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Training Physical Therapists in Person-Centered Practice for People With Osteoarthritis: A Qualitative Case Study

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<<st2>>ORIGINAL ARTICLE

<<rrh>>Person-Centered Practice and Knee OA

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<<title>>Training Physical Therapists in Person-Centered Practice for People With Osteoarthritis: A Qualitative Case Study

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Objective. To explore physical therapists' experiences with, and the impacts of, a training program in person-centered practice to support exercise adherence in people with knee osteoarthritis.

Methods. This was a qualitative case study using semi-structured interviews, nested within a clinical trial. Eight Australian physical therapists were interviewed before, and after, training in person-centered practice for people with knee osteoarthritis. Training involved a 2-day workshop, skills practice, and audit of 8 consultations with 4 patients (per therapist), and a final single-day workshop for audit feedback and consolidation. Semi-structured interviews were audio-recorded and transcribed verbatim. Data were thematically analyzed.

Results. Three pretraining themes arose regarding usual communication style, definitions of person-centered care, and sharing exercise adherence responsibility. Three themes related to the training experience emerged: learning a new language, challenging conceptions of practice, and putting it into practice. Post-training, 3 themes arose regarding new knowledge deepening understanding of person-centered care, changing beliefs about sharing responsibilities, and changed conceptions of role.

Conclusion. Although physical therapists found training overwhelming initially as they realized the limitations of their current knowledge and clinical practice, they felt more confident and able to provide person-centered care to people with knee osteoarthritis by the end of training. Training in structured person-centered methodology that provides opportunity for skills practice with patients using a restructured consultation framework can change physical therapists' beliefs about their roles when managing patients with osteoarthritis and positively impact their clinical practice.

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<<hd1>>**INTRODUCTION**

Clinical guidelines advocate regular, ongoing exercise as a fundamental component of osteoarthritis (OA) management (1,2). However, people with OA find it hard to change behaviors and adhere to exercise recommendations over the long-term (3), resulting in loss of exercise benefits 6 months after treatment has ceased (2). People with OA face a range of barriers to exercise participation, including, but not limited to, lack of motivation, habits of inactivity, and being prescribed a rigid exercise program that lacks patient input (4). This problem necessitates a person-centered approach to exercise treatment to optimize long-term adherence and clinical outcomes.

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<<significance&innovations>>

SIGNIFICANCE & INNOVATIONS

- Provision of care that is person-centered may improve long-term exercise adherence among people with osteoarthritis, yet health professionals, including physical therapists, are often not trained to provide care in this way.
- A training program in structured person-centered practice can change physical therapists' beliefs about their role in managing patients with osteoarthritis, increasing their feelings of responsibility to assist patient adherence to exercise and other self-management recommendations.
- To facilitate changes in clinical practice, training programs may wish to consider including an extended period of skills practice with patients.

Person-centered care is defined as care that is respectful of individual patient needs and preferences (5–7), involving an individualized and holistic approach to patient management (8), as well as shared decision-making, provision of information about the condition and management options, and communication that is focused on patient empowerment (8–10). Person-centered care can help patients change their behavior by taking into account personal preferences and barriers or enablers to change (11). A number of systematic reviews have found that provision of person-centered care has benefits to the consultation process (i.e., clarifying patient concerns and beliefs, communicating treatment options, and empathy) (12), enhancing patient's ability to self-manage (13), improving health outcomes (14,15), and increasing patient satisfaction with care (13).

Of all allied health professionals in Australia, general practitioners most frequently refer their patients with OA to physical therapists (16), who, due to their training in rehabilitation, are best placed to assist people with OA to increase exercise and physical activity participation. However, physical therapists often fail to consider person-centered practice principles when prescribing exercise for people with OA (17–19), and instead adopt a paternalistic approach toward management (17). Many physical therapists lack the understanding, skills, and confidence to incorporate psychological approaches (including goal-setting, motivational techniques, and communication skills) into routine clinical practice (19,20), and as they do not traditionally receive comprehensive training in this area, they may be reluctant or

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unwilling to change their behavior to become more person-centered (21). Given that it is ineffective to simply advise clinicians to change their clinical practice (22–24), specific training in person-centered care is necessary (25–27). This fact has been recognized by the European League Against Rheumatism, which has highlighted the need for training to teach health care providers the skills needed to initiate and establish lifestyle changes in people with OA (28).

