DR JANET E SQUIRES (Orcid ID : 0000-0003-2208-7189)

Article type : Concept Analysis

Abstract

Aims: To conduct a concept analysis of clinical practice contexts (work environments) in healthcare.

Background: Context is increasingly recognized as important to the development, delivery and understanding of implementation strategies; however, conceptual clarity about what comprises context is lacking.

Design: Modified Walker and Avant concept analysis comprised of 5 steps: 1) concept selection; 2) determination of aims; 3) identification of uses of context; 4) determination of its defining attributes; and 5) definition of its empirical referents.

Methods: A wide range of databases were systematically searched from inception to August 2014. Empirical articles were included if a definition and/or attributes of context were reported. Theoretical articles were included if they reported a model, theory, or framework of context or where context was a component. Double independent screening and data extraction was conducted. Analysis was iterative, involving organizing and reorganizing until a framework of domains, attributes and features of context emerged.

Result: We identified 15,972 references, of which 70 satisfied our inclusion criteria. In total, 201 unique features of context were identified, of these 89 were shared (reported in 2 or more studies). The 89 shared features were grouped into 21 attributes of context which were further categorized into 6 domains of context.

Conclusion: This study resulted in a framework of domains, attributes and features of context. These attributes and features, if assessed and used to tailor implementation activities, hold promise for improved research implementation in clinical practice.

Note: This concept analysis is a follow-up paper from a protocol published in the Journal of Advanced Nursing, thus the review process and subsequent publication of the paper was allowed to proceed after the Journal of Advanced Nursing discontinued publication of concept analyses

Keywords:

concept analysis, context, implementation, knowledge translation, work organization, healthcare

Introduction

Implementation and sustainability of evidence-based health systems and the use of best available evidence by healthcare practitioners are global healthcare priorities (Bajnok, Grinspun, Lloyd, & McConnell, 2015; World Health Organization, 2017). Organizations such as the Cochrane Collaboration and the World Health Organization (WHO) work collaboratively with national institutes of research, governments, regulatory bodies and professional healthcare partner organizations worldwide to improve knowledge translation, or the uptake of research findings, in healthcare decision making processes. Despite increased awareness of and access to high-quality evidence, the literature is replete with examples of inconsistent research use among healthcare professionals (Wilson, Lavis, & Grimshaw, 2012). This is evidenced by suboptimal rates of adherence to clinical practice guidelines across health disciplines, beyond the termination of grant funding (Ament et al., 2015; McGlynn et al., 2003; Tricco et al., 2015; Yost et al., 2014) and failure to sustain up to 80% of successfully implemented interventions (Gruen et al., 2008; Scheirer, 2005; Wiltsey Stirman et al., 2012). Understanding how to improve the integration of research into routine clinical practice in a healthcare landscape where science and technology are constantly evolving, is challenging. Knowledge translation science provides a theoretical and empirical basis for optimizing interventions to improve the uptake of evidence-based practice by healthcare practitioners.

A key factor influencing knowledge translation is context. The ability to assess and influence modifiable contextual factors in a given clinical setting is paramount to improving knowledge translation (Backer, 1991; Dogherty, Harrison, & Graham, 2010; Glaser, Abelson, & Garrison, 1983; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004c; Kimberly & Cook, 2008; Landry, Amara, & Lamari, 2001; Mitton, Adair, McKenzie, Patten, & Perry, 2007; Rich &

Oh, 1994; Squires et al., 2011; Squires et al., 2013; Squires, Sullivan, Eccles, Worswick, & Grimshaw, 2014). However, there is no single comprehensive definition for, or agreement on, what characteristics comprise context. We aim to fill this gap by identifying the domains, attributes and features of context in healthcare. In the present study, we organized the characteristics of context hierarchically into domains, attributes and features whereby features are grouped into attributes which are further grouped into domains. This hierarchical classification aids in organizing the characteristics of context and will facilitate the broad uptake and application of this framework.

Note: This concept analysis is a follow-up paper from a protocol published in the Journal of Advanced Nursing, thus the review process and subsequent publication of the paper was allowed to proceed after the Journal of Advanced Nursing discontinued publication of concept analyses

Background

As knowledge translation research has evolved, variability in our understanding of context has proven to be problematic. One of the emerging issues identified by implementation researchers is the importance of understanding the context where implementation is to occur and assessing what contextual features will be influential in change (Backer, 1991; Dogherty et al., 2010; Glaser et al., 1983; Greenhalgh et al., 2004c; Kimberly & Cook, 2008; Landry et al., 2001; Mitton et al., 2007; Rich & Oh, 1994; Squires et al., 2011; Squires et al., 2013; Squires et al., 2014). In complex healthcare settings, the ability to identify, assess and evaluate characteristics of context may have a significant impact on successful implementation. Several previous syntheses on context have been conducted, where contextual determinants of implementation success were identified. For example, Meijers et al. (2006) identified six context features (role, access to resources, organizational climate, support, education and time) while Hutchinson et al. (2010) identified four broad groups of contextual factors (cultural, structural, physical and social) important to healthcare professionals' use of research evidence in practice. Several definitions of context also exist in the literature. McCormack et al. (2002) conducted a previous concept analysis of context, where context was broadly defined as a setting or an environment where individuals receive healthcare services. Context has also been defined as a setting or an environment where a particular change is to be implemented (Kitson, Harvey, & McCormack, 1998a). These definitions of context focus on the physical environment where interventions or

healthcare practices are implemented. Other authors have defined context more broadly by including the "characteristics and circumstances surrounding an implementation attempt" (Pfadenhauer et al., 2015)p. 103). Greenhalgh et al. (2004c) outline the need to identify context-specific antecedents of users within certain dimensions of an organization's context, including internal and outer contextual factors, which may influence or even predict, the successful use of research in clinical practice. Many identified determinants of context are common across studies; however, given the variation in use of terms for context, it is not clear whether researchers are describing distinctly different or similar constructs. Thus, the interpretation of context varies greatly (Berta et al., 2005; Fleuren, Paulussen, Van Dommelen, & Van Buuren, 2014; Greenhalgh et al., 2004c).

The widely varying definitions of context suggest it encompasses multiple characteristics, many of which undoubtedly influence research use among healthcare professionals. Some overlap in definitions of context suggests some agreement exists among researchers about what constitutes context. However, there continues to be a lack of general consensus on: (i) what comprises context and a comprehensive definition for context; (ii) what constitutes a core set of attributes (and their features) of context; and (iii) which contextual attributes and features should be assessed in implementation research and practice. Thus, the purpose of this study was to conduct a concept analysis of clinical practice contexts (work environments) in healthcare. Our goal was to advance conceptual clarity of what comprises context by developing a preliminary framework of domains, attributes and features of context.

Design

The detailed protocol for this study was published (Squires et al., 2015). We deviated from the protocol in that only 5 of the 8 steps of the Walker and Avant (2005, 2011) concept analysis method we originally proposed were used; three steps were determined during our data extraction and analyses to be not applicable for our study purpose: identification/construction of a model case of context; identification/construction of additional cases of context; and identification/construction of antecedents and consequences of context. Our goal in conducting this study was to advance conceptual clarity on what comprises context. To achieve this goal, we identified and systematically analyzed definitions of context. Because context refers broadly to elements of the environment, identification and development of 'cases' (model and additional) need to be in relation to specific situations to be useful; for example, cases of a favourable

context for knowledge translation and an unfavourable context for knowledge translation. To robustly identify or develop such cases necessitates literature reviews be conducted on the domains, attributes and features of context identified from this study as they relate to knowledge translation. The current study reported in this paper was a necessary prerequisite for this future work. We also omitted the step 'identification/construction of antecedents and consequences of context'. Because context refers broadly to elements of the environment, it does not have clear antecedents; this was reinforced in the papers meeting our inclusion criteria. Our data predominantly comprised definitions of context from the background sections of papers or the description of context measures. As a result, the included papers frequently did not focus on context and thus, consequences specific to the domains, attributes and features of context we identified were seldom reported. Further, our analysis focused on decomposing 'unique' definitions of context; therefore, we limited inclusion to a single offering of a definition; we did not include all papers that used a specific definition as this was not in line with our study purpose. For these reasons, we did not identify consequences of context. Similar to the development of model and additional cases, to rigorously identify the consequences of context necessitates literature reviews be conducted on the domains, attributes and features of context that were identified in this study. This represents next steps in our research program.

