it represents an explicit and often additional layer of support that for stakeholders is legitimate to use when such support is needed. As this resource, ISPs were described as creating opportunities by

1. reminding or prompting their stakeholders of intended changes and thereby keeping them on track with the planned implementation process in an often busy and complex environment with multiple competing demands (Anyon et al., 2016; Chinman, McCarthy et al., 2017; Holtrop et al., 2008; Kristensen & Hounsgaard, 2013; Rushovich et al., 2015; Williams et al., 2013; Barac et al., 2018);

2. regularly securing “a dedicated, carved out space” (Barac et al., 2018) for stakeholders to reflect on their implementation process; this was made possible through the regular provision of implementation data or the scheduling of support sessions and activities as required (Brunette et al., 2008; Barac et al., 2018; Cameron et al., 2011; Kousgaard & Thorsen, 2012; Shernoff et al., 2015; Worton et al., 2018); and
3. ensuring they are continuously available as a “go to person” for stakeholders in need of advice on different aspects of the implementation process (Bidassie et al., 2015; Duffy et al., 2012; Hurlburt et al., 2014; Mackenzie et al., 2011; Shernoff et al., 2015; Williams et al., 2013), including barriers not foreseen at the commencement of an implementation (Anyon et al., 2016; Barac et al., 2018). At a more pragmatic level, being this “go to person” could also imply e.g. sourcing evidence or collecting additional data, both of which were presented as saving stakeholders’ time (Cameron et al., 2011; Mackenzie et al., 2011).

A second group of studies included descriptions of opportunities for changing implementation behavior being created at the organizational level. In some studies, this could be reflected in the development of new organizational policies (Acolet et al., 2011), action or work plans (Brunette et al., 2008; Rosella et al., 2018), or annual reports (Rosella et al., 2018), with ISPs being described as supporting their development through the provision of data and intervention expertise. Other studies described broader ambitions to change entire organizational cultures and climates, presenting the ISP as the lynchpin of often complex implementation support interventions (Glisson et al., 2013; Hurlburt et al., 2014; Saldana & Chamberlain, 2012; Williams, Glisson et al., 2017) aimed at promoting this culture change. A key characteristic of these interventions was to focus on the ISP as

boundary spanner or linking agent who can “pull disparate strands of information and people together” (Waterman et al., 2015, p. 7), assumed to enable collaboration among diverse stakeholders (Saldana & Chamberlain, 2012) and to “create proficient organizational cultures” (Williams, Glisson et al., 2017, p. 270).

Motivation

Motivation refers to both reflective and automatic processes in individuals that “energize and direct” (Michie et al., 2011, p. 4) their implementation behavior. In summarizing how ISPs used different strategies to enable reflection among their stakeholders – e.g. through consultation/facilitation or audit and feedback – this aspect of motivation has been covered previously. The focus here is therefore on descriptions in the literature presenting automatic aspects of motivational processes occurring in stakeholders and the ways in which ISPs contributed to these.

Firstly, at a general level, ISPs’ strategy use and attitudes were described as helping to boost morale in stakeholders (Brunette et al., 2008), and to motivate them to (a) take action in unanticipated ways (Brown, 2018c), (b) invest in the implementation process (Duffy et al., 2012), and (c) stay enthusiastic about (Kousgaard & Thorsen, 2012) and committed and loyal to this process over time (Waterman et al., 2015). Secondly, and more specifically, a positive and validating ISP attitude was described as helping to empower and thereby motivate stakeholders (Akin, 2016; Anaby et al., 2015) – among others because this positivity was perceived as markedly different from what stakeholders were used to in their daily work routines. However, positivity when perceived as being unauthentic, could also demotivate stakeholders (Akin, 2016). Finally, ISP strategy use – with a focus on

consultation/facilitation – was presented as strengthening stakeholders’ sense of responsibility and accountability for their practice (Akin, 2016; Barac et al., 2018; Meropol et al., 2014), helping them to stay engaged in the implementation.

Capability

Capability has been defined as an “individual’s psychological and physical capacity to engage in the activity concerned” (Michie et al., 2011, p. 4), guiding the attention of this review toward indications in the literature of stakeholders gaining knowledge and acquiring skills through their interactions with ISPs. Among the quantitative studies using randomized controlled designs included in this review, four studies examined to what degree individual capacities showed to increase when utilizing ISPs (Rohrbach et al., 2010; Beidas et al., 2012; Bradshaw et al., 2012; Calo et al., 2018). Two studies reported significantly greater knowledge gains, skill development (Rohrbach et al., 2010) and self-efficacy (Bradshaw et al., 2012) in the intervention group, whereas the two other studies did not document such changes in knowledge (Beidas et al., 2012) or self-efficacy (Calo et al., 2018).

In examining why ISPs may contribute to the building of individual capabilities, two main mechanisms emerged from the non-experimental literature: Firstly, ISPs helped to make stakeholders’ learning meaningful, and secondly, they built their stakeholders’ self-efficacy, i.e. their confidence in being able to exercise relevant implementation behaviors.

In building on both the aforementioned trust (relational capacity) and the dedicated space for reflection (opportunity), ISPs’ strategy use was described as making learning particularly meaningful (Williams et al., 2013) because it helped stakeholders to view both

the ISP and their own colleagues as allies in a learning process (Beidas et al., 2013; Barac et al., 2018), in which they could engage with an open mind. This open mind showed in stakeholders engaging in identifying their own learning needs (Akin, 2016), absorbing new knowledge—even if this knowledge meant challenging their beliefs (Calo et al., 2018) and changing perspectives (Shernoff et al., 2015; Worton et al., 2018)—and by experimenting with new techniques and behaviors (Anyon et al., 2016; Barac et al., 2018).

Such meaningful learning helped to develop stakeholders' self-efficacy, displayed in a deeper understanding of evidence-based practice (Aasekjær et al., 2016) and of one's own specific practice area (Anaby et al., 2015; Brown, 2018c; Kristensen & Hounsgaard, 2013), more clarity on the intervention (Akin, 2016) and greater confidence to apply this intervention (Hodge et al., 2017; Leeman, Myers et al., 2017; Rosella et al., 2018; Shernoff et al., 2015), the generation of “applicable and doable” (Akin, 2016, p. 165) ideas for practice, and an improved individual capacity to solve problems that occurred as part of the implementation process (Bradshaw et al., 2012; Calo et al., 2018; McCullough et al., 2017). A single study (Gunderson et al., 2018) involved ISPs who displayed an unprofessional attitude, leading to decreased levels of self-efficacy experienced by stakeholders.

What Outcomes Improve Through the Work of ISPs?

In responding to this question, particular focus was placed on the quantitative studies using randomized-controlled designs included in this review (N=30). A detailed overview of these studies has been provided in Appendix B.

In assessing their quality, it was apparent that less than 50% (N=13) of these trials reported on the use of a theory, model or framework to inform the design of the

implementation support examined. This included the RE-AIM framework (N=4), Getting to Outcomes (N=2), the CFIR (N=1), the PARiHS (N=2), and the Interactive Systems Framework (N=1) together with organizational culture theory, the theory of planned behavior, the theory of continuous quality improvement and Roger's diffusion of innovations theory. However, the use of such theories and models was often described in passing, with only few study reports providing detailed, theoretically informed explanations of how an intervention is anticipated to work (Peterson et al., 2015; Quanbeck et al., 2018; Williams, Glisson et al., 2017). Only three studies included descriptions of the use of local empirical evidence to ensure that the implementation support studied would fit with local conditions, two of which relied on previously collected data on the use of the intervention (Acolet et al., 2011; Calo et al., 2018) and one on the active co-design of the implementation support with stakeholders who had developed the guideline to be implemented locally (Quanbeck et al., 2018). This latter study was also the only study that referenced the use of a strategy taxonomy in designing the "systems consultation" that was the implementation support examined in this trial.

The vast majority of the RCTs (N=27) did assess implementation outcomes, with only three studies not examining whether implementation support (Williams, L., 2016; Peterson et al., 2015; Meropol et al., 2014) affected e.g. the adoption or feasibility of an RSI. The two other types of outcomes included in the "Outcomes for Implementation Research" framework (Proctor et al., 2010) were far less present in studies, with service outcomes only measured in eight and client outcomes in 10 studies.

Implementation Outcomes

Across all RCTs, adoption and fidelity showed to be among the implementation outcomes measured most often.

Adoption, i.e. “the intention, initial decision, or action to try or employ” (Proctor et al., 2010, p. 69) a research-supported intervention was measured in 15 studies with results pointing in both positive and negative directions across multiple ISP roles. On the positive side, implementation support showed to increase referrals to services (Chinman, McCarthy et al., 2017), and the uptake of evidence (Palinkas, Saldana et al., 2017), research-informed clinical practices (Lemelin, 2011; Mold et al., 2014; Parchman et al., 2013; Dickinson et al., 2014), and programs (Williams, 2016). However, multiple studies also reported non-significant differences between trial arms (Calo et al., 2018; Brown et al., 2014; Seers et al., 2018) or described that significant short-term improvements diminished and were lost over time (Leathers et al., 2016). Other studies presented mixed results with some practices being adopted at significantly higher levels and others not (Kinley et al., 2014; Mold et al., 2008) or the results from an enhanced implementation support condition being significantly better than one, but not all conditions tested (Kelly et al., 2000).

A similar picture emerges for fidelity, measuring whether an intervention was implemented as intended by its developers. Seven studies measured this outcome, with three confirming that fidelity could be improved when involving ISPs (Chinman, 2018; Eiraldi et al., 2018; Rohrbach et al., 2010), and four documenting no significant effects on fidelity across study groups (Beidas et al., 2012; Bradshaw et al., 2012; Brown et al., 2014; Murray et al., 2018).

A third implementation outcome measured was the degree to which evidenced interventions supported by ISPs gained greater reach, i.e. greater numbers of providers and/or eligible patients or clients. All three studies including this outcome, reported that reach was significantly higher among clients and patients interacting with practitioners in the supported – as compared to the less supported – implementation conditions (Chinman, McCarthy et al., 2017; Gustafson et al., 2013; Yano et al., 2008).

Finally, the acceptability of a research-informed intervention, meaning the perception among stakeholders that it is “agreeable, palatable, or satisfactory” (Proctor et al., 2010, p. 67), and its feasibility, or the ease with which it can be used, were measured in one study each. For the feasibility outcome, one study reported positive results in that significantly fewer implementation barriers were measured among clinicians supported in adopting and using research-informed programs in mental health (Williams, 2016). Similarly, acceptability of a drug prevention program for high school students showed to be significantly more improved among staff receiving enhanced rather than regular implementation support (Rohrbach et al., 2010). For these outcomes, no studies were included reporting negative results.

Service Outcomes

Ten studies measured whether service improvements occurred when ISPs were involved. Of these, six studies reported on significant improvements in the enhanced support condition – e.g. in the form of improved preventive performance by medical practices using fewer inappropriate “maneuvers” in primary care (Lemelin et al., 2001); improvements in public health care through service redesign and upskilling of staff

(Meropol et al., 2014) and in substance abuse services through changes in prescription practice (Quanbeck et al., 2018); reductions in referrals to specialized services in behavioral health (Bradshaw et al., 2012) – or in patients’ waiting time to addiction clinics (Gustafson et al., 2013); and in greater rates of accreditation of nursing homes under a practice framework for quality end-of-life care (Kinley et al., 2014).

No such improvements in care could be found in a study of implementation support to enhance deep vein thrombosis prophylaxis and dysphagia screening in hospitals (Williams et al., 2016), whereas a final study of neonatal intensive care units in the UK identified significant improvements in pre-term baby care following implementation support for all but one of the primary outcomes defined for the study (Acolet et al., 2011).

Client Outcomes

Client outcomes – defined as the functioning, wellbeing, symptomatology, or satisfaction of patients, clients, or students – were measured in nine of the reviewed randomized controlled trials, with half reporting significant and the other half reporting non-significant outcomes for recipients served by professionals in the enhanced implementation support condition.

Significant improvements could be measured in the form of a small decrease in students with poor educational achievements (Bradshaw et al., 2012), more rapidly declining or less intense problem behaviors in children and youth (Glisson et al., 2013; Funderburk et al., 2015, 2015), decreased intentions to use cigarettes, marihuana or hard drugs in high school students (Rohrbach et al., 2010) and in reduced numbers of falls among the elderly (Peterson et al., 2015). However, an equally large number of studies

reported on a lack of significant improvements in client outcomes when implementation support was involved. This applied to interventions aimed at preventing externalizing behavior among school children (Eiraldi et al., 2018), alcohol and drug use among adolescents (Chinman, 2018), and smoking among veterans (Yano et al., 2008) as well as programs to improve the wellbeing of patients in end-of-life care (Kinley et al., 2014) and to support foster treatment parents, the latter of which showed no significant improvement in the relationship between carers and youth in the implementation support condition (Murray et al., 2018).

What Determinants Influence the Work of ISPs?

Publications reviewed described a broad range of determinants affecting ISPs' work with all five domains of the Consolidated Framework for Implementation Research (Damschroder et al., 2009) being present. A summary of these is presented in Table 7.7, followed by a detailed presentation of findings for each CFIR domain.

Intervention Characteristics

The domain with greatest presence in the literature was "intervention characteristics", which in the context of this review refers to the key attributes of the *ISP intervention*. This means that text information describing key features of the ISP role with a potential to affect this role's ability to provide implementation support was coded under this domain. Three key features were particularly visible in the literature, including the ISP's access to training/support, the clarity of the ISP role, and the ISP's own accessibility.

The quantitative data extraction led to only sparse information about how ISPs were trained and supervised, with approximately 85% of the included literature containing no such information. The remaining studies presented training durations ranging from a single hour to 30 weeks (N=17), and a supervision intensity of between “as needed” (Hurtubise et al., 2016), “regular” (Dickinson et al., 2014) or “ongoing” (Lessard et al., 2016) and weekly 60-minutes sessions (Eiraldi et al., 2018).

Table 7.7: Contextual Factors Affecting ISP Work by CFIR Domain

Characteristics of the ISP intervention	Inner setting	Implementation process	Individuals (ISP stakeholders)	Outer setting
ISPs’ access to training & support	Availability of resources for implementation support (time, money etc.)	Engagement of formally appointed, internal implementation leaders in implementation support	Stakeholders’ knowledge and beliefs about the RSI and/or the implementation support	Access to external networks (i.e. information, contacts etc.)
Clarity of the ISP role	Leadership support provided to ISP	Navigation of barriers to the execution of implementation support, e.g. turnover, changing agendas, lack of data etc.	The individual and collective competence of those supported	Changes in funding arrangements/ structures
ISP Accessibility	Relative priority of the implementation support			Policy changes

Additional qualitative data from 32 non-experimental studies provided a richer picture of how support structures were integrated into ISP interventions. These could exist as formal structures, represented by, for example, a research team (Anaby et al., 2015; Lessard et al., 2016; Rivard et al., 2010; Russell et al., 2010), supervisor (Chew et al., 2013; Dickinson et al., 2014), lead coach (Gunderson et al., 2018), manager (Graaf et al., 2017), or an intervention and/or implementation expert (Chinman, McCarthy et al., 2017) providing support to the ISP. While the details of this support were not always described, studies indicated that its aims centered around problem-solving (Funderburk et al., 2015, 2015; Olson et al., 2018; Rivard et al., 2010), i.e. helping ISPs to remove barriers to providing implementation support, and quality assurance, i.e. ensuring that the implementation support provided met pre-defined standards (Elnitsky et al., 2015; Funderburk et al., 2015, 2015; Sanetti et al., 2018; Shernoff et al., 2015). However, support could also have a more basic function of updating ISPs on information and knowledge they required as part of their work, related to e.g. the intervention to be implemented (Waterman et al., 2015; Russell et al., 2010; Rivard et al., 2010). For some studies, ISP support structures were formalized even further by being integrated into the ISP intervention. This occurred for example by establishing two-layered implementation support structures consisting of e.g. an external facilitator, taking the outside support role otherwise assigned to e.g. principle investigators, and an internal facilitator providing implementation support within organizations or systems they themselves were part of (Rosen et al., 2012; McCullough et al., 2017). Another study described the use of knowledge brokers together with an additional “broker to the brokers” (Rivard et al., 2010, p. 1589). Other studies presented implementation *teaming* structures as a way to build capacity for supporting

ISPs. In these structures, multiple ISPs formed a team with complementary types of knowledge and competencies potentially increasing the quality of the implementation support provided (Quanbeck et al., 2018; Rosella et al., 2018). Furthermore, teaming structures were presented as less vulnerable to knowledge and competency loss in the case of ISP turnover (Chaffin et al., 2016).

In addition to these formal support structures, multiple studies also described informal support as a common feature of ISP interventions, typically organized within peer-to-peer structures through which ISPs connected with each other, both face-to-face and remotely, for mutual exchange and support. Its purpose was described as exchanging knowledge (Rivard et al., 2010), enabling shared learning (Chew et al., 2013), promoting cross-ISP collaboration (Shernoff et al., 2015; Russell et al., 2010), and also providing social support in cases where implementation support work was highly individualized (Graaf et al., 2017; Chew et al., 2013; Dogherty et al., 2012).

A further 18 studies contained information about ISP role clarity as a factor that potentially can influence the quality of the support that ISPs are able to offer others.

This literature reflected that with the ISP often being introduced as a new role in organizations or systems, it had the potential to challenge existing chains of command or power structures, both when established internally or externally. Stakeholders to an implementation support process may therefore face a lack of security when entering into this process, making it pertinent to create clear expectations around the role and responsibilities of an ISP. Studies indicated that this applied to both ISPs and those supported.

For ISPs, role clarity was described as a pre-condition for developing a sense of direction (Chew et al., 2013; Rushovich et al., 2015), a professional identity (Chew et al., 2013) and authority (Gerrish et al., 2012) and for navigating demands. These demands could be workload or responsibility related. ISPs requested role clarity to avoid work overload, emerging partly from specific ISP responsibilities that competed with other work obligations (Chaffin et al., 2016; Gerrish et al., 2012; Gunderson et al., 2018), partly from stakeholders' expectations that ISPs would *do* – and not only *support* – their work (Duffy et al., 2012; Waterman et al., 2015), and partly from support requests coming from a wider group of stakeholders than originally anticipated by ISPs (Rivard et al., 2010).

Simultaneously, role clarity was required to create clear expectations around ISPs' authority among those whom they supported. For example, ISPs could be responsible for not only assisting in but also evaluating the work of their stakeholders, necessitating the definition of the scope of this evaluative function and acknowledgement of the imbalance of power it may create (Gunderson et al., 2018; Olson et al., 2018). In another study, the influence of internal facilitators was seen to suffer from a lack of formal authority that made it difficult for them to stand up “to peers, over whom one does not have official power” (McCullough et al., 2017, p. 1020).

Finally, 15 studies contained descriptions of ISP accessibility as a factor potentially affecting the quality of implementation support. In these studies, accessibility, referred to both an ISP's physical presence in the context that is receiving implementation support and the degree to which an ISP was perceived as “readily available” when support needs emerged. Providing implementation support from a distance was at times presented as a barrier because it did not align with preferences of those supported (Calo et al., 2018) or

made educating others more difficult (Bidassie et al., 2015). Other studies described how being more present as an ISP could lead to (a) more frequent contacts with those supported (Duffy et al., 2012; Gerrish et al., 2012; Gunderson et al., 2018; Leathers et al., 2016), (b) greater familiarity with local routines or norms (Kirchner et al., 2014), (c) better opportunities for ISPs to offer assistance (Sanetti, 2013; Leathers et al., 2016), and (d) establishing professional credibility (Gerrish et al., 2012) – factors viewed as potentially contributing to building closer, collaborative relationships between ISPs and those supported.

However, a randomized controlled trial assessing whether quality improvement coaching was more effective when delivered in-person than through webinars (Calo et al., 2018) reported no significant differences between trial arms for any outcomes, including the perceived acceptability and feasibility of either strategy among stakeholders. On the other hand, this trial also showed that in-person support achieved greater reach among stakeholders, with more attendees participating in in-person sessions than in webinars. Furthermore, another rigorous study comparing standard phone consultation with enhanced live video coaching to support the implementation of Parent-Child Interaction Therapy (Funderburk et al., 2015, 2015) measured small but significant differences in behavioral outcomes for children served by practitioners in the enhanced support condition.

Inner Setting

Of the CFIR constructs contained in the inner setting of an implementation, resource availability, leadership engagement and the relative priority assigned to the role of the ISP were the three determinants that had the strongest presence in the literature.

Twenty-four studies presented the resources available to utilize implementation support in the form of time, money or other means as a key determinant of implementation support. This included organizational behaviors such as organizing schedules or workloads in ways that allowed staff to attend ISP-run support sessions (Bidassie et al., 2015; Shernoff et al., 2015; Rosen et al., 2012; Rivard et al., 2010; Mold et al., 2008; Kinley et al., 2014; Kauth et al., 2010; Holtrop et al., 2008; Graaf et al., 2017; Gerrish et al., 2012; Dogherty et al., 2013), providing administrative support to integrate implementation support in daily routines (Leathers et al., 2016; Waterman et al., 2015), acquiring resources, such as IT support or library access, crucial to the provision of implementation support (Gerrish et al., 2012), recruiting staff to implementation support initiatives (Tierney et al., 2014), or procuring and allocating funds to ISP positions (Cameron et al., 2011; van der Zijpp et al., 2016; Russell et al., 2010; Kristensen & Hounsgaard, 2013).

Leadership engagement, i.e. leaders' and managers' commitment to and involvement in the implementation support emerged as the second key determinant from the literature, presented in 16 studies. On the negative side, "poor leadership" (Waterman et al., 2015, p. 9), leadership turnover (Rushovich et al., 2015), a lack of leadership support (Dogherty et al., 2013), and conflicts between ISPs and leaders (van der Zijpp et al., 2016) were described as barriers to providing implementation support. On the other hand, implementation expectations voiced clearly by leaders (Russell et al., 2010; Gerrish et al., 2012), together with active and visible leadership support (Rivard et al., 2010; McCullough et al., 2017; Leathers et al., 2016; Holtrop et al., 2008; Mitchell et al., 2004) provided to the ISP were described as positive facilitators for offering and utilizing implementation support.