Professional training and education can facilitate the implementation of person-centered care practices (29). A Cochrane review showed training programs that promote patient-centered care within clinical consultations are effective in transferring patient-centered skills to health care providers (12), yet none of the included studies involved physical therapists. A recent clinical trial (30) showed that physical therapists who underwent a self-determination theory-based communication skills training program were able to provide greater psychological support for patients with chronic low back pain than those who did not receive training. Physical therapists who completed training in cognitive functional therapy (which integrates cognitive, social, and psychological factors to treat back pain) described changes in their communication style and a greater understanding of the role of patient beliefs (31). However, little is known about the experiences of physical therapists who complete these biopsychosocial training programs, and what aspects of training they value most, or least. Therefore, the aim of this study was to explore physical therapists' experiences with, and the impacts of, a training program in a methodology that operationalizes person-centered practice to support exercise adherence in people with knee OA.

<<hd1>>**SUBJECTS AND METHODS**

<<hd3>>**Design.** A qualitative longitudinal case study, nested within an ongoing randomized controlled trial (RCT) was conducted (32). A qualitative approach was chosen to explore training experiences and impacts. Research design drew from a constructivist paradigm, which assumes that knowledge and understanding are built through experience and interpretation of individuals rather than being objectively measured, irrespective of the person involved (33,34). The Standards for Reporting Qualitative Research checklist ensured complete and transparent reporting (35).

<<hd3>>**Participants.** All 8 physical therapists based in Victoria, Australia, who were employed to deliver the intervention for the RCT, participated in this qualitative study.

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Selection criteria included a physical therapy qualification, at least 2 years of musculoskeletal professional experience, and current Australian physical therapy registration. All participants provided written informed consent and the Institutional Ethics Committee approved the study.

<<hd3>>**Training program.** Physical therapists completed a training program delivered by HealthChange Australia (http://www.healthchange.com), which provides a health service delivery methodology (HealthChange Methodology) for person-centered care, including promotion of health literacy, shared decision-making, behavior change, and self-management to support adherence to evidence-based recommendations. HealthChange Methodology operationalizes and integrates psychological theories and principles commonly used as the basis for complex behavioral interventions (36–38), drawing on similar techniques to those used in motivational interviewing, solution-focused counseling and cognitive behavioral therapy. The program combines 3 main processes to facilitate health behavior change: formulating a behavioral goal intention, converting intention into action and maintenance, and person-centered communication processes (39). Specific person-centered practice principles and behavior change techniques involved in HealthChange Methodology are described in Table 1.<<T1>> The methodology also restructures consultation tasks (see Supplementary Figure 1, available on the *Arthritis Care & Research* web site at http://onlinelibrary.wiley.com/doi/10.1002/acr.23314/abstract) to align with patient information and decision-making needs, guiding clinicians to avoid or recognize and address potential patient adherence barriers.

The training program comprised 2 initial training days (HealthChange core training part 1), skills practice and audit over 3 months, followed by 1 final training day (HealthChange core training part 2). All training days were run by a senior facilitator (CB) in a workshop-style format, involving lectures, role-playing exercises, group discussions, and video demonstrations. During the initial training day, physical therapists were provided with a lecture note booklet and a HealthChange miniguide, containing a series of cue cards relating to principles and processes taught. The first 2 training days covered 3 key components of HealthChange Methodology: practice principles to guide effective communication and knowledge transfer, techniques to identify and address barriers to behavior change, and a 10-step decision framework to guide consultation decision-making.

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Following the first 2 training days, each physical therapist was assigned 4 patients with knee OA to practice the processes taught during training over a 3-month period. Patients were provided with a folder that included information to increase knowledge about the importance of motivation for success with self-management, a personal self-management plan, and exercise instructions. Physical therapists were provided with a structured consultation framework using HealthChange Methodology, embedded within online treatment notes. Each physical therapist conducted 2 consultations over the telephone (2 weeks apart) with each patient. These calls aimed to commence the patient on a structured strengthening and/or physical activity program, and then review progress and modify the program/plan as needed. All calls were audio-recorded and reviewed by the training facilitator, and physical therapists self-audited their own calls against a customized check-list. The final training day reviewed key concepts and discussed audit findings. Physical therapists were financially compensated for the time invested in the training and self-audit activities, as well as for participating in the semi-structured interviews.