What we set out to accomplish in this study and did in a very rigorous way was identify what comprises context broadly in healthcare to advance its conceptual clarity. We did this systematically using the first 5 steps of the Walker and Avant concept analysis method as follows: 1) concept selection; 2) determination of aims; 3) identification of uses of context; 4) determination of defining attributes of context; and 5) definition of empirical referents of context.

Search methods

A comprehensive search was developed iteratively and carried out by a health sciences librarian. Indexing (MeSH - Medical Subject Headings) and key terms identified in relevant literature (Greenhalgh & Peacock, 2005; Greenhalgh, Robert, & Bate, 2004a; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004d; Hutchinson et al., 2010; Kaplan et al., 2010; May et al., 2007) were used to develop the search strategy, for example: context, setting, organization, organizational (contextual) determinants (characteristics, factors, features), social context, organizational context, culture, environment, climate, work environment (setting). The

complete Medline search strategy is in Appendix 1. We searched both biomedical and social science databases because context is interdisciplinary and heterogeneous in nature. Additionally, we searched dissertations and theses, books and grey literature. A search was also conducted of the Cochrane Database of Systematic Reviews, with an emphasis on reviews by the Effective Practice and Organisation of Care Group, which focus on organizational and health professional-directed interventions. Databases (Table 1) were searched from inception to August 2014. We manually searched 'included' publication reference lists for potential papers that did not surface in our electronic searches.

Inclusion and exclusion criteria

Publications that provided a definition of context and/or description of its attributes were considered for inclusion. Because we were interested in understanding context from the healthcare perspective, we limited empirical and descriptive literature to healthcare. Our preliminary scoping of the theoretical literature indicated that theories in healthcare addressed context insufficiently. We therefore considered for inclusion theoretical literature from the organization management field that referred to context. Included were peer-reviewed journal articles, dissertations and theses, books and grey literature (e.g., publications of government health departments and organizations involved in quality improvement, knowledge translation, or health policy development). Additionally, publications reporting a theory, model or framework were included if they were the index (original) report, or if they reported an adaptation to the theory, model, or framework. Publications were excluded if they focused only on defining an aspect of context and not context in general (e.g., focus was to define leadership, a component of context and not to define context). Non-English articles were excluded. There were no restrictions based on study design, publication date or status (published or unpublished).

Screening

Abstracts were independently reviewed by two team members. Full texts of publications were retrieved for all potentially relevant reports and independently assessed for inclusion by two team members. Disagreements were resolved through consensus; when required, a third senior team member made the final decision.

Quality appraisal

Quality assessment of included articles was not warranted because we only extracted data relating to the definitions and attributes of context; we were interested in the concept of context –

how it was defined, its attributes and their features and not the results of the study. As a result, our data came predominantly from the background sections of the included articles and in some cases, from the descriptions of instruments used to measure context. Since the extracted data (definitions of context) did not arise as a result of the conduct of the included studies, assessment of methodological quality of each study was not necessary. Additionally, many included publications reported on theory, not empirical studies.

Data extraction and synthesis

Data extraction was undertaken for all included articles independently by two team members with disagreements resolved through consensus. Extracted data included: discipline the article was published in, discipline of the authors, setting, the purpose (as stated in the publication), the study design, stated definition(s) of context and the contextual attributes and features. Walker and Avant (2005, 2011) state that determining the defining attributes of a concept are at the heart of conducting a concept analysis. They define attributes as characteristics of the concept that appear over and over again when reviewing definitions, thus clarifying the uniqueness of the concept (Walker & Avant, 2005, 2011). There was wide variation in the ways where context was described by authors in our concept analysis; for example, authors provided definitions, general descriptions, models, instruments and listings of variables. Therefore, to determine the commonalities across each description of context, we extracted all instances of context; attributes of context were further separated into the constituent features and when only features were reported they were also extracted. All definitions of features, where reported, were reviewed by two senior team members; the definitions reported in our tables were determined by consensus. Several senior team members grouped similar features into attributes of context and attributes into domains of context. The process was iterative, involving organizing and reorganizing until we achieved a semblance of structure. This was followed by a consensus process in our large international research team to achieve a proposed framework of context that best fit the data. For a feature or attribute to be included in our framework of context, we required that it was 'shared', meaning reported in at least two articles.

Results

Eligible studies

Title and abstracts of 15,972 references were screened for relevance by applying the inclusion/exclusion criteria. This yielded 738 references that were reviewed in full-text, with 70

retained for the final sample. Most publications were excluded because they did not provide a description of context. Figure 1 outlines the search and screening process using a PRISMA diagram.

Uses of context

We found that many authors did not provide an official definition of context. In most studies, attributes or features of context were simply listed without a definition of context. We found that several surrogate terms were used in the literature for context; for example, work environment, practice environment, environmental setting, setting, situation and background. However, some authors were focused in their description or study of context, describing organizational context specifically or focusing on the practice, political, work, implementation and/or professional contexts. Examples of definitions of context and surrogate terms found through this concept analysis are summarized in Table 2. Context was also often described as an attribute of a framework or model (e.g. Promoting Action on Research in Health Services [PARiHS] (Kitson et al., 1998a), Theoretical Domains Framework [TDF] (Cane, O'Connor, & Michie, 2012; Michie et al., 2005), Consolidated Framework for Implementation Research [CFIR] (Damschroder et al., 2009) or instrument (Alberta Context Tool [ACT] (Estabrooks, Squires, Cummings, Birdsell, & Norton, 2009), Organizational Readiness for Change [ORCA] (Helfrich, Li, Sharp, & Sales, 2009), Context Assessment Index [CAI] (McCormack, McCarthy, Wright, & Coffey, 2009).

Framework of context

Through our analyses we identified 201 unique features of context; of these 89 were shared (reported in at least two articles) and included in our framework of context. The remaining 112 features can be found in Appendix 2, along with their definition and reference to the article it came from. The large number of unique features of context identified through this concept analysis reflects the broad and mixed understanding of context that exists and its varied use in healthcare literature. Typically, concept analyses do not result in such a large number of attributes (e.g., Xyrichis and Ream (2008) and Windle (2011)). The 89 shared features of context were grouped into 21 defining attributes of context that we further categorized into six broad domains of context, which comprises the framework of context that we compiled from the existing literature (Figure 2). The six domains of context in the framework are: 1) users of context (N=1 attribute); 2) providers/workers within context (N= 2 attributes); 3) internal

arrangements of context (N= 6 attributes); 4) internal infrastructures/networks (N= 4 attributes); 5) responsiveness to change (N= 5 attributes); 6) broader system related to context (N=6 attributes). Next, we summarize the 6 domains and 21 attributes of context included in the framework and highlight the most frequently reported features in each domain. All features of context, along with their definition (where reported in the literature), the assigned attribute (its definition) and domain, as well as reference to all articles that reported the feature and attribute, are in Table 3.