Closely linked to this leadership engagement is the relative priority which stakeholders assign to the implementation support provided. It describes to what degree the role and work of ISPs was viewed as important to prioritize and emerged as a determinant based on descriptions contained in 10 studies. The degree to which an ISP role was prioritized could be reflected positively in e.g. an overall organizational commitment to this role (Williams et al., 2013; Anaby et al., 2015) and negatively in a lack of a clear strategy for utilizing the implementation support (Chew et al., 2013). Furthermore, continuously reiterating the reasons for engaging in implementation support (van der Zijpp et al., 2016), aligning this engagement with an organization's values (Cameron et al., 2011), protecting it against competing organizational needs (Dusenbury et al., 2010; Duffy et al., 2012) and ensuring to communicate its consequences to all relevant stakeholders (Jacobson et al., 2019) were described as further indicators of this prioritization or a lack thereof.

Process

Across the literature reviewed, descriptions of CFIR process factors affecting the work of ISPs referred primarily to the engaging phase and here to the involvement of formally appointed internal implementation leaders.

Fifteen studies outlined how engaging these leaders could enhance or hamper ISP work. For example, when responsibilities for the dissemination of a clinical protocol between managers and knowledge brokers were not clearly defined, its integration in practice showed to be more difficult (Aasekjær et al., 2016). Similarly, principals could turn out to be an inadequate main contact point for knowledge brokers because they functioned as gatekeepers for the use of knowledge brokering in schools (Brown, 2018a).

In another study, a strained collaboration between ISPs and leaders contributed to confusion and delays in an implementation process involving consultants (Brunette et al., 2008), and a study of TA providers reported that working with leaders “too high up the chain of command” (Duffy et al., 2012, p. 381) made it difficult to create buy-in for changes at the right leadership level and thereby to work directly with frontline staff. Furthermore, leadership turnover could necessitate for ISPs to fully re-build such buy-in, making it more complicated to continue with other implementation support activities during such transition (Rushovich et al., 2015; van der Zijpp et al., 2016).

On the positive side, studies described the role of a constructive collaboration between ISPs and formal implementation leaders as helping to reinforce the importance of the implementation support locally (Gunderson et al., 2018; Gerrish et al., 2012), to integrate this support more broadly in an organization (Shernoff et al., 2015), and to generate buy-in to implementing changes among practice staff thereby helping implementers to stay focused on change efforts (Mader et al., 2016). As such, these results link back to the inner setting factor *leadership engagement* and provide greater detail on why this support may make a difference for the role and work of ISPs.

Other process factors described in studies as affecting the provision of implementation support fall under the “executing” construct describing to what degree an implementation was carried out according to plan. A broad range of barriers could be identified, including changing or diverging ideas about the implementation among the stakeholders who received support, leading to tensions among them (Hurlburt et al., 2014) and necessitating extra effort from ISPs (Waterman et al., 2015); staff turnover creating “a ‘vacuum’ of information” (Rushovich et al., 2015, p. 371) among new recruits, which ISPs had to fill;

implementers not using recommended tools making it more difficult for ISPs to advocate for and track an implementation (Jacobson et al., 2019); a lack of readily available data to use for implementation support (Bidassie et al., 2015); complexities in the technical setup (video, internet) preventing implementation support to be delivered as intended (Funderburk et al., 2015, 2015); and organizational resource constraints leading to staff being removed from an implementation support effort before its finalization (Aasekjær et al., 2016).

Fewer studies presented facilitators to the execution of implementation support efforts. One study highlighted that as implementers gain experience with receiving implementation support, this increased capacity makes it possible for ISPs to address a larger number of higher order, rather than just basic, concerns, thereby growing local implementation capacity over time (Dogherty et al., 2012). A study of facilitators suggested that ISPs utilizing the supports available to them may be better able to provide implementation support as planned (McCullough et al., 2017), whereas a study of TA providers pointed to constructive collaboration between ISPs and data and evaluation experts as a facilitator to increasing stakeholders' understanding of data use as part of implementation support (Rushovich et al., 2015).

Individuals

The process of providing implementation support establishes a relationship between individuals, each of whom contributes to this relationship. Therefore, the work of ISPs can be assumed to also be influenced by those whom they support. This was reflected in a randomized controlled trial of consultants supporting the implementation of cognitive

behavioral therapy among mental health clinicians (Beidas et al., 2012). This study reported that the number of consultations attended by clinicians significantly predicted their adherence to CBT principles, indicating that regularly attending support activities may influence the results that stakeholders can achieve through this support.

Further 23 studies described other stakeholder characteristics potentially affecting the way in which implementation support can be delivered and utilized. The CFIR constructs *individuals' knowledge of and belief in the intervention* together with *other personal attributes* emerged as the two constructs with greatest presence in the literature.

Information about individuals' knowledge and beliefs were contained in 14 studies and presented as relating to both the clinical/educational intervention that was the focus of the implementation support *and* this support itself. An example of the former was contained in a study of non-specified ISPs who had attended an education in evidence-based practice and hereafter worked to support their colleagues in taking up the principles of EBP in their daily routines. The fact that managers had participated in the same education, made it easier for these leaders to support the work of the ISPs (Aasekjær et al., 2016). Oppositely, a study of facilitators working to support the implementation of guidelines (Dogherty et al., 2013), described that when working with stakeholders who strongly opposed this guideline, "tainted relations" (p. 135) among stakeholders characterized large parts of the implementation. Further studies reported similar dynamics in leveraging implementation support, with stakeholders who doubted the benefit of following an evidence-based approach to human service practice making it more difficult to provide support (Waterman et al., 2015; Dusenbury et al., 2010), and stakeholders curious about and open to this approach making it easier (Anaby et al., 2015).

Additionally, individuals' knowledge and belief about the implementation support itself was presented as affecting its provision. One study of knowledge brokers highlighted that administrators were first willing to promote this brokering when presented with evidence demonstrating its efficacy (Cameron et al., 2011), while another study described how beliefs about implementation support could transpire in more subtle ways: Because "doctors [*did not*] like to be coached" (Jacobson et al., 2019, p. 4), it was decided to exchange the *coaching* terms with *consultant/consulting*. This speaks to the need of ISPs to be perceived as credible, which also was echoed in other studies (Rivard et al., 2010) and links back to the role of ISP knowledge presented earlier.

Other personal attributes was the second construct that emerged from the literature (N=10) as influencing the work of ISPs, with the *competence* of individuals supported emerging as the predominant factor. Studies described this competence in a range of ways.

At the most basic level, it was indicated that implementation support – e.g. when developed for clinicians but then also provided to administrative support staff – could be misdirected at a particular professional group which therefore perceived it as not suitable (Tierney et al., 2014). Other studies highlighted that the skills of those supported could affect the influence of that support. For example, a study of consultation described how the lack of skills in a local change team in analyzing and conceptualizing its own workflows and applying other quality improvement methods required consultants to adjust their support to meet more fundamental needs present in the team (Jacobson et al., 2019), diminishing opportunities to address higher order concerns. In another study of technical assistance, increases in stakeholders' general EBP awareness showed to be largest among those who already met practice quality standards in their field (Brownson et al., 2007).

Furthermore, studies presented implementation support as being easier to provide when ISPs were surrounded by the right mix of competencies – displayed in e.g. individuals’ understanding of implementation and improvement processes (Gunderson et al., 2018; Jacobson et al., 2019), but also in the multidisciplinary composition of stakeholder groups receiving support – because this mix of competencies enabled ISPs to e.g. gain a better understanding of the context they supported (Jacobson et al., 2019); build wider acceptance of the implementation in focus and the support provided (Gerrish et al., 2012; Dogherty et al., 2012); or – when the right formal authority was represented in a stakeholder group – prepare decisions that were necessary for progressing an implementation (Brownson et al., 2007; Jacobson et al., 2019).

Outer setting

Of the constructs contained in the outer setting domain of the CFIR, *cosmopolitanism* and *external policies and incentives* showed to be most present in the literature reviewed. For each of these constructs, 10 studies provided descriptions of how they can influence the work of an ISP.

Cosmopolitanism describes the degree to which the implementing system is externally networked. Within the CFIR, the connections to other entities that emanate from this embeddedness are assumed to promote an implementation. In transferring this thinking to the work of ISPs, information was identified in the literature about cosmopolitanism and its potential influence on implementation support.

Some studies indicated that connections to and involvement of other organizations could strengthen or expand implementation support, e.g. when ISPs held strong

relationships to RSI developers making it possible, or even mandatory, to involve these when navigating implementation barriers (Saldana & Chamberlain, 2012); when connections made it possible to gain access to contacts, information and resources needed to deliver implementation support (Waterman et al., 2015); when the interaction with other entities led to further strengthening the professional quality reflected in the local implementation effort (Kristensen & Hounsgaard, 2013); or when the endorsement of other entities helped to increase implementation support demand and momentum (Tierney et al., 2014; Brown, 2018a).

Additionally, studies also contained descriptions of the consequences of insufficient cosmopolitanism. In a study of knowledge transfer associates operating within the British health system (Waterman et al., 2015), the complexity of the outer context to the support work made it difficult for ISPs to establish connections and retrieve information they deemed important to their work. To counterbalance these gaps in connectivity, the ISPs used their own clinical networks as a supplement. Two other studies pointed to a need for increasing implementation support capacity as a consequence of cosmopolitanism – because this cosmopolitanism had helped agencies to grow and strengthen their implementation efforts (Kristensen & Hounsgaard, 2013; Tierney et al., 2014). A third study pointed to the pressure ISPs may experience when they – next to supporting inner setting stakeholders – also get involved with outer setting organizations in efforts to “span inner and outer contexts” (Gunderson et al., 2018, p. 3) of an implementation. This can be particularly challenging for ISPs who work with multiple organizations in geographically diverse areas (Gerrish et al., 2012), potentially increasing the number of outer setting

stakeholders relevant to consider as part of the implementation support to an unmanageable level.

For the construct of *external policies and incentives*, studies presented especially funding bodies and structures as influencing the work of ISPs. Budget cuts or limitations in funding could add to pressures experienced by ISP stakeholders and thereby limit the funding available for implementation support (Brown, 2018b, Dusenbury et al., 2010) or lead to differing opinions about which entities should fund this support (Cameron et al., 2011). Studies of implementation teams arranged across multiple agencies reported that a willingness among multiple and diverse actors to contribute to shared ISP funding arrangements could be complicated to establish (Chaffin et al., 2016), for example when these arrangements were difficult to align with specific outer context reporting requirements (Gunderson et al., 2018). Furthermore, tight implementation timeframes set by funders could require rapid start-ups of initiatives, thereby reducing the time available to assess and plan for stakeholders' implementation support needs (Rushovich et al., 2015).

Policies emanating from the outer context were another factor influencing the work of ISPs in that they, on the one hand, could increase stakeholders' interest in joining an implementation initiative and its inherent implementation support (Tierney et al., 2014; Kirchner et al., 2014) and, on the other hand, create anxiety among stakeholders if, for example, policies were in conflict with the goals of an implementation effort (Tierney et al., 2014), or a new policy required changes to this effort and therefore de- or increased support from the ISP (Jacobson et al., 2019).

7.1.3 Discussion

This integrative review aimed to inform and refine our understanding of the role of implementation support practitioners (ISPs) – independent of their labeling as facilitators, consultants, technical assistant providers or other role terms – and how they may help to build the implementation capacities of individuals, organizations and systems.

Firstly, the results of this review necessitate a revision of the original definition of ISPs because the literature showed that they may indeed be involved in direct service delivery. While this involvement did not characterize the majority of studies, it was described in multiple publications and hence needs to be integrated in a broader understanding of this role. We therefore suggest for ISPs to be defined as *professionals working closely with the leadership and staff needed to effectively deliver direct clinical, therapeutic or educational services to individuals, families and communities and support them in implementing research-supported practices, policies and programs, and in sustaining and scaling these for population impact.*

Secondly, following this review, the original program logic can be considerably expanded with more detailed information about each of its components. Figure 7.4 displays this refined program logic after having integrated all key results. Given that only few findings on service and client outcomes could be identified, the evidence base for linking the ISP role with these outcomes was viewed as too scarce to be integrated in the program logic. It therefore includes implementation outcomes only.

Figure 7.4: A Refined Program Logic for Implementation Support Practitioners

INTERVENTION	MECHANISM OF CHANGE		OUTPUT	OUTCOME ³⁶
	Resource	Reasoning		
<i>Role terminology</i>	<i>Resources included in the intervention offered to stakeholders</i>	<i>Stakeholders' response to the offer embedded in the intervention</i>	<i>Changes in individual/organizational capacity</i>	<i>Changes in individual/organizational implementation behavior</i>
Intervention The <i>Implementation Support Practitioner</i> (ISP), i.e. - (Practice) Facilitator - Consultant - Technical Assistance Provider - Knowledge Broker - Coach - Intermediary - Implementation Team - Other	ISP Knowledge - Specialist educational background - Clinical & broader professional experience - Expertise in EBP, clinical topics, implementation, improvement, change processes, and local contexts ISP Skills³⁸ - Train & educate stakeholders - Use evaluative & iterative strategies - Develop stakeholder interrelationships - Adapt and tailor to context	Stakeholders³⁷ - Relational Capacity ○ They trust the ISP & colleagues ○ They share own practice - Opportunity ○ The ISP is available (reminding / prompting stakeholders; securing dedicated time for learning; available as “go to” person for advice) ○ Org. norms can be questioned and changed (including policies, climate, culture) - Capability ○ Stakeholders perceive learning as meaningful	Enhanced individual innovation-specific and/or general capacity, reflected in greater clinical & implementation/improvement - knowledge - self-efficacy - skills Enhanced organizational/system innovation-specific and/or general capacity, reflected in strengthened implementation/improvement - knowledge - structures - climate - resources	Individuals, organizations or systems successfully - select and prepare research-informed interventions to be acceptable to key stakeholders (acceptability) - adopt research-informed interventions (adoption) - implement research-informed interventions as intended (fidelity) - remove barriers to the implementation of research-informed

³⁶ Informed by the “Outcomes in Implementation Research” framework (Proctor et al., 2010)

³⁷ Informed by the COM-B model (Michie et al., 2011) but expanded with “relational capacity”

³⁸ Informed by the ERIC compilation of implementation strategies (Powell, Waltz et al., 2015) and their clustering (Waltz et al., 2015)

	ISP Attitudes - Professional - Encouraging - Respectful - Collaborative - Authentic - Flexible	 ○ are open to experimenting with new ideas and techniques - Motivation Stakeholders ○ reflect / evaluate ○ take action in unanticipated ways ○ invest in implementation ○ stay enthusiastic/engaged	- leadership	interventions (feasibility)	
Context ³⁹	Characteristics of the ISP intervention - Training & support - Intervention structure (e.g. team, internal/external) - Peer network - ISP role clarity (defining e.g. workload, responsibilities, authority) - Accessibility	 Inner setting - General prioritization of imp. support - Resources (time, money, staff) for utilizing imp. support - Leadership engagement (leaders & mgrs. commit to and engage in imp. support)	 Process - Engagement of formally appointed internal imp. leaders - Barriers to the execution of the implementation support (stakeholder tensions, staff turnover, data quality, practical barriers, engaging support staff)	 Characteristics of individuals (i.e. those supported) - Knowledge & beliefs about intervention and the imp. support - Broader competence (present in individuals or groups supported)	 Outer setting - Connections to and involvement of other relevant organizations (both of the implementing organization(s) and the ISP) - Funding structures/ incentives - Policies

39 Informed by the “Consolidated Framework for Implementation Research” (Damschroder, 2009)

The revised logic reflects that when examining the literature on different implementation support roles, strong commonalities in their characteristics, activities and responsibilities emerge. This indicates that the diverse terminology used in this field may be of hinderance to establishing a more solid knowledge base on how adequate implementation support can be built and effectively utilized. While differences between roles may exist – in that, for example, the sourcing and translation of evidence may be a stronger element of the routines of knowledge brokers, or performance evaluation of the work of consultants who oversee the adherence to fidelity standards – these represent differences in the weighting rather than the overall composition of skills needed and used by different ISPs.

Taken together, this means that this program logic should be viewed as a preliminary suggestion for how the efforts of ISPs can enable change in individuals and organizations – suggestions that are informed by a body of literature, which represents a still scarce and somewhat ambiguous evidence base. With this in mind, it can function as a starting point for considering, discussing, and examining the role and work of ISPs across multiple disciplines and sectors and in both practice, research and policy.

It is not the first time that reviews have been conducted to identify attributes or characteristics of ISP roles. Among the most recent publications are a scoping review (Mallidou et al., 2018) and an integrative review (Elledge, Avworo, Cochetti, Carvalho, & Grota, 2018) of competencies required for knowledge translation. The authors of both reviews differ, comparable to this review, between knowledge, skills and attitudes and across these categories, describe core knowledge translation competencies.

Unsurprisingly, while the overlap between these competencies and those included in the

ISP program logic is considerable, the emphasis on active implementation support is less succinct because translating, spreading and disseminating – rather than implementing – knowledge is at the core of knowledge translation. Another scoping review (Cranley et al., 2017) focused on a range of facilitation roles in healthcare including opinion leaders and champions as well as knowledge brokers and multiple types of facilitators. Its authors identified “credibility, trustworthiness, expertise, enthusiasm”, together with “good problem-solving and networking skills” (p. 10) as important to facilitators, thereby confirming some of the knowledge, attitudes, and skills identified through this review. Strategy use was the focus of another systematic review (Moussa et al., 2019) of 35 studies examining facilitation in healthcare practice. In identifying 51 different implementation strategies, the most commonly used, i.e. included in a minimum of 50% of studies, were audit and feedback, barrier identification, goal setting, tailoring, training, provision of tools and educational materials, planning for improvement and outcome monitoring – aligning with the ISP strategies identified for the above program logic.

This alignment between findings derived from role specific reviews on the one hand and the integrative review presented here on the other further underlines that the separation of ISP roles occurring in the literature may foster unnecessary duplication of effort and research waste. Greater integration of implementation research across schools of thought, sector boundaries and disciplines can help to better administer existing resources and develop malleable conceptual models applicable in multiple contexts.

Notable across all reviews presented above is the fact that they present *lists* of ISP attributes and characteristics rather than full *models* that combine these attributes and explain how they may interact and lead to observable results. To our knowledge, no

other ISP competency model describing central knowledge, skills and attitudes on the one hand and combining these with implementation outcomes on the other by detailing potential mechanisms of change exist, making the ISP program logic a novel contribution to the field of implementation science.

However, further development is easily imaginable. For example, a recent synthesis of 25 technical assistance frameworks (Dunst, Annas, Wilkie, & Hamby, 2019b) highlighted that implementation support also needs to be understood as an intervention. As such, it necessitates considering its implementation, with the authors differing between five major phases of TA, i.e. its preparation, planning, implementation, evaluation and sustainment. Each of these phases contains multiple core elements, such as assessing the needs and readiness for TA as part of the preparation phase or assigning roles and responsibilities as part of the TA planning phase. Similar to other implementation efforts, the provision of implementation support may therefore need to be conceived as a stage-based endeavor. This has implications for the ISP program logic in that e.g. implementation outcomes intended to be achieved during early implementation would differ from those for the sustainment phase, each of which therefore would require different sets of ISP knowledge and skills. This stage-based thinking could be better integrated in future iterations of the ISP program logic.

Further implications of this logic – with a focus on practice and policy on the one hand and implementation research on the other – are discussed in chapter eight.

Limitations

Multiple limitations have to be kept in mind when utilizing the findings of this integrative review.

Firstly, due to the nature of the integrative review and the considerable amount of literature existing for different ISP roles it has been neither possible nor intended to identify every existing study for every ISP role. Very specific findings, related to e.g. the use of ISPs in a particular clinical field, may therefore be missing from this review. Its users should therefore supplement its application with further information derived from ISP study reports that exist within their particular area of practice.

Secondly, the threshold of minimum 10 studies for the inclusion of findings, together with the fact that these findings were treated equally, independent of the design and quality of the study from which they were extracted may have increased the bias attached to the findings of this review. Information included in a single high-quality study may not have been integrated because it did not meet the 10-studies-threshold. Data contained in 10 low quality studies, on the other hand may, have become part of the model. In order to navigate a considerable amount of data together with resource constraints, these pragmatic decisions proved to be unavoidable – and to a certain degree intended because the field of active implementation support is novel and even weakly designed studies may contain valuable information. However, users of the ISP program logic should be aware of this limitation, mind the still ambiguous and scarce evidence base that it reflects – and contribute to its further consolidation.

Finally, the evidence informing the ISP program logic primarily stems from studies conducted in (a) North America, and (b) health settings. Its inherent cultural and professional norms may therefore not be directly applicable to other geographies and sectors. Users of the model should therefore consider how the program logic may need to be adjusted, for example, by changing its language, the composition of content or its visual display, before it can be used with stakeholders in a particular setting.

8. Chapter Eight

8.1 Discussion

The three overarching goals of this research were to examine

- the experience with implementing foreign RSIs in Australian child and family services;
- the usability of implementation frameworks to support and understand this work; and
- strategies that may help to enhance the usability of frameworks and other knowledge derived in the field of implementation science

In the following, these goals will be revisited and discussed in the light of the findings that were presented in this thesis.

In attempts to address pertinent challenges in the child and family services sector, the conduct of inquiries has become a rather common government instrument, both in Australia and abroad. They are used to examine what services are available in a particular area, whether these services are effective, and what could be done to improve them. One of the most recent Australian examples is an inquiry initiated by the parliament of New South Wales into the state's support for children of imprisoned parents (Parliament of New South Wales, 2020). Other examples have been the Royal Commission into Institutional Responses to Child Sexual Abuse established by the Australian government in 2013 (Royal Commission into Institutional Responses to Child Sexual Abuse, 2017), the 2015 Victorian Royal Commission into Family Violence formed to examine how the state could improve its response to domestic violence (State of Victoria, 2016), or the 2016 Royal Commission into the Protection

and Detention of Children in the Northern Territory, which examined how children detained in detention facilities and child protection in the Northern Territory were treated (Commonwealth of Australia, 2017).

In their final phase, such inquiries typically lead to the development of extensive lists of recommendations backed by the evidence gathered through the inquiry process. This evidence includes information received through hearings of people directly involved with the service, as well as research evidence and knowledge shared by practice, organizational and other experts. In finalizing its work, the Royal Commission into Family Violence in Victoria made 227 recommendations to the sector on how to better respond to domestic violence, whereas the Royal Commission into Institutional Responses to Child Sexual Abuse presented 189 recommendations for how to enhance the safety of children in Australian institutional settings. Across these recommendations, considerable emphasis was put on the need to increase the use of effective interventions in practice and policy and to enhance the knowledge and competence of those operating at the frontline of services to integrate evidence into their daily routines. This illustrates that the implementation problem remains a pertinent challenge – not only for the field of science as highlighted in the introduction to this thesis but also for the child and family services sector, where solving this problem can help to improve real lives.

However, this thesis shows that solutions to this problem cannot be underestimated; key findings centered around three central points:

1. The uptake and implementation of research-supported interventions in the form of international, manualized programs is complex and requires considerable resources.

2. Given this complexity, implementation frameworks, viewed as ready-made implementation tools, are insufficient to guide and support implementation stakeholders in their efforts to embed evidence in routine settings. Competent implementation practice in child and family services will depend on building comprehensive implementation capacities, i.e. stakeholders' capability to systematically plan, execute, evaluate and sustain implementation processes.
3. In building these capacities, Implementation Support Practitioners (ISPs) represent a plausible, yet relatively unexamined strategy.

Each of these points has different implications for research, policy and practice.

8.1.1 Research-Supported Interventions vs. Evidence-Based Practice

Implications for Policy and Practice

Internationally, the child and family services sector has maintained a steady appetite for trialing foreign RSIs, such as the ones presented in this thesis.

A recent report examining the use of effective prevention and early intervention programs for children and young people aged 0-22 in Europe (Axford et al., 2016) concluded that of 92 eligible programs, 32 (35%) had been imported from countries outside of Europe, with the majority (N=25) originating in the United States. To be eligible, positive outcomes for a program had to be documented through at least one randomized controlled trial or a quasi-experimental study that had been conducted in European service settings. In late 2019, a group of nine central non-government service providers operating in Victoria, Australia commissioned a report to document the cost benefits of five RSIs, SafeCare®, Functional Family Therapy-Child Welfare®,

Standard Multisystemic Therapy®, Multisystemic Therapy-Child Abuse and Neglect® and Treatment Foster Care Oregon-Adolescents®, to make the case for their continuous use and dissemination in the state (SVA Consulting, 2019).

Simultaneously, the development of new program repositories aimed at easing the selection of RSIs for decision-makers in policy and practice continues. Three recent examples are *EPIC - The European Platform for Investing in Children* (Janta et al., 2019), the US-based *Title IV-E Prevention Services Clearinghouse* (Weaver & DeRosier, 2019; Wilson et al., 2019), and *The Menu*, a repository of RSIs initiated by the State Government in Victoria, Australia (Centre for Evidence and Implementation, 2019). Despite the known challenges involved in sourcing, assessing, synthesizing and translating intervention research evidence, such as developing quality criteria acceptable and legitimate to diverse sets of standards held by different stakeholders (Walker et al., 2017; Zack et al., 2019), government bodies regularly return to investing in novel platforms in the hope that these can help to promote the implementation of new policy initiatives.

The probably most well-established repositories developed to support the child and family services sector remain the *California Evidence-Based Clearinghouse – CEBC* (Martin et al., 2015) and the *Blueprints for Healthy Youth Development* (Mihalic & Elliott, 2015). On these platforms, RSIs are ranked according to a systematic summary of current best evidence on their *clinical effectiveness*. The Blueprints repository has evolved since 1996 (Mihalic & Elliott, 2015) and currently contains 92 programs. Seventeen of these have been assigned the highest-ranking labels “model” and “model+”, signaling that the evidence base supporting their effectiveness has been assessed as particularly solid. The development of the CEBC began in 2004, and by

2015, 340 programs were registered in this repository. By early 2020, 33 programs had been classified as “well-supported by research evidence”, the highest-ranking label that can be assigned to a CEBC program. Across both repositories, the RSIs investigated in this thesis belong to these groups of highly ranked – and thereby highly recommended – programs. As such, these repositories represent a translation of substantial bodies of knowledge and experience, and probably therefore have been described as the “go-to searchable database[s] for child welfare professionals” (Weaver and DeRosier, 2019) (p. 1181) and have been used as tools to teach evidence-based practice to students of social work (Ogbonnaya et al., 2018).

However, the clear labeling of programs and their structured presentation characterizing these repositories may also signal a level of comprehensibility to users that lets both the adoption and implementation of RSIs and the establishment of evidence-based practice appear to be a somewhat simple and straightforward process. Furthermore, in presenting repositories as trustworthy, reputable sources of knowledge and developing them into key reference points for funding decisions, government and funding bodies may contribute to their uncritical use among sector stakeholders (Horne, 2017). This may explain why not only Australia but also a number of Western European countries have viewed RSIs as a possible short cut to system change, to the development of evidence-based practice cultures, and to enhanced outcomes for specific target populations (Forgatch et al., 2013; Schoenwald, 2010). However, as the evidence presented in this thesis has shown, transporting foreign RSIs to contexts for which they were not originally developed creates considerable challenges. Unfortunately, this rarely shows in repositories.

While some platforms aim to provide insights into program implementation, for example, by describing program training, implementation approach and technical assistance options, or by offering more generic implementation resources such as an “implementation guide” (Janta, 2018; Walsh et al., 2015), this is not a common standard for repositories. A recent study showed that out of 55 presentations of youth development programs that had been assigned to the top evidence category across seven different repositories, 51% included no information on costs, and 98% no description of the staff or agency supposed to implement a program (Horne, 2017). Similarly, only about half of the reports did present information about the external environment (49%) that should surround a program or did explain how program quality could be ensured (52%). This means that program presentations often lack descriptions of *conditions* under which RSIs have shown to be effective – elements crucial to “context-sensitive program replication decisions” (Horne, 2017, p. 418).

Hence, decision-makers considering whether to adopt specific foreign RSIs, to set aside funding for their wider dissemination, or to develop policies favoring their use need to understand that RSIs are *complex interventions*. They consist of multiple program components, work through multiple pathways and require the use of multifaceted strategies for their adoption and implementation (Guisse et al., 2017). This complexity may be further enhanced when transporting them to new contexts, and only part of it may be transparent in repositories or other resources utilized when sourcing interventions for prioritized target populations. Decision-makers can therefore not rely on repositories, and the evidence they present, alone. Additional knowledge about the implementation conditions necessary to create for RSIs, currently rarely included in repositories, will need to be sourced. This can include further studies, for example,

qualitative studies examining the implementation of an RSI through the lens of its providers or recipients, or through other agencies' and systems' first-hand experience with implementing the RSI in new contexts, be it positive or negative.

This assigns great importance to the planning and preparation of an implementation practice or policy initiative, centered around a needs assessment and finalized with an adoption and/or funding decision, great importance. Since little has been published on the use of needs assessments as an implementation strategy, few suggestions are available for how to approach such an assessment. These include taking into account program indicators – for example, the existing evidence for an RSI, its apparent usability and the availability of supports to implement it – as well as site indicators (Metz and Louison, 2019; Runge et al., 2017). These site indicators are, for example, the objective need for the program, the organizational or system capacities required to enable its implementation and its fit with other initiatives, projects and programs.

Furthermore, *capacities* in this context represent a broad concept that includes “hard factors” such as the quantity of financial and human resources available to an implementation as well as “soft factors”, i.e. the climate and culture surrounding an implementation effort, displayed in e.g. staff attitudes or the type of leadership provided. For example, the openness of caseworkers to RSIs may affect their willingness to refer clients to this RSI (Myers et al., 2020) or to participate in implementation support activities (Leathers et al., 2016). Similarly, transformational styles of leadership have shown to enhance child welfare agencies' implementation climate (Aarons and Sommerfeld, 2012; Williams et al., 2020), thereby conveying clear expectations for the use of RSIs to staff. These expectations showed to change the behavior of frontline practitioners toward greater use of RSIs.

Increasingly, pragmatic measures, “feasible to use in most real-world settings to assess progress” (Glasgow & Riley, 2013), are made available to organizations operating in the field of child and family services. They include e.g. the Evidence-Based Practice Attitude Scale, EBPAS (Aarons, 2004; Rye et al., 2019) or the Implementation Leadership Scale, ILS (Aarons, Ehrhart & Farahnak, 2014; Finn et al., 2016; Torres et al., 2018), applicable at any stage of an implementation process to evaluate the quality of soft implementation factors present in a given context. While such a process requires setting aside time and other resources already before an implementation decision has been made, such an investment can increase the likelihood of avoiding implementation failure in the long term.

Other decision-makers may pursue a broader mission with the implementation of RSIs and view them as levers for creating evidence-based practice cultures in agencies, organizations or entire systems. Viewed from their perspective, the key principles of the RSIs presented in this thesis, for example, that program components are clearly defined, training models outlined, quality assurance processes described, represent qualities that should characterize all interventions and services provided to children, families and communities. In initiating the implementation of a single or multiple RSIs, they therefore hope for a potential positive spillover effect (Sun et al., 2013), where those involved in RSI implementation help to disseminate these qualities among colleagues and networks, ultimately leading to their integration in a broader range of services, and preferably entire systems.

However, it is important to keep in mind that evidence-based practice was developed as a holistic approach to decision-making for the benefit of those in need of support (Shlonsky & Benbenishty, 2014; Shlonsky & Gibbs, 2004). At a general level,

this process involves integrating research evidence with information about client characteristics and preferences and with professional practitioner expertise. In particular, it necessitates critical thinking among those making decisions, i.e. an ability to, for example, ask relevant questions, examine evidence, detect potential blind spots and biases and to not be tempted by oversimplification (Shlonsky & Ballan, 2011). As such, evidence-based practice represents an opportunity to withstand false truths, unquestioned beliefs (Gambrill, 1999) or “inflated claims of knowledge” (Gambrill, 2010, p. 302) that may dominate a field. In other words: Evidence-based practice is *not* the utilization of particular techniques or research-supported interventions (McNeece and Thyer, 2004; Thyer and Pignotti, 2011).

Furthermore, over the past two decades, the science of implementation has shown that passively diffusing the principles of evidenced interventions in an organization or system by relying on early adopters and networks of communication (Rogers, 2003) is insufficient to create change that affects cultures and climate. As for RSIs, an encompassing move toward evidence-based practice in child and family services will depend on the active use of targeted implementation strategies aimed at creating environments that enhance staff’s capability, opportunity and motivation to integrate evidence with professional expertise and client preferences as part of their work. While implementing RSIs in isolation may help to create small pockets of evidence-based practice in an organization, these would remain unsustainable if not embedded within broader supportive and tenable cultures because their isolation would make them vulnerable to routine uncertainties affecting any human service sector, such as budget cuts, staff turnover or changes in policy agendas.

Moreover, with RSIs only addressing particular target populations, there is no doubt that frontline staff depend on the broadest possible range of evidenced interventions when delivering client services. In solving the complex and often “wicked” (Devaney & Spratt, 2009) problems that characterize the life of children and families in need of support, sector professionals will undoubtedly depend on tailored, locally developed approaches. The previously mentioned report examining the use of effective prevention and early intervention programs for children and young people aged 0-22 in Europe (Axford et al., 2016) documented that of 92 eligible programs, 65% (N=60) were home-grown, i.e. developed in the country using it and often not disseminated to other contexts. This reflects that home-grown interventions have been and will remain a substantial part of the entirety of interventions offered to children, families and communities, both in Europe and in Australia. Moreover, they will often be backed by less evidence than contained in the single randomized controlled trial or quasi-experimental study that was the threshold for program inclusion in the above report.

On February 26, 2020, a search of the CEBC platform (summarized in Table 8.1) showed that 264 programs were assessed as “not able to be rated”. For these, the evidence base could either not be established at the time when rating occurred, or no published peer-reviewed study using a controlled design existed that could establish the program’s effectiveness in comparison with outcomes achieved in control conditions. A total of 147 programs were characterized as being supported by “promising research evidence”, derived from at least one study using “some form of control” (without the study being an RCT or a QED) and establishing the program’s benefit.

Table 8.1: Distribution of CEBC Programs Across Ratings*

CEBC Rating	NR = not able to be rated	5 = concerning practice	4 = evidence fails to demonstrate effect	3 = promising research evidence	2 = supported by research evidence	1 = well-supported by research evidence	Total
N programs	264	0	2	147	52	33	498

* search conducted on February 26, 2020

Taken together, these two rating categories represent 82% (N=411) of all programs included in the CEBC. It reflects that only cursory evidence exists for a considerable portion of interventions provided in the child and family services sector. This emphasizes the importance of “evidencing” usual practice and strengthening the quality of mainstream services (Devaney & Lazenblatt, 2016; Katz & Pinkerton, 2003; McBeath et al., 2009; Shlonsky & Benbenishty, 2014; Zuchowski et al., 2019).

However, studies continually document that while social work professionals may display positive attitudes toward evidence-based practice (Ekeland et al., 2018; Goel et al., 2018; Gray et al., 2014), considerable gaps remain in individuals’ and agencies’ understanding of how to apply these principles in daily work routines (Goel et al., 2018; Grady et al., 2017). A lack of education, resources and supportive organizational cultures are among the persistent key barriers to establishing evidence-based practice cultures (Grady et al., 2017). It is therefore not surprising that practitioners working in child and family services, who only experience efforts to build this culture through attempts to implement complex foreign RSIs, may think of it as a mandatory and institutionally facilitated demand (Ekeland et al., 2018; van der Zwet et al., 2019) rather than the decision-making process aimed at enhancing the quality of human services that it was intended to be (Shlonsky & Gibbs, 2004). Next to initiating the use of foreign

RSIs, there is therefore a need for decision-makers to amplify investments that can help to develop local mainstream services and to foster local evidence-based practice.

For government and other funders, this implies

- further enhancing the use of research evidence in developing child and family policies to ensure that these reflect a maximum of best current evidence already existing in the field. Evidence-based policymaking is a separate field of inquiry outside of the scope of this thesis but nevertheless a crucial outer context factor that influences a sector's ability to establish evidence-based practice through, for example, legislation, policy initiatives or funding structures. A recent Australian study examining the use of evidence in 131 health policy documents described this use as only moderate and highly varying between different agencies (Williamson et al., 2019). In assuming that the situation in child and family services is not unlike that in health, better opportunities for policymakers to engage with and use research in their work are therefore needed in this sector. Thus far, regular direct interactions between policymakers and researchers, facilitated through workshops, forums, or projects and based on, for example, goal-focused mentoring, regular educational activities, or systems support, have been among the more promising strategies for developing collaboration across the research/policy divide (Haynes et al., 2018; Jakobsen et al., 2019; Redman et al., 2015; Williamson et al., 2019). These could be utilized to intensify an ongoing exchange around questions related to evidence-based child and family services involving representatives from government bodies, key sector organizations and research institutions.
- critically reviewing existing criteria and structures for funding the design, trial and evaluation of interventions and services. In order to facilitate wider evidence-based practice in the child and family services sector, it will be important to not only invest in RSIs but also in the broader capacities of human service organizations that are a

necessity in using evidence in practice, for example, the leadership capacity, evaluation capacity or the capacity for organizational learning (Despard, 2016). Funding sources dedicated to build these capacities with the goal to promote evidence-based practice, through leadership programs, and organizational as well as staff development, are needed to normalize evidence use in frontline service agencies. Furthermore, investments in building the evidence base for services as usual and in improving these services as required will be essential. This necessitates making stable funding accessible for researchers and/or service organizations to examine and evaluate mainstream practices such as approaches to case work, risk assessments, family engagement, parenting support and many more.

Educational institutions on the other hand can contribute to an evidence-based child and family services sector by further embedding the principles of this practice, and the ways in which it can be operationalized in real-world service settings, within course work, curricula, field education and other work force development activities. This work may involve introducing particular RSIs to students across disciplines (Bertram et al., 2018; Bertram, Charnin et al., 2014). However, it should especially build the critical thinking skills and attitudes that, as universal capacities, are needed to source, select and apply evidence in practice and which can increase the capability and motivation of child and family services staff to utilize evidence in their work (Shlonsky & Stern, 2007; Tilbury et al., 2010).

A further aspect of this capacity building should be sector staff's own capability to conduct research as part of their work. If funding mechanisms are increasingly linked to the documented effectiveness of interventions and practices, then human service organizations depend on staff with abilities to develop research questions, and to

collect, understand and utilize data within the context of their own practice. With studies reporting that workers are interested in conducting research activities but lack both knowledge, exposure and experience in this area (Goel et al., 2018; D. Harvey et al., 2013), there is a need to consider how these capacities can be built more systematically. Both university/agency partnerships (Trocmé et al., 2016) and applied research curricula (Romano et al., 2020) are among the strategies that educational institutions have taken to meet this need in the child and family services sector.

Finally, the more widely development of evidence-based child and family services also depends on the organizational leaders responsible for how provider organizations operate. They have the formal authority and power to facilitate both the decisions and actions necessary to move their agencies toward greater use of evidence. Rather than “just buying” single RSIs into their operations, the development of an evidence-based practice culture will require them and their staff to critically assess

- the entire range of needs that are present in the target populations they serve;
- the degree to which these needs are met, or not, through already existing interventions and services;
- the evidence base for existing services and for further interventions needed;
- the available, and missing, resources and structures needed to take up new, and to improve and/or de-implement existing services; and
- the organizational or system change process through which such a turn can be achieved.

In the literature, few examples exist that describe such all-embracing change processes in detail. However, one example, an organizational change process initiated by Kinark Child and Family Services in Toronto, Canada to enhance the use of evidence

in the organization, illustrates that true transformation needs to be thoughtful and intentional and requires time (J. Brown et al., 2011; Fearing et al., 2013; Kimber et al., 2011, 2012).

Kinark, today described as a service agency with 800 employees serving 9,900 children per year⁴⁰, developed an extensive net of committees and workgroups to ensure that staff at all hierarchical levels of the organization were engaged in and knowledgeable of the process, and that interventions chosen were deemed clinically appropriate and acceptable (Fearing et al., 2013). This led to the identification of eight interventions, some of which were pre-packaged RSIs such as Triple P® and MST® while others were more generally applicable practices such as Applied Behavioral Analysis. Over a four-year period, this led to 77% of staff being able to define evidence-based practice compared to 57% in year one, and 58% understanding the purpose of the change process compared to 36% in year one (Kimber et al., 2012). In the final year of the transformation process, 78% of staff declared using one of the identified interventions – compared to 82% in year one. Among the most salient characteristics of the entire process were staffing and workload issues that put the absorptive capacity of Kinark under high pressure and the need to share leadership across multiple roles (Fearing et al., 2013). No information was available on the de-implementation processes that may have burdened the process further.

Leaders intending to pursue similar paths of organizational change for evidence-based practice should therefore prepare for a highly demanding process that depends on

40 <https://www.kinark.on.ca/about-us/>

the active engagement of all staff, broad distribution of leadership across all levels of an organization and a certain degree of resilience and patience from everyone involved.

Implications for Research

Next to the RSIs focused on in this thesis (standard versions or adaptations of Multisystemic Therapy®, Functional Family Therapy® and SafeCare®), other internationally disseminated programs originating in the US are, for example, Parent Management Training (Dishion et al., 2016) and Treatment Foster Care (Chamberlain, 2003), both of which were designed by the Oregon Social Learning Center, The Incredible Years (Webster-Stratton & Reid, 2010) or Nurse-Family Partnership (Olds, 2006). The international experience with adopting these RSIs has been documented in a range of studies conducted in e.g. New Zealand (Curtis et al., 2009), the UK (Fonagy et al., 2018; Robling et al., 2016), Ireland (Hartnett et al., 2016), the Netherlands (Eeren et al., 2018; Mejdoubi et al., 2015; Vermeulen et al., 2016), Switzerland (Rhiner et al., 2011) and multiple Scandinavian countries (Askeland et al., 2019; Löfholm et al., 2009; Ogden and Hagen, 2006; Sigmarisdóttir et al., 2018; Vardanian et al., 2019). In these replication studies, the focus has primarily been on assessing the *clinical effectiveness* of RSIs under new conditions and circumstances. When findings were positive, they were typically used to signal that an RSI had shown to be “transportable”, i.e. could be moved from their country of origin and be successfully implemented with fidelity in a new setting, thereby generating client outcomes comparable to those achieved in the contexts for which the interventions were originally developed (Gardner et al., 2015).

However, these studies seldom provide a broader understanding of the multiple implementation factors relevant to consider when planning for the “importation”

(Schnurr and Slettebø, 2015) of foreign RSIs. This type of understanding is better created through rigorous longitudinal *implementation* studies that both explore implementation experience and test the effectiveness of different implementation strategies.

Exploring implementation experience implies following and observing key stakeholders in their implementation efforts and documenting and analyzing this experience at multiple time points throughout the implementation process. Given the considerable interest in US-based manualized programs shown across multiple countries' child and family service systems in the past two decades, it is surprising that only very few publications share firsthand implementation experience viewed from the perspective of providers and other stakeholders. Three of these, all reflecting on the use of standard Multisystemic Therapy in UK community service settings, mirror challenges comparable to those experienced in Australia. These include sufficiently embedding MST within services as usual that often follow principles detrimental to those of MST (Ashmore and Fox, 2011), adjusting staff's working conditions and meeting, for example, a 24/7 on-call requirement (Jefford, 2013), and supporting staff in balancing work demands with personal needs and in coping with emotional exhaustion (Markham, 2016).

A subgroup to these studies of implementation experience focuses on RSI *adaptation*. Adaptation is the planned and proactive modification of a program aimed at enhancing its fit with the context in which it is delivered (Miller et al., 2020) while simultaneously ensuring integrity to its key components (von Thiele Schwarz et al., 2019). This context may include e.g. specific needs of local target populations, service structures, regulations or resources that necessitate adjusting the content of an RSI

and/or its training, delivery or implementation model. As such, adaptation research can help decision-makers to more fully understand both the opportunities and the limitations that RSIs provide when integrating them in contexts for which they were not originally developed. While multiple frameworks exist to guide such adaptation and its reporting (Aarons, Green et al., 2012; Escoffery et al., 2019; Miller et al., 2020; Stirman et al., 2019), these approaches have rarely been used to examine the transport of foreign RSIs within child and family services. Instead, the few adaptation publications that exist in this area either provide descriptive accounts of the approach to adjusting an RSI, e.g. FFT to Dutch culture (Breuk et al., 2006), or they build on small scale studies of e.g. procedural and content adaptations made to SafeCare® in Israel (Oppenheim-Weller and Zeira, 2018), limiting the generalizability of their findings.

Testing the effectiveness of implementation strategies to support the implementation of foreign RSIs in other countries would imply systematically designing, monitoring and measuring implementation activities while also assessing RSI effects (Curran et al., 2012). None of the above international RSI replication studies does this, apart from measuring fidelity scores as an indicator of whether programs were delivered as intended, and no new studies of RSI transportation appear to be in preparation to fill this gap.