Domain 1: users of context. The 'users of context' domain contains one defining attribute: *patient population*, reported in seven (10%) articles. Two features comprised this attribute: 1) patient/client demographics, reported in four (6%) articles and defined as characteristics of individuals receiving care or service, including their individual or collective age, gender, health status, education, previous hospitalizations, acuity and illness severity (Bacon, Hughes, & Mark, 2009); and 2) patient expectations, reported in two (3%) articles, defined as wishes of the patient related to clinical care directly expressed to the provider or perceived by the provider (Oxman, Flottorp, & . 2001).

Domain 2: providers/workers within context. There are 2 attributes of context (with a combined total of 21 features) in the 'providers/workers within context' domain: 1) *people* (N=8 features) reported in 27 (39%) articles and 2) *clinician/provider group* (N=13 features) reported in 17 (24%) articles. The most frequently reported features of context within the domain were: 1) resource-time (*attribute: people*), reported in 16 (23%) articles and defined as the organisation provides staff enough time to include the innovation as intended in their day-to-day work (Fleuren et al., 2014); 2) staffing numbers (*attribute: people*), reported in eight (11%) articles and defined as having enough people in the organisation to use the innovation as intended (Fleuren et al., 2014); 3) staff composition (*attribute: people*), reported in five (7%) articles and defined as staff characteristics such as: sex, age, education (Bolin, Marklund, & Bliese, 2008); and 4) efficacy or self-confidence (*attribute: clinician/provider group*), reported in five (7%) articles and defined as staff confidence in their own professional skills and performance (Simpson & Dansereau, 2007).

Domain 3: internal arrangements of context. There are six attributes of context (with a combined total of 21 features) in the 'internal arrangements of context' domain: 1) *culture* (N= 3 features) reported in 31 (44%) articles; 2); *governance* (N= 7 features) reported in 21 (30%)

articles; 3); *leadership* (N= 7 features) reported in 21 (30%) articles; 4) *units/organizations* (N= 6 features) reported in 15 (21%) articles; 5) *economic* (N= 5 features) reported in 16 (23%) articles; and 6) *management* (N= 3 features) reported in five (7%) articles. The most frequently reported features of context within the domain were: 1) organizational culture (*attribute: culture*), reported in 28 (40%) articles and defined as implicit norms, values, shared behavioral expectations and assumptions that guide behaviors of members of a work unit (Aarons, 2005); 2) external policies, directives, mandates and regulation (*attribute: governance*), reported in 8 (11%) articles and defined as policy and regulations (governmental or other central entity), external mandates, recommendations and guidelines (Damschroder et al., 2009); and 3) leadership generally (*attribute: leadership*), reported in eight (11%) articles and defined in terms of strong leader qualities such as consistency, makes it clear how to achieve unit goals, provides opportunity to develop the staff's competence and is open to change in workplace organization and work methods (Wallin, Ewald, Wikblad, Scott-Findlay, & Arnetz, 2006).

Domain 4: internal infrastructures/networks. There are 4 attributes of context (with a combined total of 16 features) in the 'internal infrastructures/networks' domain: 1) *physical infrastructure* (N= 4 features) reported in 24 (34%) articles; 2) *social infrastructure* (N= 6 features) reported in 16 (23%) articles; 3) *communication and relationships* (N= 5 features) reported in 10 (14%) articles; and 4) *support* (N= 1 feature) reported in three (4%) articles. The most frequently reported features of context in this domain were: 1) availability of resources, equipment and supplies (*attribute: physical infrastructure*), reported in 20 (29%) articles and defined as the supplies, equipment and time necessary to meet work demands, examples of resources listed by authors included: office equipment and physical space (Simpson & Dansereau, 2007), money, training, education, physical space and time (Damschroder et al., 2009); 2) organizational structures and processes (*attribute: social infrastructure*), reported in 10 (14%) articles and defined using examples of such processes such as referral mechanisms (French, 2005); and 3) social influence (*attribute: communication and relationships*), reported in 6 (9%) articles and defined as processes by which individuals are affected by others' social construction of events, ideas, objects and behaviors and are subject to pressure to conform their behavior, attitudes and beliefs to that social reality (Aarons, 2005).

Domain 5: responsiveness to change. There are three attributes of context (with a combined total of 7 features) in the 'responsiveness to change' domain: 1) *climate* (N= 3

features) reported in 17 (24%) articles; 2) *receptivity* (N= 3 features) reported in 8 (11%) articles; and 3) *other organizational change processes* (N= 1 feature) reported in two (3%) articles. The most frequently reported features of context in the domain were: 1) organizational climate (*attribute: climate*), reported in eight (11%) articles and defined as employees' affective responses to their work environment (Aarons, 2005); 2) team climate (*attribute: climate*), reported in five (7%) articles and defined as the atmosphere at work, cohesion among co-workers and a supportive atmosphere among co-workers (Wallin et al., 2006); 3) compatibility (*attribute: climate*), reported in four (6%) articles and defined in terms of the degree of tangible fit between meaning and values attached to an intervention by involved individuals, how those align with individuals' own norms, values and perceived risks and needs and how the intervention fits with existing workflows and systems (Damschroder et al., 2009); 4) receptivity generally (*attribute: receptivity*), reported in four (6%) articles and defined as readiness or fit of critical features of the environment as they specifically relate to a targeted evidence-based practice (Stetler, Damschroder, Helfrich, & Hagedorn, 2011); and 5) tension for change (*attribute: receptivity*), reported in four (6%) articles and defined in terms of if staff perceive that the current situation is intolerable, a potential innovation is more likely to be assimilated successfully (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004b).

Domain 6: broader system related to context. There are 5 attributes of context (with a combined total of 12 features) in the 'broader system related to context' domain: 1) *evaluation* (N= 4 features) reported in 12 (17%) articles; 2) *politics and power* (N= 3 features) reported in 4 (6%) articles; 3) *market* (N= 1 feature) reported in 3 (4%) articles; 4) *complex system* (N= 3 features) reported in three (4%) articles; and 5) *collaborative relationships* (N= 1 feature), reported in two (3%) articles. The most frequently reported features of context in the domain were: 1) performance feedback (*attribute: evaluation*), reported in six (9%) articles and defined as feedback from the leader on when tasks have been well done or poorly (Wallin et al., 2006); 2) performance management (*attribute: evaluation*), reported in five (7%) articles and defined using examples such as feedback on individual/team/system performance (Kitson et al., 2008) and indicators of quality (establishing and monitoring at regular intervals) (Stetler et al., 2011); 3) competitive pressure (*attribute: market*), reported in three (4%) articles and defined in terms of pressure to implement an intervention, typically because most or other key peer or competing organizations have already implemented or in a bid for a competitive edge (Damschroder et al.,

2009); 4) target complexity (*attribute: complex system*), reported in three (4%) articles and defined as including the number of potential organizational units (teams, clinics, departments) or person types (providers, patients, managers) that may be the foci for interventions (Kochevar & Yano, 2006); and 5) process complexity (*attribute: complex system*), reported in three (4%) articles and defined as including process length (the process contains sequential sub-processes), process breadth (the number of choices presented at decision points in the process) and delivery systems (Kochevar & Yano, 2006).

Discussion

Through a rigorous concept analysis process, a conceptual analysis of context was undertaken to identify its defining attributes and their features to provide a clearer description and understanding of context. Comprehensive formal theoretical and operational definitions of context were largely lacking in the literature overall. Based on the results of our analysis, we developed a framework of context comprised of 6 domains, 21 attributes and 89 shared unique features of the attributes (Figure 2, Table 3). We define context as characteristics of: the providers and users of healthcare, internal organizational arrangements, infrastructures and networks, responsiveness to change and the broader healthcare system. These contextual domains are interconnected and have potential to directly or indirectly influence or modify the use of evidence by healthcare providers, policy makers and recipients of care.