When taking into account that by February 2020, US program developer websites reporting on the level of international dissemination of RSIs showed that outside the US, Multisystemic Therapy® was used in 14 other countries, FFT® in nine, SafeCare® in eight and Treatment Foster Care-Oregon® in seven, this substantial dearth of international transportability and adaptation research is surprising. It aligns with findings from a recent systematic review examining implementation studies of four

RSIs focused on parenting, and the way in which cultural adaptation was approached and evaluated (Baumann et al., 2015). All four programs were given the highest possible rating “well supported by research evidence” on the CEBC platform. Three originated in the US (Parent-Child Interaction Therapy, The Incredible Years, and Parent Management Training-Oregon) and one in Australia, the Positive Parenting Program (Triple P). Across these RSIs, only eight eligible studies could be identified, leading the authors to conclude that “there is much work to be done to move parent-training intervention research toward a more rigorous examination of cultural adaptation and implementation practices.” (Baumann et al., 2015, p. 113).

This scarcity may be partly explained by the fact that implementation science, and an interest in implementation research questions in child and family services, had only just emerged when the first international RSI replications were evaluated. Another contributing factor may have been that expanding transportability research to other aspects than just RSI’s clinical effectiveness would inevitably have raised research questions pertaining to RSIs’ outer setting. As this thesis has shown, this setting, including a broad range of socio-economic and policy factors, has, in general, been underexposed in the field of implementation science.

Taken together, this calls for greater investment in and production of theoretical as well as empirical studies that can help to respond to questions such as

- What are the key elements of an effective RSI transport when moving it from its country of origin to a different country?
- What are effective approaches to gradually increase the RSI-specific capacity, i.e. the knowledge, skills and attitudes, of international providers adopting foreign RSIs?

- What are the typical content and process elements of RSIs that require adaptation as part of their transport to new countries?
- What are effective ways to enable process adaptations of RSIs that depend on outer setting factors such as funding structures, workforce regulations or social norms and values?
- What characterizes international service systems that have succeeded in sustaining foreign RSIs in the long term?

Simultaneously, there is a persistent need to expand the research on common elements in child and family services. They represent an alternative to RSIs with the potential to enable local practice design that is based on components shown to be effective in generating specific types of outcomes. While this school of thought has existed since the early 2000s (Chorpita et al., 2005a, 2005b, 2007), the research focus in the past decade has primarily been on identifying effective elements (Barth and Liggett-Creel, 2014; Boustani et al., 2014; Engell et al., 2020; Garland et al., 2008; Visscher et al., 2019) whereas rigorous studies testing their effectiveness within child and family services are rare still (Chorpita et al., 2013; Hagen et al., 2019; Lucassen et al., 2015; Weisz et al., 2012, 2019), with the role of implementation strategies typically not assessed. In substantially strengthening research activity in this field, including studies of approaches to designing common elements interventions, training practitioners in their application and supporting their implementation, scientists and their funders can increase the range of interventions available to the sector to meet the needs of children, families and communities.

8.1.2 Implementation Frameworks vs. Implementation Literacy

Implications for Policy and Practice

Next to the appetite for RSIs, the appetite for using implementation frameworks in child and family services appears to be equally unbroken. In screening recent implementation guides, developed to support the practices and policies of child and family service professionals in different Western high-income countries, it shows that frameworks are a popular starting point for structuring these tools and for helping the sector become familiar with the thinking emerging from implementation science. For example, the implementation guide made available to the users of the CEBC platform (Walsh et al., 2015) centers around the Exploration-Preparation-Implementation-Sustainment framework (Aarons, Hurlburt & Horwitz, 2010). Seven different implementation frameworks have been included in an online guide to implementation developed by the Irish “Centre for Effective Services” (Centre for Effective Services, 2019), an intermediary organization operating across health and social welfare. The Australian Institute of Family Studies recommends the Consolidated Framework for Implementation Research (Damschroder et al., 2009) as a tool to identify implementation barriers and enablers in family services (Hateley-Browne et al., 2019).

However, with the findings from this thesis in mind, it is important for decision-makers in policy and practice to understand that implementation frameworks are (a) simplified maps of a complex reality, and (b) one of *many* concepts and tools to be considered when aiming for practices, policies, organizations or systems to become “implementation-informed”. Working in implementation-informed ways means to systematically integrate implementation research findings into the routine practices and procedures of agencies, organizations and systems with the purpose to enable evidence-

based practice and policy. With this being a highly complex endeavor occurring in often varied, multifarious and at times unknown territory, implementation frameworks, to stick with the map analogy, may help their users to talk about this territory and identify some of its key features. However, in deciding where to go, how to get there, how to avoid getting lost, and when to leave, other concepts will need to be applied. This may include, for example, implementation outcomes (Proctor et al., 2010), helping to define goals for an implementation initiative; implementation determinants (Krause et al., 2014), supporting the identification of potential barriers to an implementation; implementation strategies (Powell, Waltz et al., 2015), defining how to attempt achieving these goals; implementation measures (Lewis, Fischer et al., 2015; Lewis, Stanick et al., 2015; Lewis, Mettert et al., 2018), assisting in tracking implementation outcomes over time; or implementation research designs (Curran et al., 2012; Dopp et al., 2019; National Cancer Institute, 2019), used to evaluate different implementation efforts.

This means that rather than relying on a limited selection of implementation tools, key actors operating in the child and family services sector require a both broader and deeper “implementation literacy”. They need to understand the principles of high-quality implementation practice, and be able to interpret, apply and communicate this knowledge in their work, which may be of clinical, organizational or policy nature. The sector is far from having obtained this type of literacy, which, ironically points to an implementation problem in the world of implementation science and practice (Westerlund et al., 2019). If conceptualizing the translation of implementation research into practice as a three-step process in which child and family service professionals first have to become *aware* of new knowledge, then *accept* and finally *adopt* it (Green &

Seifert, 2005), the sector may, at best, be navigating between an awareness and an acceptance phase. While artifacts such as the previously mentioned implementation guides signal an awareness and beginning interest in implementation science in the sector, it can be discussed to what degree this also reflects an acceptance of implementation knowledge. In light of the superficial framework use identified through the scoping review included in this thesis, it appears that implementation knowledge may still be predominantly used in declarative rather than fully procedural ways. Declarative implies that the reference to an implementation framework remains symbolic, not leading to deeper changes in the behavior of individuals, organizations or systems, which therefore continue to view implementation from a “just do it” perspective (Green & Seifert, 2005). A key step toward the acceptance of an implementation-informed culture would therefore be for decision-makers to recognize that implementation is *real* work that requires their separate and distinct attention.

For policy developers, this would imply integrating an implementation-informed thinking when engaging stakeholders, conducting analytical work, developing policy initiatives or funding the implementation and evaluation of programs and projects. Based on the development of specific government “implementation units” that occurred in the UK in 2001, in Australia at the federal level in 2003 and in Queensland in 2004 (Lindquist, 2007), one could argue that this has already happened. However, these units have in no way kept a particular focus on the uptake of *evidence* in policy development and implementation. Furthermore, it has been clearly stated that “the political dimension will always affect what the unit can do and how it can do it” (Hamburger, 2007, p. 219), emphasizing that these units prioritize government agendas over other priorities. This may explain why scholars also have described them as “adhocracies” (Lindquist, 2006,

p. 311) primarily concentrating on “top-level tracking and checklist exercise[s] reporting against pre-set milestones” (Wanna, 2006, p. 366). Another government initiative, the establishment of “nudging units”, could also be used as an indicator of policymakers’ interest in implementation. Drawing on insights from behavioral science, these units have worked to develop and test initiatives that aim to influence individual choices, for example, those of clinicians prescribing antibiotics (Meeker et al., 2014), or those of workers making food choices in worksite cafeterias (Velema et al., 2018). The aim of these nudging interventions is to guide individuals toward “the more economically beneficial options” (Halpern and Sanders, 2016, p. 53). In the US, the utilization of nudging strategies in government has been most prominent during the Obama administration between 2009 and 2012. In the UK it has been mirrored in the development of the Behavioral Insights Team in 2010 (Halpern and Sanders, 2016), where it first operated directly out of 10 Downing Street and since has evolved into an international organization collaborating with government bodies in Canada, the US, Australia, New Zealand, and Singapore. However, within the wider context of implementation science, nudging represents a single, highly particular implementation strategy, and cannot be viewed as representative of a wider shift toward policy development that is both evidence- and implementation-informed.

Creating this shift would require action to e.g.

- Recognize the central role of implementation as part of evidence-informed policy reform, program and project development, for example, by defining timelines that allow implementers to sufficiently prepare for new initiatives, by providing supports explicitly dedicated to implementation efforts, or by writing distinct implementation goals into reform, program or project plans.

- Channel greater amounts of funding toward the entire range of implementation activities, for example, by dedicating funding to exploration or preparation activities rather than focusing solely on implementation and evaluation, or by financing innovative approaches to the implementation of evidence in child and family services.
- Promote the evaluation of implementation processes, for example, by requesting integration of implementation outcomes and measures in evaluations of evidenced programs, policies or practices, or by commissioning rigorous studies assessing the effectiveness of different implementation strategies.
- Promote the institutionalization of implementation, for example, by establishing and/or funding intermediary organizations or units dedicated to the design, planning, delivery and evaluation of implementation interventions, or by building partnerships with peak bodies representing key sector interests to jointly set a sector-wide implementation agenda.

As was the case for evidence-based practice, organizational and system leadership will be central to the establishment of an implementation-informed work culture in provider agencies and other key organizations operating in the child and family services sector.

Since the 1980s, scholars have discussed the discretion and professional autonomy that workers at the frontline of welfare services use to implement public policies while simultaneously navigating, for example, ambiguous rules and regulations, scarce resources, high workloads and the needs and expectations of clients (Evans & Harris, 2004; Hupe and Hill, 2007). The exact level of this discretion, its positive or negative connotations and its impact on services has been intensely discussed in the literature, among others for the role of social workers (Evans, 2011; Evans & Harris, 2004;

Petersen et al., 2020). While this discussion is out of scope for this thesis, its main conclusion remains important also for child and family services. There is today a common acknowledgement of the role of caseworkers and other human services staff as potential “street-level bureaucrats” (Weatherley and Lipsky, 1977) who can form policies and initiatives developed in government administrations through their daily decision-making and thereby operate as implementation agents (Baviskar and Winter, 2016).

While RSIs have been presented as authoritative, government-driven, top-down approaches to establishing evidence-based practice (Mullen et al., 2008) and as efforts to standardize social work in ways that minimize this discretion (Ponnert and Svensson, 2015), research shows that even their implementation is characterized by considerable degrees of discretion required to enable their use within complex inner and outer settings (Lengnick-Hall et al., 2019; Sundell et al., 2015; Willging et al., 2017). The same is the case for evidence-based practice, which, in calling for integrating evidence with client preferences and professional expertise, builds on the skillful use of discretion.

Within this context, leaders have a central role in setting the stage for implementation efforts and in providing credible support and guidance in using discretion (Aarons, Green et al., 2016; Atkins and Frederico, 2017; Harrits, 2019). Formally appointed leaders have the authority to influence the climate in which an implementation takes place, i.e. staff perceptions of organizational policies, practices and procedures and of behaviors viewed as rewarded, supported and expected (Schneider et al., 2013). By using these policies, practices and procedures to continually signal and communicate to staff that implementation is an organizational priority, they

can create a strategic climate that is supportive of implementation-informed thinking, planning and doing (Powell et al., 2017; Williams et al., 2018). Concrete and daily implementation leadership behaviors, displayed in explicitly utilizing implementation knowledge in decision-making and pro-actively supporting implementation work, can further reinforce this climate (Aarons, Ehrhart & Farahnak, 2014; Finn et al., 2016). This type of dedicated implementation leadership would show in leaders e.g.

- Developing an overarching organizational vision that includes a focus on implementation and defining clear expectations for staff and organizational behavior based on this vision.
- Role-modeling the application of knowledge derived from implementation science by integrating this knowledge into the processes of organizational leadership involving top as well as middle and frontline leaders.
- Positively reinforcing implementation-informed work through communication, monetary incentives, promotions, enhanced competencies and similar stimuli.
- Continuously engaging in implementation focused issues when leadership is required, for example, when implementation barriers can only be removed by involving leadership, or when ongoing organizational implementation efforts have to be protected against external pressures emerging from shifting policy agendas or budget cuts.
- Proactively building organizational implementation capacity by systematically recruiting staff with implementation expertise, promoting staff professional development with a focus on implementation, or establishing internal implementation units dedicated to enhancing an organization's implementation literacy.
- Further increasing this capacity by expanding an organization's external network with other entities engaged in and knowledgeable about high-quality implementation practice

and utilizing these relationships to gradually improve and sustain their own implementation practice.

Implications for Research

Since the need to further refine implementation frameworks as research tools has already been discussed within the context of chapters four and five, the focus here will be on the paradoxical gap that appears to have evolved in implementation science between the continually growing knowledge in the field on the one hand and its limited use in practice on the other (Westerlund et al., 2019).

Paradoxical, because implementation science has been characterized as being “applied” by definition (Shelton et al., 2020). This made it reasonable to anticipate that a knowing-doing gap could be avoided for this discipline, that it would show to be the “game changer” that it promised to be and e.g. help to reduce disparities in the health and wellbeing of clients (Douglas et al., 2015). In this context, implementation frameworks represent just one of many implementation science concepts that are characterized by limited application in practice, despite efforts to explain and describe how they can be selected, applied and combined (Birken, Rohweder et al., 2018; Hanson et al., 2016; Moullin et al., 2020).

However, these suggestions, while highlighting that they are directed at practitioners, leaders or decision-makers, are typically published in scientific journals, indicating that other researchers remain “the primary target audience of implementation science knowledge” (Westerlund et al., 2019, p. 333). These publications therefore do not solve some of the key issues typically described as preventing a more comprehensive and continuous integration of science in practice and policy. For policy developers, these include limited access to and availability of relevant research (Oliver

et al., 2014), limited contact and relationships with researchers (Williamson et al., 2019), and organizational factors such as the infrastructure for and management of research use (Jakobsen et al., 2019). Similarly, within organizational practice, time constraints, research accessibility but also a lack of knowledge have been described as key barriers to research use (Barends et al., 2017; Scurlock-Evans and Upton, 2015).

This raises the valid question of how to make it possible for implementation frameworks and other knowledge existing within the implementation science system to reach audiences outside academia, particularly within child and family services.

Viewed from the perspective of Niklas Luhmann's theory of "autopoiesis", science, social welfare and policy are self-referential subsystems in society that fulfill specific functions. This means their ultimate goal is to reproduce themselves with what they consist of (Brans and Rossbach, 1997). These self-referential sub-systems are formed through communication, which depends on the use of binary codes. In science, a central code is "true/false", unfolding especially in scientific journals, with contributions following common standards for how claims can be substantiated. One of the key standards is to refer to other scientific publications, and not to non-scientific sources of knowledge. As such, binary codes function as filters for assessing whether information is relevant to be absorbed by a system, or not. Among the key codes of the social welfare system is "help/not help" (Kihlström, 2012) leading this system to pick up information only when it is relevant to maintaining its help-providing function, whereas the policymaking system uses "governance/opposition" as a central code implying that it only responds to external communicative pressures if these could influence the balance between government and opposition (Little, 1997). Thereby, codes not only inform which impulses a system responds to, but also system responsibilities and outer

boundaries differentiating it from other systems (Kihlström, 2012). Over time, this enables systems to absorb any uncertainties that threaten their key function, while also gradually and continually changing and developing.

This thinking suggests the desire to influence practice and policy with science to be futile – unless the primary communicative code driving each sub-system in some way can be “cracked” in some way. Autopoiesis indeed considers the idea of a one-to-one “knowledge transfer” from science, on the one hand, to practice or policy, on the other, to be questionable because the key logics driving each system are viewed as incompatible. This is mirrored in for example the way in which researchers define problems, ideally, informed by theory, and the way in which this is done in practice – informed by concrete problems (Seidl, 2009). However, according to autopoiesis scholars, science can become applied when it “contemplates and tries to increase its potential for causing perturbations” (Seidl, 2009, p. 22) in practice or policy. A fruitful perturbation is one in which the practice or policy subsystem deems information received from science as relevant to its continuous functioning and development and therefore decides to absorb it. The key to evidence use is therefore to create concepts that are likely to resonate in other sub-systems, because they are of relevance to their key codes and functions, and to enhance the contact with these systems, i.e. to increase the likelihood of information from one system being available to the other when the time is right. Nevertheless, whether and how concepts and other information then are integrated into practice or policy depends, according to autopoiesis, on the receiving sub-system’s inherent logic. Innovative information will be interpreted and used in ways that will remain beyond the control of the researcher.

This theory helps to explain why implementation science in its communication patterns remains so strongly closed around itself: It is simply a reflection of system self-sustainment. Furthermore, it elucidates why this science appears to be only hesitantly taken up in the practice of child and family services: It has been assessed as only tentatively relevant to system functioning and therefore not been absorbed in full. Finally, the fact that implementation frameworks appear to have a stronger presence in these services than other implementation science concepts signals that these have resonated with system stakeholders and therefore represented a constructive perturbation.

This calls for the field of implementation science to pursue the creation of such perturbations more systematically, both in relation to practice and to policy. Multiple pathways toward becoming a more applied discipline are available to make this possible.

Firstly, building the capacities of individual researchers has been discussed in the literature as a possible strategy to create greater contact with especially the policy subsystem. This may imply preparing researchers for actively influencing policy development by e.g. acquiring detailed knowledge of the policy system, as well as being accessible to and nurturing relationships with policy developers (Oliver and Cairney, 2019). Other suggestions include to improve the ways in which researchers prepare and present information, e.g. included in systematic reviews, for policy developers (Tricco, Cardoso et al., 2016); to increase the relevance of this information, e.g. by drawing on the broadest possible range of study methods and designs, thereby increasing the likelihood that also complex policy questions can be answered (Snilstveit, 2012); or to tailor institutional incentives to make policy engagement more worthwhile for

researchers (Taylor et al., 2019). Furthermore, frameworks exist that can guide scientists in their collaboration with policy by supporting e.g. the assessment of resources and needs present in a government organization or the measurement of results from such a collaboration (Redman et al., 2015).

Secondly, multiple partnership models have been developed to enable stronger collaboration between research, practice and/or policy. One model is the Community-Academic Partnership (CAP) established between science, funding and service organizations to jointly pursue shared research goals. Within social work, CAPs have been presented as enabling a type of multidisciplinary that can help to develop a social work science (Palinkas, He et al., 2017). Among the reported preconditions of successful CAPs are mutual trust and respect among partners, equitable control of the collaboration and a purpose that is of relevance to the service community (Drahota et al., 2016). Moreover, frameworks exist to inform their development and sustainment, focusing on, for example, mental health services (Lau et al., 2020) or community prevention contexts (Spoth et al., 2004). The few that have been tested as specific implementation strategies used to implement evidenced interventions (Crowley et al., 2011) indicate that partnerships may help to increase stakeholders' knowledge of RSIs, evidence-based practice and implementation. Within child and family services, large-scale and long-term partnerships between universities and policy organizations have been established to enhance the dissemination and implementation of a broad range of RSIs (Bumbarger & Campbell, 2012).

Thirdly, in recent years, intermediary organizations have increasingly claimed the space between science, on the one hand, and practice and policy, on the other. As “a critical and equal actor” (Isett & Hicks, 2019, p. 9), their purpose is to make research

evidence relevant to the functioning of policy and/or practice and thereby to facilitate perturbations that are required for these systems to gradually develop. The boundary spanning work of intermediaries (Albers & Mildon, 2017) involves e.g. sourcing, synthesizing, and translating scientific findings for policy or practice use; adapting and tailoring tools and measures for their integration in practice routines; supporting the development of the implementation infrastructure in service agencies; or facilitating the professional development of research users working in government and provider organizations (Bell & Head, 2017; Bullock & Lavis, 2019; Mettrick et al., 2017). These activities require intermediaries to be equally versed in research, practice and policy cultures, a breadth in expertise that can make it easier for them than for scientists to, for example, advocate for particular evidenced solutions, pragmatically meet support needs of practitioners or rapidly respond to policy queries. For research as well as for other systems, intermediary organizations therefore may represent a missing link that can be utilized to increase the likelihood of research evidence being absorbed in practice or policy.

However, for all three options it is important to note that their current evidence base within child and family services is rather fragile. Firstly, evidence often relates to the uptake of evidence on clinical or therapeutic rather than implementation interventions. For example, the effectiveness of a community-university partnership may have been examined in relation to implementing Parent-Child Interaction Therapy (Mersky et al., 2017), with findings on whether the uptake of implementation research evidence could be enhanced through this partnership only being superficially covered. Secondly, some of these pathways are relatively novel and may therefore not be rigorously examined. While studies exist on the use of intermediary organizations, they

tend to be descriptive (Cooper et al., 2012; Franks and Bory, 2015; Proctor et al., 2019) or case focused (Rushovich et al., 2015; Yazejian et al., 2019) and do not allow for conclusions about intermediary organizations causing the integration of implementation research evidence in child and family services or policies. Finally, the desire to develop implementation science concepts that resonate with practice or policy and to facilitate constructive perturbations may create dilemmas that are insufficiently discussed in the literature (Isett and Hicks, 2019). For example, how can the principles of accuracy or transparency be upheld in processes of knowledge translation for practice or policy use? Or, what trade-off exists between validity, on the one hand, and usability, on the other, and how can it be managed? In further conceptualizing and testing these strategies toward greater integration of implementation science in policy and practice, it will therefore be important for researchers to increasingly embed such tests in rigorous studies.

8.1.3 Implementation Support Practitioners

Implications for Policy and Practice

Of the 109 publications contributing to the development of the ISP program logic, only fourteen were linked to child and family services, with ten of these focusing on supporting the implementation of particular RSIs such as Triple P® (Hodge et al., 2017), SafeCare® (Hurlburt et al., 2014; Chaffin et al., 2016; Gunderson et al., 2018) or Treatment Foster Care-Oregon® (Murray et al., 2018; Brown et al., 2014, Palinkas, Saldana et al., 2017). The evidence base for utilizing ISPs in the sector is therefore scarce and particularly focused on manualized programs, whereas less is known about how to best support e.g. the uptake of more general practices such as evidenced

principles for quality case work or common elements of trauma-informed practice into the decision-making of organizational leaders and workers.

The suggestion to utilize ISPs in child and family services should therefore be treated with caution. The evidence-informed program logic describes, in plausible terms, how ISPs may make a difference in practice and help to compensate for the shortcomings of traditional training approaches. However, its use should be guided by thorough planning, implementation and, above all, evaluation.