As a result of strong hypotheses about the effect of context on knowledge translation, large but distinct bodies of literature on context in knowledge translation science have emerged (Estabrooks et al., 2011; Fleuren et al., 2014; Glisson, 2002; Greenhalgh et al., 2004a; Greenhalgh et al., 2004b; Kitson, Harvey, & McCormack, 1998b). However, the literature is replete with different conceptualizations of context. It was unclear what was meant by 'context' or even if authors were referring to the same concept when they referred to context. This confusion around context significantly hindered its exploration in knowledge translation science and thus, our understanding of how context has an impact on the design, delivery and effectiveness of knowledge translation interventions. Therefore, to advance knowledge translation research, greater attention to the conceptualization of context was necessary in the form of a rigorous concept analysis, such as that conducted and reported in this paper.

We are aware of only one previous concept analysis of context which was published in 2002 by McCormack and colleagues (McCormack et al., 2002). Unlike our study, this former

concept analysis was conducted specifically in the context of the successful implementation of evidence into practice. McCormack and colleagues (McCormack et al., 2002) identified three defining attributes of context: organizational culture, leadership and measurement (evaluation). A main finding from their analysis was that context specifically means 'the setting in which practice takes place'. We also identified these three defining attributes, reinforcing that they are core attributes of context. However, we significantly advance conceptual clarity of context beyond this initial attempt by identifying 18 additional defining attributes as well as 201 (89 of which were reported in more than a single article) unique features of the attributes.

Our framework resulted in a much-needed understanding of context and identification of its domains, attributes and features. This framework is necessary to develop common assessment tools to measure context to: 1) tailor knowledge translation intervention design and delivery, 2) better interpret the effects of knowledge translation interventions and 3) pragmatically guide change agents and quality improvement specialists in their implementation efforts. Subsequent work is empirically verifying and revising the framework using qualitative interview data across multiple countries and settings with healthcare professionals and change agents, which will be followed by identification and psychometric assessment of existing measures of each attribute of context.

Strength and Limitations

Strengths of this concept analysis include: 1) the use of a broad search strategy that encompassed published and grey literature; 2) inclusion of theoretical literature outside healthcare; 3) rigorous methods including double independent screening and data extraction; and 4) use of an inductive analytic strategy. Our main limitations include: 1) restriction of empirical articles to those carried out in a health setting; 2) all studies located were in high- and middle-income countries; and 3) included articles were restricted to those written in English. Our concept analysis is also limited in that we did complete all of the steps of the Walker and Avant method – we did not identify/develop cases of context or identify antecedents/consequences of context. For these steps to be completed thoroughly, additional studies are needed whereby literature reviews are conducted on the 21 defining attributes of context identified from the analysis reported in this paper. These projects represent next steps in our research program to further elucidate the concept of context.

Conclusion

Through this concept analysis, we were able to develop a hierarchical framework of the domains, attributes and features of context. This framework, while preliminary, significantly improves much needed conceptual clarity of context. The framework is intended to guide assessment and tailoring of implementation activities, leading to improved research use by healthcare professionals and better patient outcomes.

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Databases searched

Database	Dates searched
Business Source Complete, Ebsco	1886-August 2014
CINAHL (Cumulative Index to Nursing and Allied Health Literature), EbscoHost	1981-August 2014
Cochrane Central Register of Controlled Trials (CENTRAL)	1996-August 2014
Cochrane Database of Systematic Reviews	1995-August 2014
Dissertations and Theses Database, ProQuest	1997-August 2014
EMBASE, OvidSP	1947-August 2014
MEDLINE(R) and In-Process and other non-indexed citations, OvidSP	1946-August 2014
NHS Economic Evaluation Database (NHS EED)	2002-August 2014
PAIS (Public Affairs International), Proquest	1972-August 2014
PsycINFO, OvidSP	1806-August 2014
PubMed	1946-August 2014
Science Citation Index and Social Sciences Citation Index (ISI Web of Knowledge)	1900-August 2014
Web of Science, Conference Proceedings Citation Index- Science (ISI Web of Knowledge)	1990-August 2014
WorldCat (an international catalogues of books)	1998-August 2014

Surrogate Terms for Context

Term Used	Source	Selected Definitions
Context	Merriam-Webster Dictionary	1. The parts of a discourse that surround a word or passage and can throw light on its meaning. 2. The interrelated conditions in which something exists or occurs.
	Oxford Dictionary	1. The circumstances that form the setting for an event, statement, or idea, and in terms of which it can be fully understood. 2. The parts of something written or spoken that immediately precede and follow a word or passage and clarify its meaning.
	May et al. (2007)	Contexts are the physical, organisational, institutional, and legislative structures that enable and constrain, and resource and realize, people and procedures.
	PARIHS framework (Kitson, Harvey, & McCormack, 1998)	The "environment or setting in which people receive health care services, or . . . the environment or setting in which the proposed change is to be implemented." Context consists of: Culture, Leadership and Evaluation
	Berta, Ginsburg, Gilbart, Lemieux-Charles, & Davis (2013)	Broadly conceived, includes (a) organizational and individual-level factors that influence learning about new knowledge, (b) micro- and macro environmental influences on application and learning, and (c) the impact that the nature of the knowledge or innovation itself has on learning
	Stetler, Damschroder, Helfrich, & Hagedorn (2011)	Quality of the environment or setting in which the research is implemented
Organizational context	Alberta Context Tool (Estabrooks, Squires, Cummings, Birdsell, & Norton, 2009)	The environment or setting in which people receive healthcare services, or in the context of getting research evidence into practice, the environment or setting in which the proposed change is to be implemented

Social context	Glasgow (1995)	Community and social context refers to factors such as work, family, neighborhood, general community support, and encouragement of behaviors consistent with diabetes regimen recommendations. They also involve "the dark side of social support" and "miscarried helping," as well as community, state, and federal policies, incentives, and setting factors that make it more or less difficult for patients to engage in appropriate self-management behaviors.
	Bekkema, Wiefferink, & Mikolajczak (2008)	Includes characteristics such as rules and laws, financing, social standards and clients.
	French (2005)	How the preferences, beliefs, or working practices of other groups involved in health care delivery influenced their assessment of the feasibility of research uptake
Organizational Social Context	Glisson et al. (2008)	A measure which identifies the presence and strengths of the key constructs, which includes: proficiency, rigidity, resistance, engagement, functionality, and stress are central to characterizing and quantifying organizational culture and climate
Economic context	French (2005)	Include factors in the wider health care environment such as the availability of equipment, the cost implications for patients and wider funding mechanisms
Economic and political context	Brownson, Fielding, & Maylahn (2009)	Variables include political will, political ideology, lobbying and special interests and costs and benefits.
Environmental context (and resources)	Theoretical Domains Framework *(Cane, O'Connor, &* Michie, 2012)	Any circumstance of a person's situation or environment that discourages or encourages the development of skills and abilities, independence, social competence, and adaptive behaviour
	Kimberly (1981)	The characteristics of an organization's environment that impact upon the organization in some fashion
Political context	French (2005)	Included organizational decision-making factors such as the structures and procedures for policy formulation in the organisation and how the staff participated in them

Practice context	Brown & McCormack (2011)	A multi-layered construct that brings together issues of culture, leadership, behaviours, and relationships.
Professional context	Grol & Grimshaw (2003) / Oxman & Flottorp (2001)	The knowledge and attitudes of the professionals involved in the implementation of evidence
Work context	French (2005)	The physical context or the physical setting or systems of direct clinical care
Context of readiness	Stetler et al. (2011)	The environment or setting in which the proposed evidence-based change is to be implemented

Domains, Attributes and Features of Context (n=89 features shared)

Domain	Attribute (# of studies cited in)	#	Features (# of studies cited in)	Definition of Feature	Studies Which Included Feature
User of Context	Patient Population (7) The attributes of individuals receiving medical care or treatment. This code refers to the characteristics of patients when considered as a group, rather than as individuals, thus all sub-codes considered for inclusion here had to be generalizable to a patient population (an attribute that could be potentially measured and aggregated).	1	patient/client demographics (4)	Characteristics of individuals receiving care or service, including their individual or collective age, gender, health status, education, previous hospitalizations, acuity, and illness severity (Bacon, Hughes, & Mark, 2009).	(Bacon et al., 2009) (Bekkema, Wiefferink, & Mikolajczak, 2008) (Brownson, Fielding, & Maylahn, 2009) (Jinnett & Alexander, 1999)
		2	patient/client expectations (2)	Wishes of the patient related to clinical care directly expressed to the provider or perceived by the provider (Oxman, Flottorp, & . 2001).	(R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
Providers/ Workers within	People (27) The arrangement of	1	resource–time (16)	The time an organisation provides to staff to allow for the inclusion of innovation as intended in their day-to-	(Adib-Hajbaghery, 2007) (Cane, O'Connor, & Michie, 2012) (Damschroder et al., 2009)

Context	tasks, responsibilities and resources within and between healthcare providers working in the clinical setting. This code refers to the characteristics of individuals when considered as a group rather than as individuals, thus all sub-codes considered for inclusion here had to be generalizable to a healthcare professional population. This includes factors such as staffing numbers, workload and change saturation.		day work (Fleuren, Paulussen, Van Dommelen, & Van Buuren, 2014).	(Estabrooks, Squires, Cummings, Birdsell, & Norton, 2009) (Fleuren et al., 2014) (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004) (R. Grol & Grimshaw, 2003) (Helfrich, Li, Sharp, & Sales, 2009) (Jinnett & Alexander, 1999) (Latimer, Ritchie, & Johnston, 2010) (Michie et al., 2005) (Oxman et al., 2001) (Pettigrew & Whipp, 1992) (Solberg et al., 2000) (Versteeg, Laurant, Franx, Jacobs, & Wensing, 2012) (Wallin, Estabrooks, Midodzi, & Cummings, 2006)
		2 staffing numbers (workforce) (8)	The number of people required in the organisation to use the innovation as intended (Fleuren et al., 2014).	(Adams, Robert, & Maben, 2013) (Estabrooks et al., 2009) (Fixsen, Naoorn, Blase, Friedman, & Wallace, 2005) (Fleuren et al., 2014) (Greenhalgh et al., 2004) (R. Grol & Grimshaw, 2003) (Simpson & Dansereau, 2007) (Versteeg et al., 2012)
		3 staff composition (5)	Staff characteristics such as: sex, age,	(Bolin et al., 2008)

				education (Bolin, Marklund, & Bliese, 2008).	(Brownson et al., 2009) (Estabrooks et al., 2009) (Fixsen et al., 2005) (Varcoe & Hilton, 1995)
		4	staffing qualifications and expertise (4)	The extent that existing staff have the characteristics and skills required by the changes or are capable of successful retraining (Solberg et al., 2000).	(Adams et al., 2013) (Brownson et al., 2009) (Fixsen et al., 2005) (Solberg et al., 2000)
		5	availability of support staff (2)	Not Reported	(French, 2005) (Zapka et al., 2013)
		6	professional growth (2)	The extent to which staff members value and use opportunities for their own professional growth (Simpson & Dansereau, 2007).	(Latimer et al., 2010) (Simpson & Dansereau, 2007)
		7	workload (2)	The volume of clinical work (Dopson & Fitzgerald, 2005).	(Dopson & Fitzgerald, 2005) (Graham & Logan, 2004)
		8	change saturation (2)	The overstretching or exhaustion of peoples' change coping capability with the added burden of the proposed change adds assessed by the number and depth of current and recent changes relative to workload, staffing and moral (Ovretveit, 2004).	(Ovretveit, 2004) (Solberg et al., 2000)
	Clinician/Provider Group (17)	1	efficacy or self-confidence (5)	Staff confidence in their own professional skills and performance (Simpson & Dansereau, 2007).	(Adib-Hajbaghery, 2007) (R. Grol & Grimshaw, 2003) (Oxman et al., 2001)

	The characteristics of individuals working as providers of healthcare. This code refers to the characteristics of individuals when considered as a group rather than as individuals, thus all sub-codes considered for inclusion here had to be generalizable to a healthcare professional population.			(Pettigrew, Ferlie, & McKee, 1992) (Simpson & Dansereau, 2007)
		2	pre-existing training (4)	Not Reported	(Aarons, 2005) (Adib-Hajbaghery, 2007) (R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
		3	attitudes (3)	Not Reported	(Glisson et al., 2008) (R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
		4	skills development (3)	The skills acquired for a professional role (Lambert et al., 2013).	(Cobban & Profetto-McGrath, 2011) (Lambert et al., 2013) (Wallin et al., 2006)
		5	knowledge (3)	Level of professional knowledge (e.g. the nursing process); higher levels of knowledge are believed to be conducive to effective evidence-based practice (Adib-Hajbaghery, 2007).	(Adib-Hajbaghery, 2007) (R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
		6	change management capacity or skills of change leaders (3)	The extent to which the personnel responsible for carrying out change have the experience and skills needed to manage it (Solberg et al., 2000).	(Dopson & Fitzgerald, 2005) (Pettigrew et al., 1992) (Solberg et al., 2000)
		7	job satisfaction (2)	A collective feeling of satisfaction and well-being in the workplace that exists among organizational members; measured at individual and group levels (Jinnett & Alexander, 1999).	(Glisson et al., 2008) (Jinnett & Alexander, 1999)

		8	compulsion to act (2)	The need to "do something" even when no effective care is available (Oxman et al., 2001).	(R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
		9	clinical experience (or lack of) (2)	The extent to which an individual has applied their professional knowledge in clinical practice (Adib-Hajbaghery, 2007).	(Adams et al., 2013) (Adib-Hajbaghery, 2007)
		10	clinical uncertainty (2)	Discomfort with clinical decisions or subjecting patients to additional and/or unnecessary care for reassurance; for example, as a potential reason for ordering unnecessary diagnostic tests (Oxman et al., 2001).	(R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
		11	information overload or inability to appraise evidence (2)	Inability to critically appraise the validity and applicability of conflicting reports (Oxman et al., 2001).	(R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
		12	organizational commitment (2)	The degree of commitment and passion for the organization and its mission (Krein et al., 2010).	(Glisson et al., 2008) (Krein et al., 2010)
		13	autonomy (2)	The ability to act on clinical judgements independently. For example, nurses' perception of autonomy refers to a nurses' ability to act on their clinical expertise (Latimer et al., 2010).	(Brown & McCormack, 2011) (Latimer et al., 2010)
Internal Arrange-	Culture (31)	1	organizational culture (28)	Implicit norms, values, shared behavioral expectations and	(Aarons, 2005) (Allen, 2013)

ments of Context	The inherited ideas, beliefs, values and attitudes of a group.	assumptions that guide behaviors of members of a work unit (Aarons, 2005).	(Bahtsevani, Willman, Khalaf, & Ostman, 2008) (Bekkema et al., 2008) (Brownson et al., 2009) (Cane et al., 2012) (Damschroder et al., 2009) (Estabrooks et al., 2009) (Glisson & Schoenwald, 2005) (Glisson et al., 2008) (Graham & Logan, 2004) (R. Grol & Grimshaw, 2003) (Helfrich et al., 2009) (A. Kitson, 2009) (Kontos & Poland, 2009) (Krein et al., 2010) (Michie et al., 2005) (Pettigrew et al., 1992) (Pettigrew & Whipp, 1992) (Rippen, Pan, Russell, Byrne, & Swift, 2013) (Snyder, Weston, Fields, Rizos, & Tedeschi, 2006) (Solberg et al., 2000) (Stetler & Caramanica, 2007) (Stetler, Damschroder, Helfrich, & Hagedorn, 2011) (Tucker et al., 2006)