For provider agencies operating in the sector, the ISP program logic can be a starting point for considering how to understand, establish and embed implementation support within their local context. With implementation support having been endorsed widely in the field in recent years (Berta et al., 2015; Cranley et al., 2017; Katz & Wandersman, 2016), there has been a tendency to present it as a somewhat simple and straightforward intervention to promote the uptake of evidence in practice, understating the complexity implied in establishing internal implementation support roles or collaborations with providers of external support. The program logic aims to capture this complexity and to signal that multiple factors have to be considered, including both the ISPs' own abilities and the way in which the support is set up, prioritized and maintained. The following four points appear to be of particular importance when considering how to develop implementation support roles.

Firstly, delineating the overarching *purpose* of building implementation support roles is an important first step in this process. One purpose may be to ensure that a team of practitioners learns the detailed use of a particular RSI, in which case time-limited external support may be sufficient. However, it may also be that the organization wants to grow the use of this RSI and build teams across multiple provider agencies across a

state. In this case, building internal implementation capacities from the beginning may be important, together with considering how to decrease the dependencies on external supports over time. Another broader purpose could be to change the culture of an organization and make a general turn toward greater use of evidence in its routines. For this scenario, an extensive development of internal implementation capacities may be essential, for example, in the form of novel, designated ISP roles and/or linked to roles that already exist in an organization. By identifying an ISP purpose in this way, it will be possible to then also define the relevant implementation outcomes that can serve organizations as indicators for monitoring whether the use of ISPs helps to achieve their intended goals.

Secondly, the integrated review outlined in chapter seven presented ISPs as individuals with considerable abilities, including both the clinical/therapeutic expertise of specialists, broader experience related to the sector they work in and knowledge about evidence-based practice in general. This poses challenges for their recruitment and/or development in child and family services, a sector, where teaching evidence-based practice and quality implementation is still not a common component of pre-service education (Cannata & Marlowe, 2016; Pollio, 2015), and a lack of skill has been described as a persistent barrier to the wider uptake of evidence among the child welfare workforce (Wharton & Bolland, 2012). This applies in particular to the Australian context where the workforce is fragmented across diverse qualifications and social work expertise is not the norm. In recruiting new or developing existing staff for ISP roles, provider agencies may therefore need to be both patient and creative in their choice of strategies. If direct recruitment of candidates with the right skill set is not an option, developing these skills through learning-on-the-job approaches can be necessary. For

example, by partnering with intermediary organizations and/or applied research institutions that have the staff and experience required for implementation-focused workforce development and can assist in e.g. designing apprenticeship approaches (Murray et al., 2011) and other learning-on-the-job models or in transforming human service agencies into learning organizations (Kerman et al., 2012; Maynard, 2010).

Thirdly, independent of whether ISPs operate as internal or external agents of change, it is crucial to understand this role as an “in between” position. As shown in chapter seven and discussed elsewhere (Kislov, Hodgson, & Boaden, 2016; Kislov et al., 2017), taking such a position implies facing tensions, because in promoting the uptake of evidence from implementation science, the ISP needs to navigate diverse stakeholder knowledge, beliefs, expectations and interests and steadily changing organizational priorities. As a consequence, ISPs may at times be at risk of compromising on standards of evidence-based practice and quality implementation due to mounting stakeholder pressure or demanding organizational complexities (Kislov et al., 2017). Furthermore, ISPs evaluating the performance of those they support will need to balance the need for maintaining trusting relationships with staff, on the one hand, and for regularly reporting to their leaders, on the other. It is therefore important to clearly define the scope of an ISP role and its authority to create an unquestionable area of competence for the ISP and clear expectations among the different stakeholders who are involved with this role.

Furthermore, even when such an area has been defined, support will be required to ensure that ISPs can fulfill their function. The program logic indicates that barriers to the successful integration of an ISP in a service agency or system can emerge from multiple domains, pointing to the need for considering whether an agency is ready for

utilizing implementation support before activating it. Organizational readiness, typically defined as a state of being able as well as willing to pursue a particular type of organizational change (McCrae et al., 2014), has been frequently discussed in the context of RSI adoption but rarely in relation to the use of implementation support. A recent qualitative study among providers and recipients of technical assistance offered within a child welfare setting (Rushovich et al., 2015) suggests that readiness for technical assistance was increased in the presence of a clear vision and precise goals for the implementation support, buy-in from and relationships with key stakeholders, and sufficient implementation support resources, in the form of time and money. This highlights that an assessment of an organization's readiness for such support may be valuable in that e.g. resistance among staff, a lack of resources or structural barriers potentially hampering its inherent benefits can be detected in time. Existing tools for measuring organizational readiness for change (Gagnon et al., 2014; Miake-Lye et al., 2020) can help organizations in considering what questions would be relevant to raise as part of such an assessment.

Fourthly, the program logic presents ISPs as a complex role that relies equally on different types of knowledge, skills and attitudes. Both the fact that all three elements of competency are viewed as contributing to ISPs being respected and effective and that their work builds on the parallel and often nested use of multiple implementation strategies speak to the level of *mastery* that this role demands. Commonly used in the field of education (Guskey and Anderman, 2013), mastery has been described as a level of aptitude that goes beyond competence and builds on an ability to access knowledge, skills and attitudes on demand, to flexibly tailor the use of these competency elements

to contextual conditions and to make possible that this process enables learning in others (Rosenberg, 2012).

With this definition in mind, ISPs are at risk of being perceived as “superhumans” who are impossible to recruit, especially in child welfare, a sector generally burdened by high turnover and an increasing shortage of skilled workers (Huffman, 2019). Furthermore, even if an organization is successful in identifying a single individual who is an experienced specialist and also has mastery level experience in implementation support, solely relying on this one person would only create vulnerable implementation capacity at risk of vanishing quickly in the face of turnover, budget cuts or other challenges that are routine incidents for agencies operating within child and family services.

Human service organizations should therefore consider whether implementation support may be better distributed across a team, whose members contribute with different types of expertise and experience. This thinking aligns with a central point made in the literature on facilitation, which emphasizes that facilitation represents both a role and a process (Dogherty, et al., 2010), indicating that facilitation does not necessitate the establishment of a single, formal facilitator role and can take place as long as its key functions are appropriately represented by different members of an organization. Within the context of child and family services, this means that implementation support activities such as identifying and preparing champions, consultation, or informing local opinion leaders could be performed by different members of an implementation team.

Studies included in the integrative review presented in chapter seven used exactly this approach to support the implementation of SafeCare® in California (Chaffin et al.,

2016; Hurlburt et al., 2014). In recruiting members from multiple community organizations, the Interagency Collaborative Team (ICT) was formed to ensure that the RSI was implemented with quality and could be maintained in the long term. Among its reported strengths were a greater resilience against a loss of knowledge in case of staff turnover, an ability to connect the implementation effort to a broader set of relevant stakeholders due to the team's multidisciplinary composition (Hurlburt et al., 2014), and the opportunity to establish this team across multiple agencies thereby allowing for costs and responsibilities to be shared. However, in using this approach, decision-makers will also need to be prepared for balancing the different organizational cultures, interests and priorities that exist among participating agencies and can complicate the use of the team approach if they are highly diametric and create tensions among stakeholders to an implementation effort (Aarons, Fettes, et al., 2014).

Finally, comparable to the process of implementing an RSI, the use of ISPs, independent of whether they operate as internal or external, individual or team-based agents of change, should be considered as a stage-based approach. The support required at the very beginning of an implementation, e.g. when an RSI has just been selected for implementation, will be focused on establishing a thorough understanding of its content and form among stakeholders. During the sustainment stage on the other hand, support may be much more centered around consolidating the existing implementation infrastructure, funding sources or stakeholder buy-in. Furthermore, human service organizations, over time, may become increasingly familiar with the principles of quality implementation, and succinctly build their own implementation capacities, thereby potentially reducing their dependence on external types of implementation support. This means that an agency's approach to building and utilizing implementation

support should remain flexible such that its form and content can be adapted while an implementation progresses, a process that preferably should be informed by data collected prior to and during the design and use of implementation support.

These considerations for using implementation support in child and family services have further implications for policy.

In order to make it possible for the sector, i.e. provider agencies, peak bodies, or local government, to build and utilize implementation support capacities, a greater supply of training and professional development targeting implementation practice, rather than science, has to be developed. This includes both traditional and innovative types of training that introduce social workers, psychologists, educators and other professionals involved in child and family services to the use of key implementation principles, frameworks and tools in their work. Study reports document that first initiatives to close this gap have been taken outside of the sector, e.g. in the form of the “Practicing Knowledge Translation” (PKT) course for Canadian healthcare professionals (Moore et al., 2018), the “Building Implementation Capacity” (BIC) intervention used with Swedish healthcare teams (Mosson et al., 2019), or the integration of implementation and improvement science within a public health training curriculum (Ramaswamy et al., 2019). None of these are particularly tailored to the practice context of professionals working in child and family services, for whom, to our knowledge, only the *Specialist Certificate in Implementation Science*⁴¹ offered through the University of Melbourne or a master’s degree in *Implementation Science*⁴² at Trinity College in Dublin would be suitable. However, even these do not have a clear child and

41 <https://study.unimelb.edu.au/find/courses/graduate/specialist-certificate-in-implementation-science/entry-requirements/>

42 <https://www.tcd.ie/courses/postgraduate/az/course.php?id=DPTMD-ISCI-1F09>

family service focus. Furthermore, multiple other approaches to building implementation capacity have been trialed with scientists in the field. This includes e.g. collaborative networks (Brownson et al., 2017), mentoring programs (Padek, Mir et al., 2018), and training institutes (Proctor, Landsverk et al., 2013), all of which represent ideas that could be considered for a transfer and testing with implementation practitioners and thereby help to develop further pathways to increasing the sector's implementation literacy. Sector funders, peak bodies and educational institutions focused on the child welfare workforce should therefore increase their development of policies, programs, courses and interventions that can help to build this literacy.

Additionally, the number of intermediary organizations that, in the role of incubators, could assist the sector in building implementation capacity, and thereby implementation support practitioners, remains limited. While these intermediaries have undergone growth in Western high-income countries (Bullock & Lavis, 2019; Proctor et al., 2019), only few come with both broad and deep specialist expertise in implementation science and practice. For example, the *What Works Centers* known from especially the UK, including the *What Works Centre for Children's Social Care*⁴³, “have undertaken less work on research uptake and implementation than on research production and engagement” (Gough et al., 2018, p. 8), explaining the limited availability of implementation capacity in these centers. The work of the US-based “Centers of Excellence”, on the other hand, has primarily focused on supporting the implementation of particular RSIs such as those included in the studies presented in chapter four and five (Bumbarger & Campbell, 2012; Cooper et al., 2012; Mettrick et al., 2017). This limits their expertise in building implementation capacity in agencies

⁴³ <https://whatworks-csc.org.uk/>

that use less programmatic interventions such as common elements, Motivational Interviewing or locally grown practices with an only emerging evidence base. In Australia this type of organization has not developed a strong presence in the child and family services sector. Among the few examples are the *Centre for Excellence in Child and Family Welfare*⁴⁴ and the *Centre for Evidence and Implementation*⁴⁵, leaving ample room to fund and build a broader range of intermediary organizations that can help to make implementation- and evidence-informed child and family services the new normal.

Implications for Research

Multiple research needs emerge from the ISP program logic for the field of implementation science.

At a general level, this represents a call for a stronger integration of knowledge existing across dispersed strands of ISP research. Currently, existing knowledge on facilitation would primarily be used within health sciences where this school of thought and some of its key proponents are anchored (Dogherty, et al., 2010; Harvey et al., 2002; Kitson et al., 1998; Rycroft-Malone et al., 2002), whereas studies of consultation would have a stronger presence in psychology and education (Edmunds et al., 2013; Kratochwill & Pittman, 2002; Nadeem, Gleacher, Pimentel et al., 2013). Similar boundaries have developed around other schools of thought on ISP roles. These are not set in stone and sharply defined. Rather, they exist as intellectual silos with little interdisciplinary exchange or cross-fertilization occurring between them. With the

⁴⁴ <https://www.cfecfw.asn.au/>

⁴⁵ <https://www.ceiglobal.org/>

literature on implementation support reflecting a high degree of similarity in different ISP roles, it will be pertinent to overcome these boundaries, consolidate and clarify the evidence base for implementation support and ease its translation for use in human service practice. This will require enhancing the interdisciplinarity of the field, i.e. to systematically build “interdisciplinary collaboration among stakeholders based in different institutions, ideologies, and methodological approaches” (Guerrero et al., 2017, p. 67).

While the universal character of the questions and issues examined in implementation science necessitates interdisciplinarity, it has only developed slowly (Luke et al., 2015, 2016). However, preliminary evidence gathered among scientists in the field highlights that the integration of knowledge from disparate sectors can be enabled through active leadership and role modeling, and a clear, appealing and engaging mission for the interdisciplinary efforts (Aarons et al., 2019; Guerrero et al., 2017). In the US, the Implementation Research Institute has provided such leadership (Baumann et al., 2020; Landsverk & Proctor, 2020; Proctor, Landsverk et al., 2013) by developing a training program for early career scholars, “diverse in discipline and area of expertise” (Baumann et al., 2020, p. 255) – who want to pursue a career in implementation science. Other efforts in the field to increase interdisciplinarity have been less institutionalized and built on facilitating scientific collaboration through time-limited retreats and “speed dating” (Ranwala et al., 2017) or funding mechanisms (Arevian et al., 2018). Further developing and applying these and other strategies can help to strengthen the interdisciplinary nature of implementation science, integrate its knowledge base across service sectors and connect the field more explicitly to relevant

other disciplines such as behavioral or political science, sociology, or organizational studies.

Secondly, developing the ISP program logic showed the still rather scarce and ambiguous evidence base that exists for different ISP roles, especially with regard to the role of implementation support in improving service and client outcomes. This confirms findings from other systematic reviews. For example, in the field of education, the authors of a review examining the coaching of teachers to improve their implementation of RSIs concluded that only limited knowledge exists for its effects on student outcomes (Kretlow and Bartholomew, 2010). A review of 22 studies of knowledge brokers working in healthcare settings resulted in inconclusive findings regarding their effectiveness in enhancing others' knowledge and skills or organizational practices or policies, among others due to a lack of methodological rigor of included studies (Bornbaum et al., 2015). A review of 25 studies on technical assistance on the other hand (Dunst et al., 2019b), used to improve the practice of professionals working with children and families in educational and social welfare settings, measured a mean difference effect size of .58 (95% CI [.45, .70]; $p=.0000$) across studies that used between condition comparisons of technical assistance with alternative strategies for professional development. This means that if randomly selecting among the individuals who received technical assistance or an alternative intervention, the probability of measuring improved practice among those in the technical assistance condition would be considerably higher. However, this review did not include any service or client outcomes from ISP efforts. Furthermore, a different review on technical assistance (Katz and Wandersman, 2016) identified methodological weaknesses in studies and

bemoaned the lack of theory and framework use to inform how technical assistance was planned, implemented and evaluated.

Next to a stronger integration of the different schools of thought on implementation support, the research in general in this area therefore requires further improvement. Such improvement can be accomplished through stronger study designs that

- utilize theory and frameworks to clearly conceptualize implementation support roles and the way in which these are assumed to make a difference in practice;
- are experimental and allow for rigorous testing of the implementation support role in comparison to either no or alternative interventions;
- increasingly measure a broader range of implementation as well as service and client outcomes; while there is a general need to measure all types of outcomes, cost studies appear to be of particular importance since these are strikingly absent from the current literature

Additionally, both the integrative review presented in chapter seven and the wider literature point to tensions and challenges inherent to implementation support, related to, for example, ISPs lacking formal authority (Kislov et al., 2016), a clearly defined position and career pathway within the hierarchy of an organization (Kislov et al., 2017) or well-defined responsibilities (Long et al., 2013), all of which can lead to overwhelm ISPs in their work in the long term. Thus far, these challenges have been examined only tentatively, which is surprising given the substantial investments made into implementation support work by e.g. government organizations and funding bodies (Proctor et al., 2019). Hence, a more detailed assessment of the light as well as the

“dark side” (Kislov et al., 2017) of implementation support based on systematic research is warranted.

This should also imply more thorough observation of ISPs’ use of particular implementation strategies. With studies presenting ISPs as primarily applying more immediately feasible strategies such as stakeholder training, education, and relationship building, evaluation, adaptation or tailoring, it is relevant to ask why financial strategies, or strategies aimed at changing infrastructure or engaging consumers are less present in the literature. One explanation might be that the strategies used were deemed to be most appropriate given the context in which support was provided. However, it can also reflect that they were “more immediate and concrete and [...] potentially more in the control of those tasked with supporting change” (Waltz et al., 2015, p. 6). This latter interpretation suggests that ISPs may have to neglect potentially effective support strategies if they are out of their control, for example, because their use would require the continuous engagement of senior management, or deeper structural changes in an organization. If this is a characteristic of implementation support work, then ISPs – rather than challenging the values, norms, or power structures of the systems in which they work – may be at risk of just “conforming to existing ways of doing things” (Kislov et al., 2016, p. 472). A deeper examination of ISPs’ strategy use can therefore help to better understand their potential as true agents of change.

The building of relationships and trust as social capital is another aspect of ISP work that requires deeper examination. While the integrative review included in this thesis and the wider literature (Long et al., 2013) confirm the importance of relationships for implementation support, very few studies (Beidas et al., 2013) go into detail with its core components, and the ways in which these can be built between ISPs

and those supported. Furthermore, the analysis of contextual factors influencing ISP work indicated that the characteristics and attributes of the individuals and groups supported by ISPs influence to what degree support can be successfully delivered, pointing to implementation support being a two-way street that depends on reciprocal commitment and action from not only ISPs, but also those who receive support. In a recently published guide by the US National Academies of Sciences, Engineering and Medicine (2019) effective mentorship was defined as a “working alliance in which individuals work together over time to support the personal and professional growth, development, and success of the relational partners through the provision of ... support” (n.p.), highlighting exactly this reciprocity and warranting the need to deepen our understanding of what a fruitful implementation support relationship may contain. Finally, relationship building is not included as a separate strategy in common taxonomies such as the ERIC compilation of implementation strategies (Powell, Waltz et al., 2015). Instead, relationships are assumed to exist as something that can be taken advantage of when applying other implementation strategies. For example, “supportive interpersonal relationships” (p. 9) are described as a requirement of using the *facilitation* strategy, and “high-quality working relationships” of *promoting network weaving*. Taken together this points to a current lack of clarity around the components, role and status of relationship development within the work of ISPs.

In taking a both broader, more detailed and also more critical perspective in future ISP research, aspects such as these could be further explored, thereby contributing to a more nuanced understanding of implementation support work and the professionals who conduct it. This applies in particular to studies carried out within child welfare settings and outside of the US.

Too few studies inspect the use of implementation support with professionals working in juvenile justice, intensive family support, child protection or similar services addressing “some of the most complex and intractable human and social problems” (Proctor, 2017, p. 335). While implementation science in general still has a relatively weak presence in this field, and the initiation of a broad range of research activities could be of its benefit (Palinkas and Soydan, 2012), implementation support studies are of particular interest because supervision already is a key ingredient of the professional culture in this sector (Bunger et al., 2019; Dorsey, 2017) and implementation support may therefore be more easily integrated in daily work routines. However, the few studies of implementation support conducted in this sector tended to be centered around pre-packaged, often manualized RSIs. As part of these studies, implementation support was typically delivered by highly professionalized program purveyors and/or researchers. As such, they represent a luxury version of ISP studies that is not representative of the realities of many human service organizations that lack financial as well as human resources, access to reliable data and research and dedicated time for reflection. It will therefore be important to develop research within the context of these realities and to explore how implementation support can be made possible under scarce and fast-paced working conditions.

Moreover, further studies are needed of implementation support utilized with (a) less well-defined interventions that have been developed locally and build on a limited evidence base, such as local approaches to casework (Antle et al., 2012; Saini et al., 2019) or family engagement (Toros et al., 2018), since these are the normal characteristics of a lot of child welfare practice, and (b) evidenced interventions that can reach a broader range of target populations than manualized RSIs alone because they

allow for a targeted intervention design tailored to local conditions, such as e.g. common elements (Engell et al., 2020), or can be integrated into multiple interventions as a general approach to collaborating with clients, such as e.g. motivational interviewing (Hall et al., 2019; Snyder et al., 2012).

Finally, the dearth of child and family services implementation support studies conducted in settings outside of the US – in Western Europe or Australia – is striking. As part of the integrative review, only one Australian study, presenting findings related to the implementation of Triple P, could be identified (Hodge et al., 2017). Europe was represented with another study comparing data on using link officers in human service organizations in the UK with similar data gathered in Canada (Graaf et al., 2017). All other child and family services studies were conducted in the US. With the integrative review potentially lacking some studies, it could, as a first step, be valuable to conduct a full systematic review of child and family services implementation support studies to fully assess the degree of imbalance between US-based research and research conducted elsewhere. This would also consolidate our understanding of implementation support when used in this sector. However, having in mind the general dominance of US activities in the field of implementation science, it is realistic to assume that the picture drawn in this thesis would not change fundamentally. Hence, it not only appears that our understanding of ISPs when used in child and family services is scarce, it also shows that it is primarily built on US norms and values. This means, that the ISP roles and strategies examined, and their surrounding contexts were influenced by e.g. cultural norms, educational standards or labor market regulations that are substantially different from those characterizing multiple European countries, Australia or New Zealand. For example, the weekly work hours in Europe are generally lower than in the US (Bick et

al., 2019), and maternity leave durations longer (Kwegyr-Afful et al., 2018) – this creates different conditions for how to support teams of staff that implement evidenced interventions. This also showed in the study of RSI implementation in Victoria, presented in chapter five, where Australian workers struggled with the expectations for working long and considerably flexible hours inherent to some of the RSIs that were implemented in the state. Similarly, differences exist between countries in the way organizational leadership is exercised. While Scandinavian countries are known for a flat, non-bureaucratic and informal approach to leadership, American leadership tends to be infused by stronger hierarchical thinking (Grenness, 2011). Such differences have also been identified within child and family services (Falconer & Shardlow, 2018) and could influence the collaboration ISPs can establish and maintain with the leaders of an organization they serve. While these and other potential differences between cultures do not necessarily *have* consequences for ISP work, it will be important to examine whether they exist and influence implementation support to thereby build a stronger evidence base for how it may be best designed, prepared, implemented, evaluated and sustained outside of the US.

8.1.4 Building the ISP Research Agenda

While multiple research gaps have been identified and future research topics presented as part of this thesis, broader thesis limitations have important implications for future research.

Firstly, in recent years, questions related to equity have gained increased scholarly interest. In the context of this thesis, this draws attention to the issues of resource scarcity on the one hand and social and cultural diversity on the other.