				(Weiner, 2009) (Wensing, Broge, Kaufmann-Kolle, Andres, & Szecsenyi, 2004) (Zapka et al., 2013)
	2	change culture and attitudes (3)	The behaviours of individuals within the organization or the organization as a whole toward change; Assessed by if changes are welcomed, changes are met with cynicism, and/or if personnel are comfortable with change (Ovretveit, 2004).	(Kochevar & Yano, 2006) (Ovretveit, 2004) (Solberg et al., 2000)
	3	political environment (2)	Relationships within the organization, particularly in negotiating and establishing buy-in and engagement by stakeholders (Krein et al., 2010).	(Krein et al., 2010) (Pettigrew & Whipp, 1992)
Governance (21) The rules, systems, structures and processes by which an organisation is controlled and directed.	1	external policies, directives, mandates, and regulation (8)	External governance of an organization from outside entities (e.g. federal government, professional colleges) by use of regulations, policies, mandates, and best practice recommendations and guidelines (Damschroder et al., 2009).	(Damschroder et al., 2009) (Fleuren et al., 2014) (Graham & Logan, 2004) (Greenhalgh et al., 2004) (R. Grol & Grimshaw, 2003) (Olsson, Kammerlind, Thor, & Elg, 2003) (Rippen et al., 2013) (Solberg et al., 2000)
	2	incentives and disincentives (7)	Incentives (or disincentives) which may be monetary or non-financial that are	(Damschroder et al., 2009) (Greenhalgh et al., 2004)

		embedded in regulatory policies, funding and reimbursement programs, and rules and policies of adopting organizations themselves that alter the costs and benefits supporting new behaviors and practices (Mendel, Meredith, Schoenbaum, Sherbourne, & Wells, 2008) .	(Glasgow, 1995) (Mendel et al., 2008) (Oxman et al., 2001) (Pettigrew et al., 1992) (Solberg et al., 2000)
3	internal policies (4)	Flexibility (or lack of) could positively or negatively affect organizational members' appraisals of task demands, resource availability, and situational factors (Weiner, 2009).	(Latimer et al., 2010) (Smith & Manfredo, 2011) (Varcoe & Hilton, 1995) (Weiner, 2009)
4	perception of liability (4)	Perceived threat of litigation or risk of a formal complaint being filed (Oxman et al., 2001).	(French, 2005) (Graham & Logan, 2004) (R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
5	laws and legislation (4)	The activities listed in the innovation fit in well with existing legal constraints (Fleuren et al., 2014).	(Bekkema et al., 2008) (Fleuren et al., 2014) (May et al., 2007) (Olsson et al., 2003)
6	standards of practice (2)	The usual practice in the setting and/or the expectation of performance of health professionals set out by their regulating body (Oxman et al., 2001).	(R. Grol & Grimshaw, 2003) (Oxman et al., 2001)
7	accreditation standards	The standard of quality of care	(W. Berta, Ginsburg, Gilbart, Lemieux-

		(2)	mandated under policy-initiated mechanisms which must be met within an organization in order to be accredited (Latimer et al., 2010).	Charles, & Davis, 2013) (Latimer et al., 2010)
Leadership (21) The action of leading a group of people, or an organisation, or the ability to do this.	1	leadership-generic (8)	Defined in terms of strong leader qualities such as consistency, makes it clear how to achieve unit goals, provides opportunity to develop the staff's competence, and is open to change in workplace organization and work methods (Wallin et al., 2006).	(Aarons, 2005) (Damschroder et al., 2009) (Graham & Logan, 2004) (Greenhalgh et al., 2004) (R. Grol & Grimshaw, 2003) (A. Kitson, 2009) (Wallin et al., 2006) (Wensing et al., 2004) (Zapka et al., 2013)
	2	transformational leadership (4)	Type of leadership where an organizations senior leader/director creates a vision to inspire change within their organization and staff (Smith & Manfredo, 2011).	(Bahtsevani et al., 2008) (A. L. Kitson et al., 2008) (Kontos & Poland, 2009) (Smith & Manfredo, 2011)
	3	champions (4)	One or more respected professional who actively advocates for the change and is involved in the change (Ovretveit, 2004).	(Graham & Logan, 2004) (Ovretveit, 2004) (Rippen et al., 2013) (Solberg et al., 2000)
	4	opinion leaders (4)	Key and influential persons generally held in high esteem who others turn to for their views on a given change (Oxman et al., 2001).	(Dopson & Fitzgerald, 2005) (R. Grol & Grimshaw, 2003) (Helfrich et al., 2009) (Oxman et al., 2001)

	5	active leadership (2)	The extent to which leaders actually participate personally in the change process (Solberg et al., 2000).	(Solberg et al., 2000) (Versteeg et al., 2012)
	6	formal leadership (2)	The individuals who hold the responsibility and authority for making the change been assigned to one person; the technical, people, and political skills needed to carry through change; the regular reporting by these individuals to senior management (Ovretveit, 2004).	(Helfrich et al., 2009) (Ovretveit, 2004)
	7	senior leaders (2)	Not Reported	(Rippen et al., 2013) (Zapka et al., 2013)
Economic (16) Monetary receipts (income) and expenditures (costs) relating to clinical behaviour or institutional standards.	1	financial budgeting (4)	The accounting for how much an intervention may cost and how the costs compare with the likely health impacts (Brownson et al., 2009).	(Brownson et al., 2009) (French, 2005) (Richard Grol & Wensing, 2004) (VanDeusen Lukas et al., 2010)
	2	funding system (4)	Not Reported	(Cobban & Profetto-McGrath, 2011) (French, 2005) (Graham & Logan, 2004) (Olsson et al., 2003)
	3	resource-funding/endowment (3)	Financial resources available to use the innovation as intended (Fleuren et al., 2014).	(Bekkema et al., 2008) (Fleuren et al., 2014) (Solberg et al., 2000)
	4	type of ownership (3)	Not Reported	(Whitney Berta et al., 2005) (Bolin et al., 2008) (Smith & Manfredo, 2011)

	5	economic environment (2)	Not Reported	(Pettigrew & Whipp, 1992) (Snyder et al., 2006)
Units/Organizations (15) The characteristics of units and organisations which include, for example, the type of facility (i.e., hospital, a walk-in clinic, trauma centre etc.); the volume of patients cared for at the location; the geographic location; the geographic catchment; and the presence of absence medical trainees.	1	setting (7)	The type of work area in which the provider works (e.g., home care) (van der Weide & Smits, 2004).	(Damschroder et al., 2009) (Fixsen et al., 2005) (French, 2005) (Rippen et al., 2013) (Stetler & Caramanica, 2007) (Stetler, Ritchie, Rycroft-Malone, Schultz, & Charns, 2009) (van der Weide & Smits, 2004)
	2	unit/organization size (5)	Refers to the level of the unit (e.g. the number of patient care staff assigned to a treatment unit) or at the level of the organization (e.g. number of beds in a hospital) (Jinnett & Alexander, 1999; Varcoe & Hilton, 1995).	(W. Berta et al., 2013) (Damschroder et al., 2009) (Jinnett & Alexander, 1999) (Mendel et al., 2008) (Varcoe & Hilton, 1995)
	3	rural or urban (2)	Location of setting in relation to distance from and size of city (Kimberly, 1981).	(W. Berta et al., 2013) (Kimberly, 1981)
	4	teaching status (2)	Not Reported	(Bacon et al., 2009) (Pettigrew et al., 1992)
	5	age (2)	The number of years an organization has been in existence and how it may affect its adopting of innovation. For example, older hospitals that have both	(Damschroder et al., 2009) (Kimberly, 1981)