The former points to a need to investigate how the use of evidence and implementation support can be made possible even in chronically under-resourced settings and communities. For example, the use of comprehensive training models, a broad range of manuals, protocols and scripts and of sophisticated data collection and tracking methods as part of RSI implementation represent financial as well as human resource challenges that can be difficult to address in disadvantaged communities (Baumann et al., 2019). This calls for a deeper examination of how RSIs can be tailored to under-resourced settings, and how evidence-based practice can be generated independently of the use of particular RSIs.

The latter raises questions such as: Are foreign RSIs appropriate to use with indigenous, immigrant and refugee populations in Australia and/or internationally? How can they be effectively transported and implemented in these communities, and how should implementation support be explored, designed, planned, delivered and evaluated? How might inclusivity strategies inform and guide the identification of and collaboration with stakeholders and inform other implementation activities in ways that are beneficial to implementation support? While research has been conducted in this area, including the development of specific implementation frameworks (Harding & Oetzel, 2019; Woodward et al., 2019), studies confirm that there is “considerable scope to improve the effectiveness” (McCalman et al., 2016, p. 1) of both the practice and the science of implementation that relates to these communities.

Within child and family services, there is particular urgency to build the knowledge base for how to solve the implementation problem in indigenous communities. Indigenous children continue to be overrepresented in child welfare systems, not only in Australia, where the likelihood of Aboriginal children receiving child protection

services in 2018/19 was eight times higher than for non-indigenous children (Australian Institute of Health and Welfare, 2020), but also in the U.S. (Crofoot et al., 2012) and Canada (Caldwell & Sinha, 2020). In the debate about this disproportionality, two explanations have been particularly prominent: Risk and bias (Cram et al., 2015; Katz & Connolly, 2017; Crofoot et al., 2012). The former explains overrepresentation as an expression of generally higher risks of child maltreatment existing in indigenous communities due to the greater socio-economic disadvantages characterizing these communities. The latter explains disproportionality as the result of systematic institutional bias reflected in both the structures of service systems, available interventions and services and the individual behavior of decisionmakers, including that of child and family workers.

This increases the complexity of the context surrounding decisions to use evidence, be it a foreign RSI or implementation research findings, when working with indigenous communities. From a risk perspective, this evidence may be viewed as important to apply because it represents current best knowledge about how to enhance, for example, parenting skills. From a bias perspective, this evidence may represent Western, non-indigenous values and norms and be viewed by indigenous populations as attempts of oppression and “clinical colonization” (Walker et al., 2015, p. 30). Research on how to navigate this complexity is scarce. For only few RSIs, approaches to their cultural adaptation have been clearly documented (Baumann et al., 2015; Kumpfer et al., 2017), and their use in and with indigenous populations has been limited. This adds further to the potential for distrust with which they may be met by indigenous groups. Partly, because it remains unclear whether the theories, values and world views inherent to RSIs are compatible with, for example, indigenous family norms and cultures, spiritual

practices or local traditions. Partly, because studies of their effectiveness for indigenous populations are lacking (Walker et al., 2015). Furthermore, scholars have pointed to the complexities involved in promoting the concepts of *research* and *evidence* in indigenous communities because indigenous studies have rarely been controlled by indigenous people or agencies and to only a limited degree led to improvements in these communities (Bainbridge et al., 2015). In the light of these gaps, it will be important to ensure that the development of a research agenda to promote evidenced child and family services for indigenous communities can be based on principles of self-determination and reflect the understandings, norms, values and priorities of indigenous populations.

Secondly, with implementation success depending on the active and constructive engagement of different individuals and organizations, it remains important to consider more deeply the role of practitioners as well as service users, i.e. individual clients, families and entire communities, in RSI implementation and implementation support. While multiple studies have highlighted the value of involving practitioners in research activities for the benefit of enabling evidence-based practice (McBeath et al., 2019; Pinto et al., 2019; Tyler et al., 2020), limited research exists on how practitioners, next to organizational leaders and other decisionmakers, can become equal stakeholders to the routine practice of selecting, designing and implementing RSIs and/or implementation support. Similarly, too little is known about, for example, how service users can be actively engaged as true partners in the selection, development and implementation of RSIs and/or implementation support models (Greenhalgh et al., 2019); how this involvement can be measured (Vat et al., 2019); and how it may affect the outcomes of an RSI (Boyce & Browne, 2013). Especially in relation to client involvement in implementation, tokenism and a lack of representativeness have been

highlighted as challenges that require improvement in research and practice (Russell et al., 2019).

8.1.5 Conclusion

Today, evidence-based practice in child and family services can, no longer be discussed without also considering implementation. To solve the implementation problem – the persistent lack of wide uptake of research evidence in the sector – its decision-makers in practice and policy require literacy in both domains.

Nothing illustrates this better than experience with implementing complex, manualized, research-supported interventions that – despite their ready-made design and inherent comprehensive implementation support – show to be extremely difficult to transport and use in new contexts. Relying on implementation frameworks as maps to guide their implementation, risks to provide stakeholders with an idealized, simplified version of an implementation that – in the real world of frontline services – will be much more complex and challenging and call for the sophisticated use of a broad range of implementation tools and models.

The establishment of evidence-based practice cultures in child and family services requires an individual and organizational ability to understand, interpret, apply, and communicate evidence – on clinical as well as implementation interventions – and to integrate this evidence with the professional expertise of child and family services staff and the resources and preferences of their clients. Neither the use of single RSIs nor the application of single implementation concepts alone can help to facilitate such a complex change process.

What is needed is a more comprehensive process of building the evidence and implementation knowledge, skills and attitudes of those working in the sector – be it at the frontline of service delivery, in policy development, or in research and education. This implies bringing these different spheres – each of which is characterized by different rules, norms and cultures – closer together around a shared agenda for building an evidence-based child and family services workforce and sector.

To solve the implementation problem, strategies are needed that can help to create a new normal. One in which research-minded decisionmakers constantly request and use evidence in their daily routines, and practice-minded scientists work to spur this use in all areas of policy and practice. Implementation support practitioners may be one such strategy. To better understand the characteristics, activities, and contexts required for this role to be effective will be a key task for the decade ahead – both for the child and family services sector and the field of implementation science.

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Appendix A: Results Addendum Scoping Review

Table A1: Search Strategy for PsycInfo via OVID

1	((implementation adj2 framework*) or (implementation adj2 model*) or (implementation adj2 plan*) or (implementation adj2 approach*) or (implementation adj2 strateg*) or (implementation adj2 protocol*) or (implementation adj2 guideline*) or (implementation adj2 manual*) or (implementation adj2 concept*)).mp.
2	(child* or early childhood or infant* or infancy or baby or babies or toddler* or preschool* or pre-school* or adolescen* or teen* or youth or young person or young people or famil* or mother* or father* or parent*).ti,ab.
3	(Evaluation* or studies or study or research or investigation* or trial* or random* or controlled clinical trial* or control group* or study design or statistical* significan* or double-blind or placebo or meta-anal* or meta anal* or metaanal* or systematic review* or synthesis of studies or study synthesis).ti,ab.
4	1 and 2 and 3

Table A2: Inclusion and Exclusion Criteria

Included	Excluded
Primary empirical studies (case studies, qualitative / quantitative evaluations, quasi-experimental studies, randomized controlled trials) reported in peer-reviewed, academic journals.	Literature reviews (including systematic, scoping, rapid, narrative etc.), books, book chapters, study protocols, opinion pieces, editorials, dissertations, grey literature.
Studies conducted within child and family services (e.g. family and parenting support, placements, child protection, family violence, juvenile justice or community services.	Studies conducted in health and education.
Studies applying an implementation framework defined as a coherent set of interlinked elements or factors that – together – constitute a generic structure for describing, understanding or guiding implementation processes	Studies applying single or multiple implementation strategies not integrated into a framework; a framework developed for a particular intervention only; frameworks developed for dissemination or knowledge translation only.
Studies written in English.	Studies written in other languages than English.
If several articles refer to the same study, all articles will be included as the use of implementation frameworks for different parts of a study may vary.	

Table A3: Data Extraction Guidance

Purpose	Process	Key Influences	Stakeholders	Capacity
<i>For which purpose was the framework developed?</i>	<i>Over time, how does the process (i.e.,) of implementation unfold?</i>	<i>At any given time during implementation, which key influences will potentially impact implementation quality?</i>	<i>Which stakeholders are described as essential to implementation processes?</i>	<i>How is 'capacity' to support implementation processes conceptualized as part of the framework?</i>
Information about the reason for which the IF was created, e.g. support individuals or organizations in their implementation practice, guide research, enhance understanding, explain implementation etc.	Information about the ordering, timing, duration of implementation, e.g. through stages, phases or periods of time	Information on particular tasks, activities, individuals, teams, roles, and capacities that are described as enhancing the quality of implementation, e.g. training, supervision, coaching, leadership, etc.	Information on individuals, groups, organizations, and systems that are described as participating or influencing an implementation or as being affected by an implementation.	Designated implementation roles (individual or group based) described as dedicated to facilitating parts or entire implementation processes.

Implementation Framework Publications Selected to Further Inform the Data Analysis

The below articles were selected to be included in the scoping review to further inform the discussion of the implementation frameworks. The articles all have a conceptual character, present implementation frameworks in full, and e.g. point to underlying theory that has inspired the development of the implementation framework; describe methods applied to source publications, theories and concepts to inform the implementation framework; or provide examples of the implementation framework's application.

Table A4: Implementation Framework Publications to Inform Data Analysis

Framework	Selected articles
Active Implementation Frameworks (AIF)	Metz, A., & Bartley, L. (2012). Active Implementation Frameworks for Program Success. <i>Zero to Three</i>, 32(4), 11–18.
ARC Organizational and Community Intervention Model	Glisson, C., & Schoenwald, S. K. (2005). The ARC Organizational and Community Intervention Strategy for Implementing Evidence-Based Children's Mental Health Treatments. <i>Mental Health Services Research</i>, 7(4), 243–259. http://doi.org/10.1007/s11020-005-7456-1
The Consolidated Framework for Implementation Research (CFIR)	Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering Implementation of Health Services Research Findings into Practice: A Consolidated Framework for Advancing Implementation Science. <i>Scoping Studies: Advancing the Methodology</i>, 4(1), 50. http://doi.org/10.1186/1748-5908-4-50
The Community Development Team (CDT)	- Sosna, T., & Marsenich, L. (2006). <i>The California Institute for Mental Health Community Development Team Model</i>. California Institute for Mental Health. Unpublished Report. - Saldana, L., & Chamberlain, P. (2012). Supporting Implementation: The Role of Community Development Teams to Build Infrastructure. <i>American Journal of Community Psychology</i>, 50(3-4), 334–346. http://doi.org/10.1007/s10464-012-9503-0
Exploration, Preparation, Implementation, Sustainment (EPIS) implementation conceptual model	- Aarons, G., Hurlburt, M., & Horwitz, S. M. (2010). Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors. <i>Administration and Policy in Mental Health and Mental Health Services Research</i>, 38(1), 4–23. http://doi.org/10.1007/s10488-010-0327-7 - Hurlburt, M., Aarons, G., Fettes, D., Willging, C. E., Gunderson, L., & Chaffin, M. J. (2014). Interagency Collaborative Team model for Capacity Building to Scale-Up Evidence-Based Practice. <i>Children and Youth Services Review</i>, 39, 160–168. http://doi.org/10.1016/j.childyouth.2013.10.005
Getting To Outcomes (GTO)	Wandersman, A., Imm, P., Chinman, M. J., & Kaftarian, S. (2000). Getting to Outcomes: A Results-Based Approach to Accountability. <i>Evaluation and Program Planning</i>, 23, 389–395. https://doi.org/10.1016/s0149-7189(00)00028-8
Integrated Systems Framework (ISF)	- Wandersman, A., Duffy, J. L., Flaspohler, P. D., Noonan, R., Lubell, K., Stillman, L., et al. (2008). Bridging the Gap Between Prevention Research and Practice: The Interactive Systems Framework for Dissemination and Implementation. <i>American Journal of Community Psychology</i>, 41(3-4), 171–181. http://doi.org/10.1007/s10464-008-9174-z - Flaspohler, P. D., Anderson-Butcher, D., & Wandersman, A. (2008). Supporting Implementation of Expanded School Mental Health Services: Application of the Interactive Systems Framework in Ohio. <i>Advances in School Mental Health Promotion</i>, 1(3), 38–48. http://doi.org/10.1080/1754730X.2008.9715732
The Practical, Robust Implementation and Sustainability Model (PRISM)	Feldstein, A. C., & Glasgow, R. E. (2008). A Practical, Robust Implementation and Sustainability Model (PRISM) for Integrating Research Findings into Practice. <i>The Joint Commission Journal on Quality and Patient Safety</i>, 34(4), 228–243. https://doi.org/10.1016/s1553-7250(08)34030-6

Table A5: Stakeholders Involved in Implementation Processes

Impl. level	Stakeholder terms used in applied studies
Frontline	• Service recipients: Adolescents, adults, birth families, birth parents, caregivers, children, clients, consumers, extended families, families, family members, foster children, foster parents, friends, infants, neighbors, parents, patients, peers, siblings, students, teens, youngsters, youth • Direct service staff: Allied health professionals, behavioral health specialists, care coordinators, case managers, case workers, child protection workers, child welfare workers, clinical psychologists, clinical psychologist trainees, clinical specialists, clinical supervisors, clinicians, coaches, consultants, direct service staff, employees, experts, family therapists, foster parent trainers, front-line staff, front-line child welfare workers, front-line health professionals, home visitors, individual therapists, main clinician, mental health clinicians, mentors, nurses, parent partners, patient education trainers, Ph.D. candidates, pharmacologists, physicians, practitioners, principals, program staff, program supervisors, psychiatrists, referring agent, school personnel, senior practitioner, site consultant, skills coach, social workers, social work interns, specialists, supervisors, teachers, therapists, trainees, trainers, treatment teams, volunteers, youth services officers
Single organization	• Provider level agencies: service agencies / providers / organizations, child welfare agencies, community foster homes, courts, early education providers, family support centers, grassroots-non-profits, health care centers, kindergarten, non-profits, primary care providers, referral agencies, residential placement centers, schools, state/regional/federal grantees, tribal child welfare agencies • Provider level agencies' single staff roles: ○ Administration / leadership: administrators, agency directors, agency head of training, assistant directors, board of directors, case practice director, champions, change agents, child welfare system directors, clinical directors, county administrator, county agency leaders, county agency managers, decision-makers, deputy directors, directors of clinical services, district directors, division directors, early childhood directors, evaluation directors, executive directors, head of divisions, head of QA/CQI, leaders, managers, middle managers, program directors, program leaders, program managers, project managers, provider agency directors, school leaders, school superintendents, senior leaders, site managers, state administrators, team leaders, top administrators, upper managers, work group leaders ○ Admin support: administrative staff, assistant secretary, front desk staff, secretaries, communication officers, communication staff ○ Direct service staff support: care coordinator, case manager supervisor, clinical transformation project manager, consultant, county level supervisor, development officers, foster parent recruiter, implementation consultants, instructors, local trainer, meeting coordinators, parent engagement specialists, peer coaches, peers, practice leader facilitator, program coordinator,

	program facilitator, program implementer, project coordinator, regional trainer, seed team coach, supervisor ○ <u>Research & Evaluation</u>: agency evaluator, agency researcher, coders, data managers, interviewers, raters, research and evaluation specialist • Other agencies: Purveyors, intermediaries, technical assistance providers, research organizations, program developers
Community	• Actors: Businesses, experts, community based organizations, community groups, community leaders, community service providers, courts, culture leaders (pastors, tribal leaders), developmental disability services, district administrators, faith-based organizations, family / consumer organizations, food banks, former clients, indigenous neighborhoods, informal networks, juvenile justice, literacy agencies, media, mental health, neighborhoods, opinion leaders (judges, ministers, principals), pediatricians, child care agencies, regional management, school district executives & representatives, schools, social networks, neighborhood support networks, tribal representatives, external partners, firms. • Structures: Action groups, coalitions, community advisory groups, community committees, community development teams, community workgroups, stakeholder strategic planning groups, family-school-community partnerships, focus groups, implementation teams, interagency collaborative teams, interagency service provider teams, learning collaborative, local advisory panels, local coalition experts, multi-disciplinary committees, parent advocate committee, practice model groups, progenitor group, steering committees, transition teams, workgroups. • Support: Specialists, consultants, facilitators, change agents.
Policy	• Local level (city council, local foundation) • Regional level (regions) • County level (county departments, administrators, system leaders) • State level (state departments, state administrations, state offices, state directors, state policy & program leaders) • Federal level (federal departments, federal child services administration, national institutes) • Non-governmental funders (foundations, endowments) • Special interest organizations (unions, Child Welfare League of America)

Table A6: Implementation Capacities in Implementation Frameworks

Framework & Capacity	Purpose	Tasks	Composition
AIF The Implementation Team (Metz & Bartley, 2012; Metz, Bartley et al., 2015)	Internal support structure for the implementing site / system – collaboration with external support structure (purveyors or intermediaries); can be based on single team or teaming structure	Increasing ‘buy-in’ and readiness; installing and sustaining the implementation infrastructure; assessing fidelity and outcomes; building linkages with external systems; problem-solving and sustainability	Core competencies should be present: Developing the team structure, knowing & applying the intervention, implementation, improvement cycles, and systems change
EPIS The Interagency Collaborative Team (Aarons, Fettes et al., 2014; Hurlburt et al., 2014)	Enable collaborations among organizations involved in implementation processes through a teaming structure (seed team & interagency collaborative teams); liaise between program developers and other actors in the service system (seed team); mastering delivery of EBP (ICTs)	Seed team: Learn EBP, conduct initial local delivery of EBP, train new practitioners; serve in liaison role; monitoring service quality, create commitment to high quality service delivery, communicate implementation progress; ICTs: Deliver EBP, feedback to seed team, communicate implementation progress	Employees of several local organizations – no further elaboration of composition
ARC The Change Agent (Glisson & Schoenwald, 2005; Glisson et al., 2012)	‘Boundary spanning’. Bridging social and technical gaps between those implementing an intervention and opinion leaders / stakeholders in the community within which the implementation takes place.	Problem diagnosis, skill building, education and training, team building, systems analysis, information sharing, progress reporting, motivating, network building, reinforcing ongoing implementation efforts	Single or groups of individuals
CDT The Community Development Team (Saldana & Chamberlain, 2012; Sosna & Marsenich, 2006)	Increase implementation pace, promote sustainable, model-adherent implementation, improve outcomes	Create engagement, plan implementation, provide training, ensure model adherence, improve competencies, strengthen site sustainability & autonomy	System leaders, agency directors, practitioners and consumers organized in peer-to-peer networks, headed by CDT facilitators, who liaise between community and program developer.
ISF The Support System (Flaspohler, Anderson-Butcher, & Wandersman,	Supporting the work of those, who implement interventions and put them in practice	Building general capacities (e.g. developing the infrastructure, skills, and the motivation of an organization);	System perspective – describes any activity aiming at supporting others in their implementation efforts and may involve both

2008; Wandersman, Duffy et al., 2008)		building innovation- specific capacities (e.g. innovation-specific training, technical assistance, coaching)	single individuals and agencies.

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Appendix B: Results Addendum Integrative Review

This appendix is linked to chapter seven and contains details on the use of the integrative review method and the analysis of text data informing the revised program logic for the role of implementation support practitioners. Finally, beginning on page 381, a list can be found of all studies included in the integrated review.

Detailed Search Strategy

The following search strategies were used to identify publications for this review:

1. Systematic searches of nine electronic databases (ASSIA, CINAHL, Criminal Justice Abstracts, ERIC, Family and Society Studies Worldwide, Medline, PsycInfo, Scopus, and SocIndex) using a search string that combined the term “implementation” with terminology describing different support behaviors and specific implementation support role labels (S1 in Table B1). A key aim of this approach was to filter out literature that was not focused on active implementation support activities and instead centered on e.g. knowledge translation in general. Additionally, research-related search terms (S2 in Table B1) were used to limit searches to literature focused on the uptake of evidence, rather than the uptake of e.g. non-evidenced innovations. This search string was tailored to the requirements of the different databases. Table B1 displays the search string used with PsycInfo (OVID); all other search strings can be made available upon request to the author. Electronic databases were searched on February 26, 2019.