			a well-defined resource base and a demonstrated high survival potential might be expected to adopt innovations as a way of insuring their status in the community (Kimberly, 1981).	
	6	maturity (2)	Not Reported	(Damschroder et al., 2009) (Greenhalgh et al., 2004)
Management (5) The process of dealing with or controlling things or people in an organisation.	1	simplicity and clarity of goals (2)	The extent to which the outcome of the change is clear and easy to understand for those involved; if a project is insufficiently appealing in terms of clarity of goals, it will not attract the support of key opinion leaders (Greenhalgh et al., 2004).	(Greenhalgh et al., 2004) (Pettigrew et al., 1992)
	2	formal ratification by management (2)	The arrangements which management are required to make and confirm in the organisation relating to the use of this innovation (e.g. policy plans, work plans) (Fleuren et al., 2014).	(Fleuren et al., 2014) (Solberg et al., 2000)
	3	senior management (2)	The authorization, supervision, endorsement, and or involvement of top levels of management in the change (e.g. setting objectives, providing resources, receive reports on progress) (Ovretveit, 2004) (Solberg et al., 2000)	(Ovretveit, 2004) (Solberg et al., 2000)

Internal Infra-structures/ Networks	Physical Infrastructure (24) The basic physical structure and resources required to deliver services.	1	availability of resources, equipment and supplies (20)	The supplies, equipment and time necessary to meet work demands, examples of resources listed by authors included: office equipment and physical space (Simpson & Dansereau, 2007); money, training, education, physical space, and time (Damschroder et al., 2009).	(Bekkema et al., 2008) (Cane et al., 2012) (Damschroder et al., 2009) (Estabrooks et al., 2009) (Fleuren et al., 2014) (French, 2005) (Graham & Logan, 2004) (Greenhalgh et al., 2004) (R. Grol & Grimshaw, 2003) (Helfrich et al., 2009) (Latimer et al., 2010) (Mendel et al., 2008) (Michie et al., 2005) (Pettigrew & Whipp, 1992) (Rippen et al., 2013) (Simpson & Dansereau, 2007) (Smith & Manfredo, 2011) (Solberg et al., 2000) (Varcoe & Hilton, 1995) (Zapka et al., 2013)
		2	physical structure (4)	Not Reported	(Brownson et al., 2009) (Graham & Logan, 2004) (May et al., 2007) (Snyder et al., 2006)
		3	accessible information (4)	The ease of finding information in the organisation about using the innovation as intended (Fleuren et al., 2014).	(Damschroder et al., 2009) (Fleuren et al., 2014) (Latimer et al., 2010)

				(Solberg et al., 2000)
	4	technology (2)	Not Reported	(Glisson & Schoenwald, 2005) (Mendel et al., 2008)
Social infrastructure (16) Social structures and processes required to deliver services.	1	organizational structures and processes (10)	The procedures and systems required to be in place in order to adopt an innovation (e.g. referral mechanisms) (French, 2005).	(Allen, 2013) (Bekkema et al., 2008) (French, 2005) (Glisson & Schoenwald, 2005) (R. Grol & Grimshaw, 2003) (Lambert et al., 2013) (May et al., 2007) (Pettigrew et al., 1992) (Ward, Smith, House, & Hamer, 2012) (Weiner, 2009)
	2	personnel structure (3)	Not Reported	(Adams et al., 2013) (Bolin et al., 2008) (French, 2005)
	3	organizational decision-making process (2)	The extent to which there is an adequate process to obtain agreement on necessary implementation resource allocations at all administrative, clinical, and operational levels of the organization (Solberg et al., 2000).	(Mendel et al., 2008) (Solberg et al., 2000)
	4	organization of care processes (2)	Not Reported	(Richard Grol & Wensing, 2004) (Solberg et al., 2000)
	5	formal organizational priorities (2)	Not Reported	(Adams et al., 2013) (Solberg et al., 2000)

	6	social architecture (2)	The structure of clustering large numbers of people into smaller groups and differentiated, and how the independent actions of these differentiated groups are coordinated to produce a holistic product or service (Damschroder et al., 2009) .	(Damschroder et al., 2009) (Greenhalgh et al., 2004)
Communication and Relationships (10) To work jointly with others (including other organisations) or together, especially in an intellectual endeavour.	1	social influence (6)	Processes by which individuals are affected by others' social construction of events, ideas, objects, and behaviors and are subject to pressure to conform their behavior, attitudes, and beliefs to that social reality (Aarons, 2005).	(Aarons, 2005) (Brownson et al., 2009) (Damschroder et al., 2009) (Dopson & Fitzgerald, 2005) (Graham & Logan, 2004) (Snyder et al., 2006)
	2	social networks (5)	The linkages and connections among organizations and other stakeholders that enable social support and flows of information within a community or healthcare system (Mendel et al., 2008).	(Brownson et al., 2009) (Damschroder et al., 2009) (Graham & Logan, 2004) (Mendel et al., 2008) (Simpson & Dansereau, 2007)
	3	formal communications (3)	Interactions with other through engagement with formal organisational (unit) activities (e.g., team meetings) (Estabrooks et al., 2009).	(Damschroder et al., 2009) (Estabrooks et al., 2009) (Rogers, 1983)
	4	informal communication (3)	Interactions with other through engagement with informal organisational (unit) activities (e.g., informal conversations) (Estabrooks et	(Damschroder et al., 2009) (Estabrooks et al., 2009) (Rogers, 1983)

				al., 2009).	
		5	social capital (2)	The stock of active connections among people. These connections are of three types: bonding, bridging, and linking (Estabrooks et al., 2009).	(Brownson et al., 2009) (Estabrooks et al., 2009)
	Support (3) Support of any kind, i.e., assistance, e.g., emotional, financial.	1	support from management (3)	Not Reported	(Dopson & Fitzgerald, 2005) (Solberg et al., 2000) (Versteeg et al., 2012)
Responsive-ness to Change	Climate (17) A team's shared perceptions and attitudes.	1	organizational climate (8)	Employees' affective responses to their work environment (Aarons, 2005).	(Aarons, 2005) (Adams et al., 2013) (Cane et al., 2012) (Glisson & Schoenwald, 2005) (Michie et al., 2005) (Simpson & Dansereau, 2007) (Smith & Manfredo, 2011) (Tenbrunsel & Smith-Crow, 2008)
		2	team climate (5)	Atmosphere at work, cohesion among co-workers, supportive atmosphere among co-workers (Wallin et al., 2006).	(Cobban & Profetto-McGrath, 2011) (Glisson et al., 2008) (Solberg et al., 2000) (VanDeusen Lukas et al., 2010) (Wallin et al., 2006)
		3	compatibility (4)	The degree of tangible fit between meaning and values attached to the	(Damschroder et al., 2009) (Greenhalgh et al., 2004)

			intervention by involved individuals, how those align with individuals' own norms, values, and perceived risks and needs, and how the intervention fits with existing workflows and systems (Damschroder et al., 2009).	(Ovretveit, 2004) (Pettigrew et al., 1992)
Receptivity (8) Open and responsive to ideas, impressions or suggestions.	1	receptivity-generic (4)	Readiness or fit of critical features of the environment as they specifically relate to a targeted evidence-based practice (Stetler et al., 2011).	(Stetler et al., 2011) (van der Weide & Smits, 2004) (VanDeusen Lukas et al., 2010) (Zapka et al., 2013)
	2	tension for change (4)	If staff perceive that the current situation is intolerable, a potential innovation is more likely to be assimilated successfully (Greenhalgh et al., 2004).	(Damschroder et al., 2009) (Greenhalgh et al., 2004) (Ovretveit, 2004) (Solberg et al., 2000)
	3	external pressure for change (2)	Pressures perceived to come from external sources such as regulatory and funding (Simpson & Dansereau, 2007).	(Ovretveit, 2004) (Simpson & Dansereau, 2007)
Organizational Change Processes (2) The process of changing an organisation's strategies, processes, procedures,	1	unsettled organizations (volatility) (2)	Any foreseeable changes at the organizational level that may affect the implementation of the innovation such as reorganisation, mergers, cuts, staffing changes, other innovations (Fleuren et al., 2014).	(Bolin et al., 2008) (Fleuren et al., 2014)