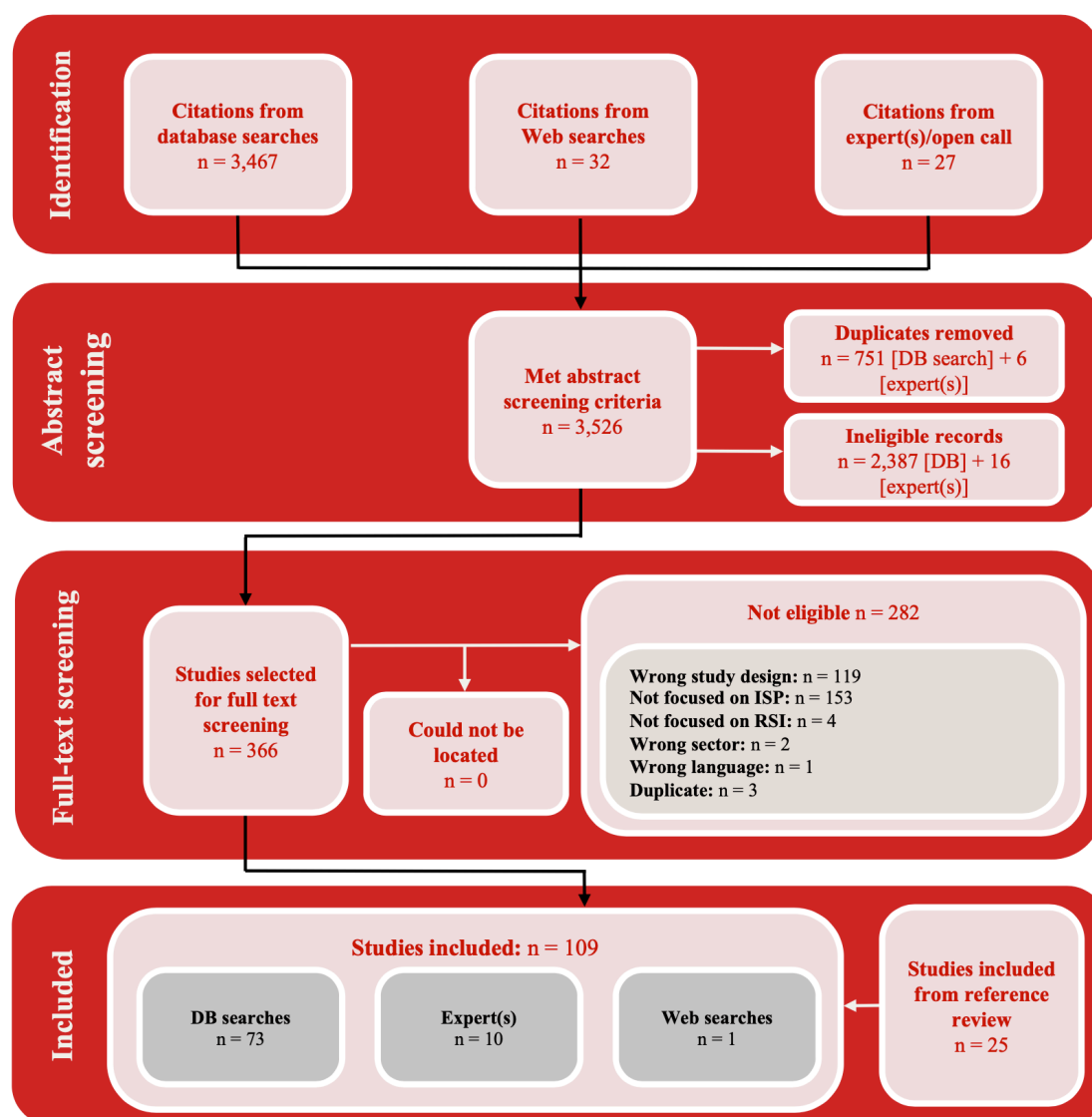
Table B1: Search String Used with the PsycInfo/OVID Database

#	Searches
S1	(implement* adj3 support) OR (implement* adj3 coach*) OR (implement* adj3 speciali*) OR (implement* adj3 expert*) OR (implement* adj3 team) OR (implement* adj3 facilitat*) OR (implement* adj3 consult*) OR (implement* adj1 train) OR (implement* adj1 educat*) OR (implement* adj1 course) OR (knowledge adj3 broker*) OR (intermediar* adj3 organi\$ation) OR purveyor* OR purveyour* OR (technical adj3 assist*).mp
S2	('research finding*' or 'research result*' or 'scientific knowledge' or 'scientific finding*' or 'evidence-informed practice' or 'evidence informed practice' or 'evidence-based practice' or 'evidence based practice' or 'research to practice' or 'research-to-practice' or 'knowledge to action' or 'knowledge-to-action' or 'science-based' or 'science based' OR 'research-based' OR 'research based' or 'science-informed' OR 'science informed or 'research-informed' or 'research informed' OR 'knowing-doing' OR 'knowing doing' OR 'science practice' OR 'science-practice').mp
S3	S1 AND S2

2. Searches of 42 different organizational websites using the regular website search function and/or subsites clearly labeled as listing e.g. “resources,” “publications,” “research” or comparable materials. Searches of websites (listed in Table B2) were conducted between March 18 and April 30, 2019.
3. A targeted call for publications from experts known to the research team working within the field of implementation support, e.g. as researchers, consultants or in similar roles. Of the 22 experts contacted by email, 17 responded.
4. An open call for publications disseminated through a newsletter, a website and social media, all of which were administered by the European Implementation Collaborative (EIC). The newsletter was sent out on March 29, 2019 to 700+ recipients, who were invited to submit resources within four weeks. It was then followed up by multiple reminders posted through the EIC’s twitter account.
5. Reference checks of all included studies identified through the above strategies.

Table B2: Websites Searched for Grey Literature

#	Organization (hyperlinked)	Date searched
1	Agency for Healthcare Research and Quality (U.S.)	18.3.2019
2	Alliance for Useful Evidence (U.K.)	18.3.2019
3	The Annapolis Coalition (U.S.)	30.4.2019
4	The Annie E. Casey Foundation (U.S.)	19.3.2019
5	The Bridgespan Group (U.S.)	19.3.2019
6	The Center for Implementation- Dissemination of Evidence-Based Practices Among States (IDEAS – U.S.)	10.4.2019
7	Centre for Effective Services (IRL)	19.3.2019
8	Centre for Evidence & Implementation (AUS)	19.3.2019
9	Child & Family Evidence Based Practice Consortium (U.S.)	19.3.2019
10	The Colebrooke Centre for Evidence and Implementation (U.K.)	19.3.2019
11	Consortium for Implementation Science (U.S.)	25.3.2019
12	Early Childhood TA Center (U.S.)	25.3.2019
13	Education Endowment Foundation (U.K.)	25.3.2019
14	EPIS Center (U.S.)	25.3.2019
15	European Implementation Collaborative (EU)	25.3.2019
16	The Health Foundation (U.K.)	25.3.2019
17	Institute of Education Sciences – What Works Clearinghouse (U.S.)	3.4.2019
18	iS2 (AUS)	3.4.2019
19	The Joanna Briggs Institute (AUS)	3.4.2019
20	Judge Baker Children’s Centre (U.S.)	3.4.2019
21	Mathematica Policy Research (U.S.)	3.4.2019
22	mdrc (U.S.)	10.4.2019
23	National TA Center for Children’s Mental Health (U.S.)	10.4.2019
24	The National Implementation Research Network (U.S.)	10.4.2019
25	The National Institute for Health and Care Excellence (U.K.)	10.4.2019
26	National Institutes of Health (U.S.)	10.4.2019
27	National TA Center on Transition (U.S.)	10.4.2019
28	Nuffield Foundation (U.K.)	15.4.2019
29	Office of the Assistant Secretary for Planning and Evaluation (U.S.)	15.4.2019
30	Ontario Centre of Excellence for Child and Youth Mental Health (CAN)	15.4.2019
31	The PEW Charitable Trusts (U.S.)	15.4.2019
32	Research in Practice (U.K.)	15.4.2019
33	The SISEP Center (U.S.)	15.4.2019
34	The Social Care Institute for Excellence (SCIE) (U.K.)	15.4.2019
35	TAC - Technical Assistance Collaborative (U.S.)	30.4.2019
36	TA Center on PBIS (U.S.)	23.4.2019
37	The Institute for Innovation and Implementation (U.S.)	23.4.2019
38	UK Implementation Society (U.K.)	23.4.2019
39	Washington State Institute for Public Policy (U.S.)	23.4.2019
40	William T. Grant Foundation (U.S.)	23.4.2019
41	The World Bank (INT)	23.4.2019
42	The World Health Organization (INT)	23.4.2019

Figure B1: Flow of Studies Through the Review Process

The Outcomes in Implementation Research Framework

In order to categorize outcomes measured as part of included randomized controlled trials, the “Outcomes in Implementation Research” framework (Proctor et al., 2010) was utilized. The framework builds on a differentiation between implementation, service and client outcomes as outlined in Figure B2. Each of its eight implementation outcomes is briefly characterized in Table B3.

Figure B2: Types of Outcomes in Implementation Research*

* Proctor et al., 2010

Table B3: Implementation Outcomes Defined

Outcome	Definition
Acceptability	The perceived agreeability or palatability of a research-supported intervention (RSI) among stakeholders based on e.g. their knowledge, experience with the RSI
Adoption	The intention, decision or action taken to use an RSI
Appropriateness	The perceived fit, relevance or compatibility of an RSI for a given context, including its providers and/or recipients
Costs	The costs of using an RSI (including implementation costs)
Feasibility	The perceived ease with which an RSI can be used in a given context
Fidelity	The degree to which an RSI can be/has been implemented as intended by its developers
Penetration	The reach of an intervention within a service system—counted by e.g. practitioners/agencies using it or patients/clients receiving it
Sustainability	The degree to which the use of an RSI is maintained/institutionalized within a service system

Table B4: Overview of Included RCTs (N=30)

Study	Aim	Method	ISP role	ISP strategies reported	Outcomes			
					<i>Individual / Organization</i>	<i>Implementation</i>	<i>Service</i>	<i>Client</i>
Acolet et al. (2011)	To assess whether an active strategy for the dissemination of neonatal research findings, recommendations and guidelines was more likely to change policy and practice than the passive dissemination of a report, a slide package and a position statement.	Cluster RCT	Other (regional champion)	Audit & feedback; champions; dynamic training; implementation blueprint [N=4]	Opportunity: non-significant	N/A ⁴⁶	Timeliness / Safety: mixed	N/A
Beidas et al., 2012	To evaluate the efficacy of three different brief CBT training modalities, and to evaluate the impact of including ongoing consultation after this training on therapist CBT knowledge, skill and adherence and training satisfaction.	RCT	Consultant	Consultation/ facilitation; develop educational materials; dynamic training; educational meetings [N=4]	Capacity: mixed	Fidelity: non-significant; Adherence: significant	N/A	N/A

⁴⁶ N/A = not applicable

Bradshaw et al., 2012	To compare student outcomes achieved by PBIS schools that receive (a) traditional training and support in tier 1 implementation from the state and district, and (b) tier 2 training and coaching from an external tier 2 coach (i.e. PBISplus = intervention condition) with those from PBIS schools that receive traditional training and support in tier 1 implementation from the state and district only (i.e. SWPBIS = comparison/ control condition).	Cluster RCT	Coach	Consultation/ facilitation; distribute educational materials; educational meetings; ongoing training [N=4]	Capacity: significant	Fidelity: non-significant	Efficiency: significant	Student achievement: Significant
Brown et al., 2014	To determine whether participation in the Community Development Team (CDT) model improves the rates of program adoption, implementation, and fidelity of Multidimensional Treatment Foster Care (MTFC) in 51 counties	Cluster RCT	Facilitator	Assess readiness; consultation/ facilitation; educational meetings; learning collaborative [N=4]	N/A	Adoption: non-significant; fidelity: non-significant; process: non-significant	N/A	N/A

	(56 sites) in California and Ohio when compared with an individualized implementation condition (IND).							
Calo et al., 2018	To compare the effectiveness of quality improvement coaching when delivered either in-person or based on webinars on improving HPV vaccination coverage.	Cluster RCT	Coach	Audit & feedback; distribute educational materials; educational meetings; implementation blueprint; [N=4]	Capacity: non-significant	Adoption: non-significant; feasibility: non-significant; acceptability: non-significant; costs: mixed	N/A	N/A
Chinman et al., 2017	To evaluate how much a Getting to Outcomes (GTO) guided implementation strategy (training + manuals + implementation support) facilitated the adoption and implementation of the MISSION-Vet intervention targeting (formerly) homeless veterans – when compared with implementation as usual (training + manuals only).	Cluster RCT	TA provider	Audit & feedback; consultation/facilitation; develop educational materials; distribute educational materials; educational outreach; implementation blueprint; organize meetings; promote adaptability; tailor strategies [N=9]	N/A	Adoption: significant; penetration: significant	N/A	N/A

Chinman et al., 2018	To assess the effectiveness of the GTO Implementation Support Intervention by comparing the outcomes from 15 Boys and Girls Club sites implementing CHOICE (control group), a five-session evidence-based alcohol and drug prevention program, with 14 similar sites implementing CHOICE supported by GTO (intervention group).	Cluster RCT	TA provider	Audit & feedback; educational meetings; implementation blueprint; ongoing training [N=4]	N/A	Fidelity: significant	N/A	Functioning: non-significant
Chung et al., 2015	To examine whether the implementation approach CEP (Community and Engagement Planning) is more effective in (a) generating options for training depression care quality improvement (DCQI), and (b) increasing mean hours practitioners spend on DCQI training than the implementation approach RS (Resources for Services).	Cluster RCT	Unlabeled	Educational meetings; educational outreach [N=2]	Opportunity (training participation): Significant	N/A	N/A	N/A

Dickinson et al., 2014	To compare the influence of three approaches for implementing the Chronic Care Model on changing the practice culture of primary care clinics and improving the quality of their diabetes care: (1) Practice facilitation over 6 months using a reflective adaptive process (RAP); (2) Practice facilitation for up to 18 months using continuous quality improvement (CQI); and (3) Self-directed practice, without facilitation (SD).	Cluster RCT	Facilitator	Audit & feedback; organize meetings [N=2]	Opportunity (culture): Mixed	Adoption: significant (CQI compared with RAP and SD)	N/A	N/A
Eiraldi et al., 2018	To test which of two consultation strategies (Consultation versus Consultation+) used with school counselors resulted in (a) higher treatment content and process fidelity of an intervention aimed at externalizing behaviors in school children (CPP); and (b) better	Cluster RCT	Consultant	Audit & feedback; consultation/facilitation; distribute educational materials; dynamic training; educational meetings; model change; tailor strategies [N=7]	N/A	Fidelity: significant	N/A	Wellbeing: non-significant

	child outcomes (changes in diagnostic status and impairment).							
Funderburk et al., 2015	To answer the following research question: Does live video consultation improve downstream client outcomes relative to standard phone consultation?	RCT	Consultant	Consultation/ facilitation; model change [N=2]	N/A	N/A	N/A	Functioning: Significant
Glisson et al., 2013	To assess (a) whether the Availability, Responsiveness and Continuity (ARC) organizational intervention improved youth outcomes in community based mental health programs and (b) whether programs with more improved organizational social contexts following the 18-month ARC intervention had better youth outcomes than programs with less improved social contexts.	Cluster RCT	Other (ARC specialist)	Assess readiness; distribute educational materials; educational outreach [N=3]	N/A	N/A	N/A	Wellbeing: Significant
Gustafson et al., 2013	To test the effectiveness of four different quality improvement interventions to reduce	Cluster RCT	Mix (QI experts + coaches)	Consultation/ facilitation; distribute educational	N/A	Penetration: significant	Timeliness: significant; client/patient centeredness:	N/A

	patients' waiting time, retention and to increase the number of patients served annually across addiction clinics in the U.S.			materials; educational outreach; implementation blueprint; learning collaborative; tailor strategies [N=6]			non-significant	
Kelly et al., 2000	To compare the effectiveness of 3 dissemination strategies for transferring HIV prevention models from the research arena to community providers of HIV prevention services.	Cluster RCT	Consultant	Consultation/ facilitation; distribute educational materials; educational meetings; tailor strategies [N=4]	N/A	Adoption: significant	N/A	N/A
Kinley et al., 2014	To examine the impact of providing high facilitation (HF) when implementing the Gold Standard Framework for Care Homes (GSFCH) program	Cluster RCT	Facilitator	Educational meetings; model change; ongoing training [N=3]	N/A	Adoption: mixed	Efficiency: significant	Wellbeing: non-significant
Leathers et al., 2016	To investigate the effect of post-training change agent interactions on the use of an evidence-based intervention relative to training as usual with no additional post-training support.	RCT	Consultant	Consultation/ facilitation; dynamic training; educational meetings; distribute educational materials [N=4]	N/A	Adoption: non-significant	N/A	N/A

Lemelin et al., 2011	To test the effectiveness of a tailored multifaceted facilitation intervention to improve preventive care in capitation-based family practices	Cluster RCT	Facilitator	Audit & feedback; develop educational materials; implementation blueprint; promote adaptability; tailor strategies [N=5]	N/A	Adoption: significant	Efficiency: significant	N/A
Meropol et al., 2014	To assess the effectiveness of practice facilitation, i.e. practice-tailored rapid-cycle feedback/change strategies, on improving obesity screening/ counseling, lead screening, and dental fluoride varnish application in pediatric preventive services.	Cluster RCT	Facilitator	Audit & feedback; consultation/ facilitation; distribute educational materials; implementation blueprint; ongoing training; promote adaptability; tailor strategies [N=7]	N/A	N/A	Efficiency: significant	N/A
Mold et al., 2008	To assess the effectiveness of a multicomponent implementation strategy aimed at increasing the use of three processes (standing orders – reminder/recall systems – wellness visits) shown to have increased the delivery of preventive services through primary practices; to	RCT	Facilitator	Audit & feedback; consultation/ facilitation; distribute educational materials; educational outreach [N=4]	N/A	Adoption: significant	Efficiency: mixed	N/A

	identify contextual barriers to the implementation of these processes; and to measure the impact of these processes on rates of delivery of preventive services							
Mold et al., 2014	To compare the independent and combined effectiveness of Practice facilitation (PF) and local learning collaboratives (LLCs), combined with performance feedback and academic detailing, with performance feedback and academic detailing alone on the implementation of the National Heart, Lung and Blood Institute's Asthma Guidelines.	Cluster RCT	Facilitator	Distribute educational materials; implementation blueprint; learning collaborative [N=3]	N/A	Adoption: significant	N/A	N/A
Murray et al., 2018	To examine whether the initial model of Together facing the Challenge (TFTC) could be improved to increase sustainability and improve implementation	Cluster RCT	Consultant	Consultation/ facilitation; distribute educational materials; educational meetings [N=3]	Opportunity: significant	Fidelity: non-significant	Efficiency: non-significant	N/A

Palinkas et al., 2017	To determine whether use of research evidence (URE) was independently associated with the stage of implementation of Treatment Foster Care Oregon (TFC-O) and the proportion of activities completed at the pre-implementation, implementation and sustainment phases; and whether URE was significantly associated with the QIC strategy used to scale up the EBP – the Community Development Team (CDT)	Cluster RCT	Consultant	Assess readiness; consultation/ facilitation; educational meetings; tailor strategies [N=4]	N/A	Adoption: mixed	N/A	N/A
Parchman et al., 2013	To assess the effectiveness of practice facilitation to improve the organization and delivery of diabetes care in small, autonomous primary care practices.	Cluster RCT	Facilitator	Audit & feedback; organize meetings; promote adaptability [N=3]	N/A	Adoption: significant	N/A	N/A
Peterson et al., 2015	To assess whether a prevention support system (i.e., “enhanced support system”) that builds capacity through the provision of	Cluster RCT	Mix (Injury Research Centre faculty staff and study team)	Assess readiness; audit & feedback; consultation/ facilitation; distribute educational	N/A	N/A	N/A	Functioning: significant

	technical assistance, best practice guides, and direct consultation can successfully bridge the gap between fall prevention research and the implementation of an evidence-driven, community-based fall prevention program.			materials; educational meetings; needs assessment; promote network weaving [N=7]				
Quanbeck et al., 2018	To pilot test the blended implementation strategy 'systems consultation' (SC) in a small set of primary care clinics to see if the strategy demonstrated feasibility, acceptability, and preliminary effectiveness in improving clinician adherence to opioid-prescribing guidelines and reducing morphine-equivalent daily dose (MEDD) for patients on long-term opioid therapy	RCT	Consultant	Audit & feedback; champions; consultation/facilitation; educational meetings; educational outreach; needs assessment; organize meetings; promote adaptability; tailor strategies [N=9]	N/A	N/A	Efficiency: Mixed	N/A
Rohrbach et al., 2010	To test the effectiveness of a comprehensive training condition to produce stronger	RCT	Unlabeled	Consultation/facilitation; educational meetings;	Capacity: significant	Acceptability: significant, fidelity: significant	N/A	Functioning: significant

	implementation fidelity and immediate treatment outcomes			distribute educational meetings [N=3]				
Seers et al., 2018	To extend knowledge of facilitation as a process for getting research evidence into practice by testing the effectiveness of and evaluating the contribution that two different models of facilitation can make to implementing evidence-based urinary continence recommendations into practice.	Cluster RCT	Facilitator	Audit & feedback; consultation/ facilitation; develop educational materials; distribute educational materials; educational meetings; implementation blueprint [N=6]	N/A	Adoption: non-significant	N/A	N/A
L. Williams et al., 2016	To assess the effectiveness of quality improvement training plus indicator feedback on deep vein thrombosis (DVT) prophylaxis and dysphagia (swallowing difficulties) screening when compared with indicator feedback alone	Cluster RCT	Coaches in pairs (systems engineer + implementation researcher)	Audit & feedback; consultation/ facilitation; educational meetings; educational outreach [N=4]	N/A	N/A	Efficiency: non-significant	N/A
N. Williams et al., 2017	To examine the cross-level contextual, motivational, and barrier-related mechanisms that	Cluster RCT	Other (ARC specialist)	Consultation/ facilitation; distribute educational materials;	N/A	Adoption: significant; feasibility: significant	N/A	N/A

	explain the effect of ARC (Availability, Responsiveness, and Continuity implementation support strategy) on clinicians' EBP adoption and use			educational outreach [N=3]				
Yano et al., 2008	To evaluate the impact of a locally adapted evidence-based quality improvement (EBQI) approach to the implementation of smoking cessation guidelines into routine practice of VA primary care practices	Cluster RCT	Unlabeled	Audit & feedback; champions; consultation/facilitation; distribute educational materials; educational meetings; implementation blueprint; promote adaptability [N=7]	N/A	Penetration: Significant	N/A	Functioning: non-significant

Table B5: Quality Assessment of Included RCTs (N=30)

STUDY	FRAMEWORK/THEORY USE	USE OF EMPIRICAL EVIDENCE	STRATEGY TAXONOMY USE	OUTCOMES ASSESSED		
				<i>Implementation</i>	<i>Service</i>	<i>Client</i>
Acolet (2011)	NO	From study protocol: insufficient data from a survey assessing the impact of a dissemination package to improve knowledge transfer in the area of care of premature babies in England		NO	Timeliness Safety	NO
Beidas (2012)	NO	NO	NO	Fidelity	NO	NO
Bradshaw (2012)	PBIS <i>plus</i> theory of change model (p.189).			Fidelity	Efficiency	Functioning
Calo (2018)	NO	Previous experience with using the AFIX coaching model that is in focus of this study plus input from health specialists from three different states	NO	Adoption Feasibility Acceptability Costs	NO	NO
Chinman (2017)	Getting to Outcomes + RE-AIM + Consolidated Framework for Implementation Research	NO	NO	Adoption Penetration		
Chinman (2018)	Getting to Outcomes	NO	NO	Fidelity	NO	Functioning
Chung (2015)	NO	NO	NO	NO	NO	NO
Dickinson (2014)	Continuous Quality Improvement theory and reflective adaptive process theory.	NO	NO	Adoption	NO	NO
Eiraldi (2018)	NO	NO	NO	Fidelity	NO	Wellbeing
Funderburk (2015)	NO	NO	NO	NO	NO	Functioning

Glisson (2013)	Organizational culture theory	NO	NO	NO	NO	Functioning
Gustafson (2013)	NO	NO	NO	Penetration	Timeliness Client-Centeredness	NO
Hendricks Brown (2014)	NO	NO	NO	Adoption Fidelity Sustainability Process (SIC)	NO	NO
Kelly (2000)	NO	NO	NO	Adoption	NO	NO
Kinley (2014)	A single and very brief reference to the PARIHS used to explain why high facilitation strategy was used.	NO	NO	Adoption	Efficiency	Wellbeing
Leathers (2016)	Rogers diffusion of innovations theory applied in detail (pp. 4/5)	NO	NO	Adoption	NO	NO
Lemelin (2001)	Refers to a seven-item CQI framework developed by Leininger et al. as guiding facilitation.	NO	NO	Adoption	Efficiency	NO
Meropol (2014)	NO	NO	NO	NO	Efficiency	NO
Mold (2008)	NO	NO	NO	Adoption	NO	NO
Mold (2014)	NO	NO	NO	Adoption	NO	NO
Murray (2018)	NO	NO	NO	Fidelity	NO	Wellbeing
Palinkas (2017)	NO	NO	NO	Adoption	NO	NO
Parchman (2013)	NO. On page 6, the authors highlight the use of theory for intervention development as a strength of the study, but from the remaining text it was unclear what theory might have been used.	NO	NO	Adoption	NO	NO
Peterson (2015)	Interactive Systems Framework + RE-AIM: detailed use with ISF informing study frame and RE-AIM organizing use of measures	NO	NO	NO	NO	Functioning
Quanbeck (2018)	RE-AIM was used to structure outcome measurement	Implementation support strategies developed in	ERIC	Acceptability Feasibility	Efficiency	NO

		collaboration developers of clinical guideline to be implemented locally.				
Rohrbach (2010)	NO	NO	NO	Acceptability Fidelity	NO	Functioning
Seers (2018)	Theories underpinning the two facilitation approaches used in this study, including the PARIHS, have been briefly described in a supplementary file: CQI theory, Theory on org. learning & critical social sciences.	NO	NO	Adoption	NO	NO
Williams, Linda (2016)	NO	NO	NO	NO	Efficiency	NO
Williams, N. (2016)	Org. culture theory and the theory of planned behavior. Also uses Proctor's implementation outcome framework	NO	NO	Adoption Feasibility	NO	NO
Yano (2008)	NO	NO	NO	Penetration	NO	Functioning

Detailed Skills/Strategy Analysis

Consultation/Facilitation & Education

Two strategies were particularly present in the texts coded, with each of them being mentioned in more than fifty studies: “provide consultation/facilitation” and “conduct educational meetings.”

The former represents a merged strategy in that text excerpts coded separately as “provide ongoing consultation” and/or “facilitation” showed to contain the same key elements characterizing each of the strategies and thus were not distinctly different from each other. The following excerpt from a study focused on the provision of technical assistance is a poignant and representative example of a blurry and seemingly overlapping terminology making it difficult to clearly differentiate between e.g. coaching, consultation, and facilitation: “*TA providers commented on their role as being to “build capacity” and often spoke about the use of implementation science, coaching, organizational change, and facilitation in their role to promote the capacity of TA recipients to lead projects.*” (Rushovich et al., 2015, p. 370). Given this strong overlap, we decided to lump all excerpts coded under the consultation or facilitation strategies together and analyze them as one.

This analysis showed that the provision of consultation/facilitation contained the following five key steps: (1) identifying the support needs of those involved in the consultation/facilitation efforts—e.g. through formalized, periodic needs assessments (Duffy et al., 2012), structured interviews (Bice-Urbach & Kratochwill, 2016), or by explicitly inviting stakeholders to articulate their support needs in each session (Akin, 2016; Chilenski et al., 2016); (2) educating and professionally supporting these stakeholders, e.g. through processes such as learning from others (Akin, 2016), role

plays (Barac et al., 2018), didactic teaching (Beidas et al., 2013; Chaffin et al., 2016), answering questions (Chilenski et al., 2016; Hurtubise et al., 2016; Kelly et al., 2000) or offering advice (Rosen et al., 2012); (3) monitoring the progress and/or performance of stakeholders, e.g. by measuring fidelity (Bice-Urbach & Kratochwill, 2016; Caron & Dozier, 2019; Eiraldi et al., 2018; Murray et al., 2018), program outcomes (Funderburk et al., 2015; Olson et al., 2018) or progress toward other implementation or service goals (Chilenski et al., 2016; Holtrop et al., 2008; Preast & Burns, 2018); (4) identifying the barriers and problems they face as part of their change efforts—typically related to learning a new practice (Dusenbury et al., 2010; Eiraldi et al., 2018; Kauth et al., 2010; Nadeem, Gleacher, Pimentel et al., 2013) and/or enabling its implementation within a particular local context (Rosella et al., 2018; Saldana & Chamberlain, 2012; Tierney et al., 2014); and (5) identifying potential solutions to these problems, including next steps to initiate these. This final step was at times characterized as “troubleshooting” (Chaffin et al., 2016; Hodge et al., 2017; Meropol et al., 2014) signaling a more urgent and ad hoc type of character that this strategy could take, whereas other studies emphasized that consultation/facilitation depended on a climate conducive to jointly identifying and solving problems among multiple stakeholders (Dogherty et al., 2012; Hurlburt et al., 2014), thereby indicating that it can take time for ISPs to create adequate conditions for using this strategy.

Studies reflected that consultation/facilitation was provided to individuals (Bradshaw et al., 2012; Rosen et al., 2012) as well as groups of stakeholders (Kousgaard & Thorsen, 2012; Murray et al., 2018) and occurred either in-person (Anyon et al., 2016; Dobbins et al., 2018; Eiraldi et al., 2018), or remotely (Brown et al., 2014; Gustafson et al., 2013; Kauth et al., 2010). The use of videotaped work

samples or the direct observation of the work of those supported was described in multiple studies as a key activity involved in consultation/facilitation step 3 (Akin, 2016; Bice-Urbach & Kratochwill, 2016; Brown et al., 2014; Caron & Dozier, 2019; Dusenbury et al., 2010; Funderburk et al., 2015).

“Conduct educational meetings” was the second implementation strategy described as being extensively used by different ISP roles. When taking into account that six additional, though less dominant strategies described in study reports, e.g. “developing and distributing educational materials,” “conducting ongoing training” or “educational outreach visits” or “creating learning collaboratives,” also pursue educational purposes, the education function of ISPs has a substantial presence in the materials reviewed.

While the conduct of educational meetings often is not presented in large detail, study reports displayed a broad spectrum of meeting forms ranging from formal, comprehensive meeting series to informal quick check ins. On the formal end of the spectrum, ISPs conducted e.g. an “onsite 6-hour experiential workshop” (Carson et al., 2014, p. S14), “a series of six learning sessions” (Anaby et al., 2015, p. 3), a “two-day initial training” (Bradshaw et al., 2012, p. 181), or “study days” (Gerrish et al., 2011, p. 210). The use of less formal gatherings aimed at educating stakeholders included e.g. “addressing the subject informally during lunch breaks” (Aasekjær et al., 2016, p. 35), offering one-to-one tutoring (Bice-Urbach & Kratochwill, 2016; Kaasalainen et al., 2015), integrating educational elements into an agency’s routine staff meeting (Byrnes et al., 2018; Graaf et al., 2017) or initiating ad hoc informal training sessions upon request by those supported (Tierney et al., 2014). Study reports that briefly presented the techniques used to educate stakeholders in these meetings reflect a consistent combination of didactic and dynamic, interactive teaching elements (Becker et al.,

2013; Beidas et al., 2012; Brownson et al., 2007; Chaffin et al., 2016; Dobbins et al., 2018; Ryba et al., 2017; Tierney et al., 2014; Yano et al., 2008), the latter of which typically aimed at integrating the concrete and individual/local work experience of those supported.

Evaluation & Iteration

Evaluative and iterative strategies, including “audit and provide feedback,” “conduct local needs assessment,” “develop a formal implementation blueprint” and “assess for readiness and identify barriers and facilitators”, emerged from study reports as another cluster of implementation strategies frequently used by ISPs. Among these, “audit and feedback,” defined as “*any summary of clinical performance of health care over a specified period of time aimed at providing information to health professionals to allow them to assess and adjust their performance*” (Flottorp, Jamtvedt, Gibis, & McKee, 2010, p. iv), had the strongest presence in the literature with 44 publications describing the use of this strategy. Its use focused on the improvement of specific, quantifiable, clinical data such as vaccination levels (Calo et al., 2018), disruptive behavior in classrooms (Sanetti et al., 2018) or the adherence to the key principles of cognitive behavior therapy (Stirman et al., 2017). As described in study reports, this involved multiple activities for the ISP, including to source relevant administrative or statistical data or to self-collect such data (Burns et al., 2008; Dickinson et al., 2014; Jacobson et al., 2019; Meropol et al., 2014), summarize these data in relevant and operational ways (Calo et al., 2018; Chaple & Sacks, 2016; Chinman et al., 2018; Mold et al., 2008), present them for stakeholders (Holtrop et al., 2008; Jacobson et al., 2019) and promote a discussion of findings enabling stakeholders to set priorities for

improvements (McCullough et al., 2017; Preast & Burns, 2018). Multiple studies included descriptions of ISPs tracking and assessing fidelity data to better understand whether interventions were implemented as intended by its developers (Brunette et al., 2008; Chinman et al., 2018; Eiraldi et al., 2018; Gunderson et al., 2018; Kirchner et al., 2014; Mancini et al., 2009; Saldana & Chamberlain, 2012; Sanetti et al., 2013, 2018; Stirman et al., 2017). This illustrates that next to a supportive role ISPs can also have an evaluative role in relation to their stakeholders.

Conducting a local needs assessment has been defined as a process to "*collect and analyze data related to the need for the innovation*" (Powell, Waltz et al., 2015, p. 8). In applying this definition, the literature reviewed confirmed that ISPs indeed took part in assessing the need for different clinical or educational interventions (Dogherty et al., 2013; Fortney et al., 2018; Preast & Burns, 2018; Quanbeck et al., 2018; Rosella et al., 2018; Sanetti et al., 2018; Ward et al., 2017; Waterman et al., 2015). This could occur in formal ways, e.g. by using a particular method such as the nominal group technique (Quanbeck et al., 2018) or as part of purposely scheduled site visits (Anaby et al., 2015; Rosella et al., 2018). Additionally, study reports also included descriptions of more informal approaches to needs assessments—necessary because stakeholders' support needs changed over time and required to be continuously targeted. In these cases, the mapping of needs was routinely integrated into ISP observations of practice and the regular contact they had with those supported (Becker et al., 2013; Bice-Urbach & Kratochwill, 2016; Duffy et al., 2012; Rivard et al., 2010; Ward et al., 2017).

A slight broadening of scope could be observed for the strategy to develop a formal implementation blueprint. Originally defined with a focus on planning the implementation of a clinical intervention, the literature documents that ISPs were also

involved in developing both more targeted plans, in the form of e.g. “coaching delivery plans” (Rushovich et al., 2015, p. 373), or “coping plans” (Sanetti et al., 2018, p. 52) describing how to handle potential implementation barriers, and higher level plans described as e.g. “project charters” (Lavoie-Tremblay et al., 2012, p. 422). In only few cases did study reports outline what this planning implied, with this example being an exception: *“Once facilitators determined that a site was ready to begin in-depth planning, they used a checklist [...] to guide the decision-making process (e.g., identifying [intervention] target population and exclusion criteria, [intervention] staff members’ roles and responsibilities, and how to monitor the implementation process). Facilitators documented specific action items and, when appropriate, identified parties responsible for each action item”* (Ritchie et al., 2017, p. 5).

The final evaluative and iterative strategy identified as being used by ISPs was to “assess for readiness and identify barriers and facilitators”. According to its ERIC definition, it implies to *“assess various aspects of an organization to determine its degree of readiness to implement, barriers that may impede implementation, and strengths that can be used in the implementation effort”* (Powell, Waltz et al., 2015, p. 8). While the ongoing identification of implementation barriers is an integrated part of consultation/facilitation, the focus of this readiness assessment is therefore on screening the status quo before an implementation begins. Multiple studies described ISPs as being involved in this process, which could imply for them to survey (Holtrop et al., 2008; Russell et al., 2010) or interview stakeholders (Peterson et al., 2015), to apply “formative evaluation techniques” (Ritchie et al., 2017, p. 5), or to conduct a series of readiness calls (Brown et al., 2014). In only few examples, the detailed components of a readiness assessment (Waterman et al., 2015) or tools used to support this assessment

(Russell et al., 2010) were described, and in some study reports ISPs appeared to focus on only particular elements of a readiness assessment such as identifying stakeholders' needs for training (Gerrish et al., 2011; Worton et al., 2018) or for implementation support in general (Feinberg et al., 2008; Peterson et al., 2015; Yazejian et al., 2019).

Stakeholder Interrelationships

A third cluster of implementation strategies described to be used by ISPs were those with an interpersonal focus on relationships and communication between implementation stakeholders. Of the four strategies identified, “promoting network weaving” was the most prominent one described in 22 studies. In following its founding definition, this strategy implies to “*identify and build on existing high-quality working relationships and networks [...] to promote information sharing, collaborative problem-solving, and a shared vision/goal related to implementing the innovation*” (Powell, Waltz et al., 2015, p. 10). That this strategy is viewed as important to the work of ISPs is reflected in a poignant terminology used in study reports and characterizing their networking function as that of a bridge (Elnitsky et al., 2015), linking agent (Dogherty et al., 2012), boundary spanner (Dogherty et al., 2012; Graaf et al., 2017), connector (Franks & Bory, 2015), liaison (Dogherty et al., 2012) and convenor (Worton et al., 2018). Furthermore, ISPs are described to fulfill this function in two ways. Firstly, at the very basic level, they share their knowledge about relevant services and agencies that those they support can benefit from in their own practice. This implies e.g. connecting clinical practices to community services (Brown, Elliott & Leatherdale, 2018; Brown, Elliott et al., 2018a, 2018b; Mader et al., 2016). Secondly, at a more advanced level, ISPs work to overcome more persistent connectivity barriers, thereby

bringing individuals, organizations and systems together for collaborative processes that they otherwise would struggle to establish themselves (Waterman et al., 2015; Worton et al., 2018; Yazejian et al., 2019). This second type of networking weaving relies more heavily on the ISP role as one that is defined as neutral toward or independent from those, they support (Worton et al., 2018). Through these two types of network weaving, ISPs represent a “connection resource” to their stakeholders that they themselves need to maintain and expand continuously. This is reflected in studies describing ISPs as being occupied with continuously developing their own networks because they represent a social capital that is of general benefit to their work and helps to e.g. ensure that later implementation activities run more smoothly, or crucial information is accessible when needed (Waterman et al., 2015).

The ERIC definition of the second interpersonal strategy “model and simulate change” suggests that such modeling should occur “prior to implementation” (Powell, Waltz et al., 2015, p. 9). None of the studies included in this review suggested that ISPs were involved in processes aimed at simulating the application of a novel and therefore fully unfamiliar intervention within organizations. Given the nature of these studies, innovations were known, already adopted, and the ISP role was to support and ideally improve their implementation. However, the literature still contained multiple examples of ISPs using role modeling as an implementation strategy, thereby pursuing primarily two purposes: Firstly, role modeling was used to build specific skills in those supported by the ISP. These could be particular clinical skills required by practitioners to deliver an intervention and were taught through e.g. role plays (Akin, 2016; Barac et al., 2018; Caron & Dozier, 2019; Dogherty et al., 2012), formal shadowing (Gerrish et al., 2011), walk-throughs (Jacobson et al., 2019) or participant modeling (Funderburk et al., 2015;

Graaf et al., 2017; Kinley et al., 2014; Sanetti et al., 2018). Secondly, some studies described that ISPs worked to enhance the motivation for change in those they supported by using the exact same techniques they wanted their stakeholders to use with patients or clients in their own implementation support. For example, in a study of consultation, consultants were described to use the principles of Motivational Interviewing (MI) in their support of clinicians learning to apply MI in their clinical practice (Barac et al., 2018). Similarly, in another study knowledge brokers were presented as using the principles of evidence-based practice in as many aspects of their own work as possible (Hurtubise et al., 2016).

The third interpersonal strategy with a strong presence in the literature was “to identify and prepare individuals who dedicate themselves to supporting, marketing, and driving through an implementation,” and to “overcoming indifference or resistance that the intervention may provoke in an organization” (Powell, Waltz et al., 2015, p. 9). This definition guides attention toward key “champions” in an implementing system, who for the vast majority of studies describing ISPs work in this area (N=15) were formal leaders, labeled as “clinical leads” (Acolet et al., 2011, p. F437), “senior management” (Dobbins et al., 2018, p. 3), or just “leadership” (Chaffin et al., 2016; McCullough et al., 2017; Ritchie et al., 2017). Fewer examples also pointed to ISPs connecting with e.g. full steering committees (Brunette et al., 2008), boards (Ward et al., 2017), or government departments (Dobbins et al., 2018). The function of these connections was predominantly described as to update champions, “ensuring the right individuals are informed” (Dogherty et al., 2012, p. 9) about the state and progress of the implementation. However, implicitly, this also aimed to engage champions and to garner their support (Kirchner et al., 2014; McCullough et al., 2017; Ritchie et al.,

2017). Additionally, examples could be identified of ISPs presented as explicit and proactive advisors to implementation or system leaders (Brunette et al., 2008; Chaffin et al., 2016).

Finally, organizing clinician team meetings aiming to provide “*protected time to reflect on the implementation effort*” (Powell, Waltz et al., 2015) was another interpersonal implementation strategy used by ISPs. In all studies describing this use, this implied that ISPs promote the development of new teams explicitly built to support the implementation effort and labeled e.g. project team (van der Zijpp et al., 2016), change team (Fortney et al., 2018; Quanbeck et al., 2018), interdisciplinary facilitation team (Lessard et al., 2016), improvement team (Dickinson et al., 2014), community development team (Saldana & Chamberlain, 2012) or interagency collaborative team (Chaffin et al., 2016). ISPs could be full members of these teams with members providing different aspects of implementation support (Chaffin et al., 2016; Fortney et al., 2018) or they could be in an assisting role in which they supported a team in its local work to promote the implementation of an intervention (Jacobson et al., 2019; Saldana & Chamberlain, 2012). This means that the key function of this strategy, in the ERIC compilation focused on enabling shared learning among clinicians, had a broader scope in the ISP literature. While shared learning and problem solving was a goal for teaming (Kaasalainen et al., 2015; Parchman et al., 2013; Saldana & Chamberlain, 2012), for ISPs these teams also represented an infrastructure that made it possible to connect the parts of a system that were involved in and affected by an implementation and to include these in their support activities. The following excerpt illustrates this well for a change team that received regular implementation support from consultants:

“Multidisciplinary representation on the team was important. [...] changing a workflow

requires understanding the tasks performed by staff members in all occupations involved and securing their cooperation to make the change.” (Jacobson et al., 2019, p. 5). The multidisciplinary character of teams pointed to in this quote emerged as a characteristic from multiple studies (Jacobson et al., 2019; Kaasalainen et al., 2015; Lessard et al., 2016), indicating that ISPs worked with teams of considerable professional diversity as reflected in team members’ educational backgrounds, professions, or organizational roles.

Adaptation & Tailoring

Two further implementation strategies used by ISPs focused on processes of adaptation and tailoring. The greatest presence of these had “tailor implementation strategies,” aimed at addressing implementation barriers, and leveraging facilitators, through this tailoring. It is important to keep in mind that in coding for this strategy, the focus was on identifying descriptions of how ISPs tailor their own support, i.e. the consultation, facilitation or technical assistance they offered. Thirty-seven studies included such descriptions, documenting the work of all ISP roles, apart from implementation teams. While tailoring was the dominating term used in this context, adapting, modifying, individualizing, fitting, customizing, or matching were alternative wordings used in study reports. Close to a third of these studies (N=13) provided little detail on the factors informing the tailoring practice of ISPs, with only brief descriptions such as “*we encourage regular (i.e., at least monthly) contact between coaches and grantees to provide strong support, regular guidance, and tailored technical assistance*” (Olson et al., 2018, p. 31) being rather common. The remaining studies (N=24) included some but still relatively general detail about what caused and informed

tailoring processes. These could be structured into two main groups. The first group explained tailoring as a response to the needs expressed by or identified for the individuals whom ISPs supported. These could be described as professional development needs (Akin, 2016; Becker et al., 2013; Dusenbury et al., 2010; Shernoff et al., 2015), needs emerging from particular preferences (Anaby et al., 2015; Barac et al., 2018; Dobbins et al., 2018), or from individuals' organizational role (Gerrish et al., 2011; Gustafson et al., 2013; Rivard et al., 2010). The second group of publications described factors in the inner setting in which the implementation support was provided as causing the tailoring, including organizational culture and climate (Aasekjær et al., 2016; Anaby et al., 2015; Garbacz et al., 2016), policies (Anaby et al., 2015; Brunette et al., 2008) and priorities (Kelly et al., 2000), resources (Chinman, McCarthy et al., 2017), or structures (Brunette et al., 2008; Garbacz et al., 2016). Only one study pointed to outer setting factors—in the form of other health initiatives and organizations operating in the external environment to an implementation—as a potential trigger for tailoring (Tierney et al., 2014). Finally, in a study of intermediaries (Chew et al., 2013), the professional skills and interests of the ISP are described causing tailoring in a system in which this role was newly established.

Sparse was the information about the elements of implementation support that were tailored. Studies containing such detail pointed to e.g. intensity and focus (Meropol et al., 2014), delivery mode (Yazejian et al., 2019), resources (Russell et al., 2010), tools (Rosella et al., 2018) or documentation (Mackenzie et al., 2011) with more fine-grained accounts being a rare exception (Quanbeck et al., 2018).

The second strategy within this cluster was “promote adaptability,” originally defined as a way to “identify the ways a clinical innovation can be tailored to meet local

needs and clarify which elements of the innovation must be maintained to preserve fidelity” (Powell, Waltz et al., 2015, p. 10). Excerpts describing ISPs involvement in the use of this strategy could be extracted from 19 studies including all ISP roles. The types of adaptations they contributed to were addressing the clinical needs of specific target populations (Beidas et al., 2013; Shernoff et al., 2015), or their cultural preferences (Chaffin et al., 2016; Hurlburt et al., 2014) but also conditions characterizing the local context of the implementation, such as resources (Saldana & Chamberlain, 2012) or the interests and preferences of individuals using a new intervention (Rosella et al., 2018; Waterman et al., 2015). The concrete role ISPs played in these adaptations ranged from surveying stakeholders to assess whether interventions were deemed feasible and acceptable and thereby inform adaptation needs (Waterman et al., 2015); sourcing, translating and applying evidence to guide adaptation (Beidas et al., 2013); liaising between intervention developers and providers to enable adaptation (Chaffin et al., 2016; Fortney et al., 2018; Saldana & Chamberlain, 2012); helping to adapt guidelines, protocols, tools and other intervention resources used by providers and other key stakeholders (Parchman et al., 2013; Quanbeck et al., 2018; Rosella et al., 2018); and tracking and documenting adaptations to ensure these are sufficiently captured (Yano et al., 2008).

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