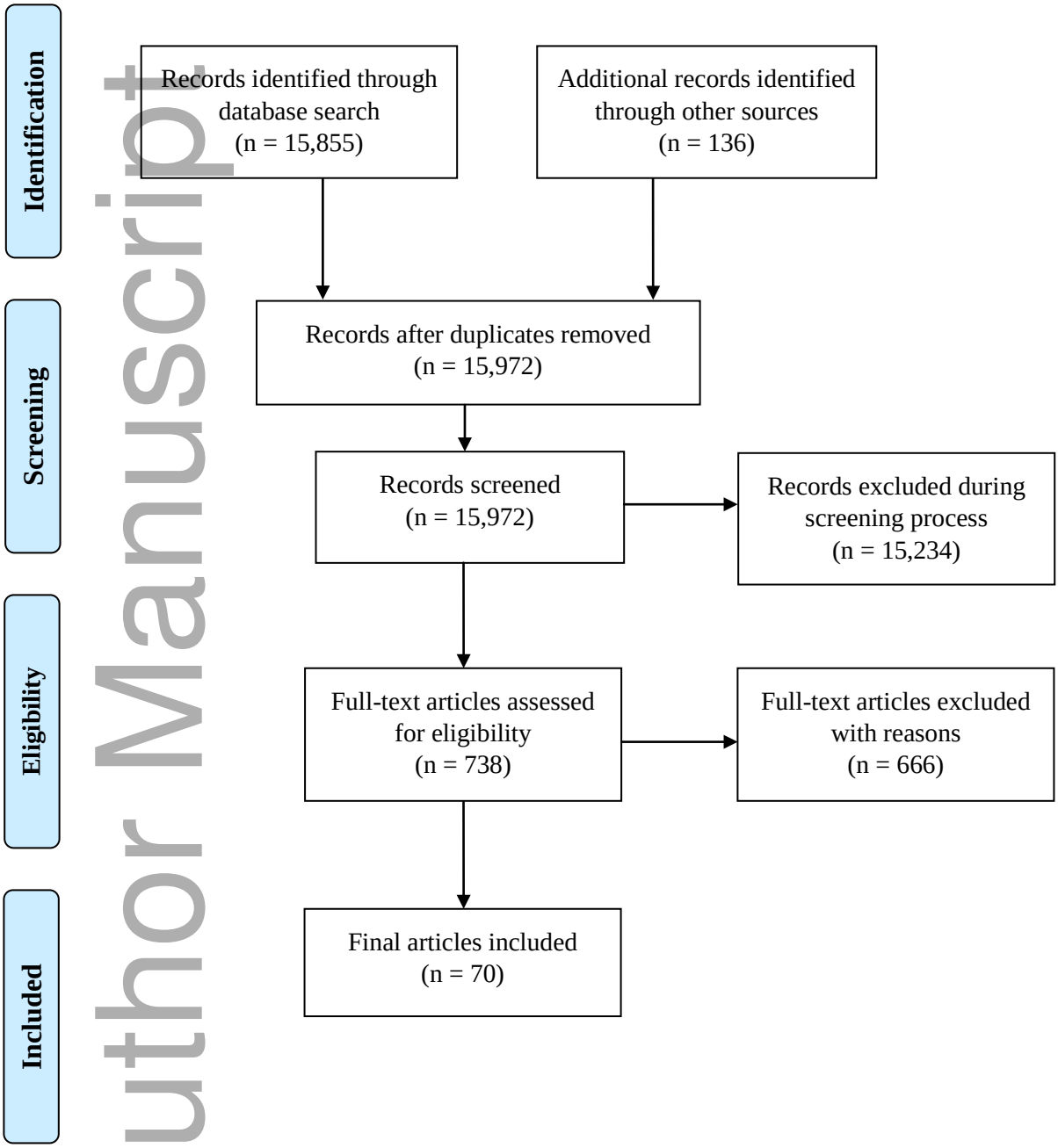
	technologies and/or culture.				
Broader System related to Context	Evaluation (12) The systematic collection of information about the activities, characteristics, and outcomes of programs, services, policies, or processes, in order to make judgements about the program/process, improve effectiveness, and/or inform decisions about future development.	1	performance feedback (6)	Feedback from the leader on when tasks have been well done or poorly (Wallin et al., 2006).	(Damschroder et al., 2009) (Fleuren et al., 2014) (Greenhalgh et al., 2004) (Helfrich et al., 2009) (Solberg et al., 2000) (Wallin et al., 2006)
		2	performance management (routine measurement) (5)	Examples provided include: feedback on individual/team/system performance (A. L. Kitson et al., 2008) and indicators of quality (establishing and monitoring at regular intervals) (Stetler et al., 2011).	(A. L. Kitson et al., 2008) (Lambert et al., 2013) (McCormack, McCarthy, Wright, & Coffey, 2009) (Stetler et al., 2011) (Tucker et al., 2006)
		3	review of performance data by staff (2)	Not Reported	(Estabrooks et al., 2009) (McCormack et al., 2009)
		4	monitoring (2)	Monitoring of activity in a structured and strategic manner to ensure that problems are identified and resolved before any long-term issues are realised (Lambert et al., 2013).	(Greenhalgh et al., 2004) (Lambert et al., 2013)
	Politics and Power (4) Power is the ability to influence or control the behaviour of people.	1	advocacy (2)	Not Reported	(Bolin et al., 2008) (Brown & McCormack, 2011)
		2	power (2)	The ability to influence or control the behaviour of people. For example, for nursing staff, power retains an image of	(Bolin et al., 2008) (Brown & McCormack, 2011)

	Politics refers to activities aimed at improving someone's status or increasing power within an organisation.			being something that is used to control and manipulate thoughts, attitudes, and social relationships (Brown & McCormack, 2011).	
		3	local politics and personalities (2)	Not Reported	(Graham & Logan, 2004) (Pettigrew et al., 1992)
	Market (3) Circumstance where forces of demand and supply operate, and competition for services exist.	1	competitive pressure (3)	Defined in terms of pressure to implement an intervention, typically because most or other key peer or competing organizations have already implemented or in a bid for a competitive edge (Damschroder et al., 2009).	(Damschroder et al., 2009) (Kimberly, 1981) (Pettigrew & Whipp, 1992)
	Complex System (3) A system composed of many components which may interact with each other.	1	target complexity (3)	Includes the number of potential organizational units (teams, clinics, departments) or person types (providers, patients, managers) that may be the foci for interventions (Kochevar & Yano, 2006).	(Dopson & Fitzgerald, 2005) (Kochevar & Yano, 2006) (Leeman & Sandelowski, 2012)
		2	process complexity (3)	Includes process length (the process contains sequential sub-processes), process breadth (the number of choices presented at decision points in the process), and delivery systems (Kochevar & Yano, 2006).	(Dopson & Fitzgerald, 2005) (Kochevar & Yano, 2006) (Leeman & Sandelowski, 2012)
		3	complexity of the	Not Reported	(Dopson & Fitzgerald, 2005)

	broader sociopolitical environment (2)	(Leeman & Sandelowski, 2012)

Context Concept Analysis – Figure 1

Screening Process



Context Concept Analysis - Figure 2

Proposed conceptual framework of context