<<hd3>>**Semi-structured interviews.** Interviews were conducted in the weeks prior to the first training day and repeated after the final training day. In accordance with a constructivist paradigm, interview topics were designed to explore physical therapists' beliefs about their role managing patients with OA, as well as their perceptions about their training experiences including a description of their pre- and post-training beliefs and practices (see Supplementary Table 1, available on the *Arthritis Care & Research* web site at http://onlinelibrary.wiley.com/doi/10.1002/acr.23314/abstract).

For convenience and to facilitate participation in the research, interviews were conducted over the telephone. Interviews were conducted by the same investigator (BJL), a graduate research student trained in qualitative methodologies, who is not a clinician, and who also attended the training program with the physical therapists, but was otherwise unknown to them. Interviews were audio-recorded and transcribed verbatim, and pseudonyms assigned to each physical therapist for confidentiality purposes. Each interview lasted approximately 30 minutes. All data were de-identified and stored in digital format on a password-protected university server.

<<hd3>>**Data analysis.** Analysis was based on a thematic approach (40). Interview transcripts were read through by an investigator (BJL) soon after transcription, and then were re-read and coded by placing a short description next to the text to identify topics within the

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data. Codes were organized into categories with similar or related concepts. To confirm emerging ideas, categories were checked over and revised in collaboration with one investigator (BJL), by a qualitative expert who had no contact with participants (CD), who also independently coded a sample of transcripts. Categories were then refined and developed into themes and subthemes, which were subsequently reviewed and discussed with all members of the research team (41). To ensure credibility and confirmability of the data, RSH read all transcripts prior to discussion of the themes/subthemes that were developed by BJL and CD. To ensure transferability of our findings, themes and subthemes were presented with exemplary quotes from the interview transcripts (42).

<<hd1>>**RESULTS**

All physical therapists completed pretraining and post-training interviews. The sample comprised an equal number of men and women (mean ± SD age 35 ± 8 years), who mostly worked in private health settings (Table 2).<<T2>> Themes and subthemes were developed from the data according to 3 phases: pretraining, the training experience, and post-training. A clear process of change in physical therapists' confidence in their ability to practice in a person-centered manner was evident across training phases (Figure 1).<<F1>> Before training, therapists were able to define person-centered care and believed that their practice was person-centered. After the first 2 training days, they appeared to recognize some limitations of their current knowledge and skills in this area, and this recognition contributed to a drop in confidence. After completing the practice phase with patients, as well as the final training day, confidence increased, and all had a greater understanding of how to embed person-centered practices into their clinical practice and reported that this understanding had impacted and changed their usual clinical practice.

<<hd3>>**Pretraining.** <<hd4>>*Theme 1: usual communication style.* Physical therapists spoke of the importance of delving into patient's lives in order to understand their expectations of treatment (Table 3).<<T3>> However, this interaction was sometimes in the context of the therapist telling the patient what was best for them.

<<hd4>>*Theme 2: defining person-centered care.* Physical therapists defined person-centered care as shared decision-making with the patient and their family members and/or care-givers. They described a responsibility to recognize each patient as an individual, and the importance of promoting patient independence.

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<<hd4>>*Theme 3: sharing responsibility.* Therapists believed that exercise adherence was ultimately the patient's responsibility. However, they also acknowledged their role in educating the patient about the importance of continuing an exercise program. Some also believed that, as part of prescribing exercises and promoting adherence, they had a responsibility to understand the patient's situation and lifestyle.

<<hd3>>**The training experience.** <<hd4>>*Theme 1: learning a new language.* Physical therapists reflected on feeling overwhelmed and anxious about the volume of new terminology and new ideas presented during the first 2 training days (Table 4).<<T4>> Some struggled to understand how the principles and techniques could be applied during a standard consultation.

<<hd4>>*Theme 2: challenging conceptions of practice.* Therapists felt that the material presented during the first 2 training days challenged their conceptions of clinical practice, pushing them out of their comfort zone and constraining their usual communication style. George reflected that without training, he would have dictated treatment to the patient. Some felt uncomfortable with the idea of using some of the more specific training techniques, such as discussing personal motivators for engaging in exercise and/or evaluating readiness to change behavior. Some felt that some principles and techniques taught during training may not always be relevant for all patients, for example patients who self-refer to private practice and are typically self-motivated.

<<hd4>>*Theme 3: putting it into practice.* After having applied the methodology with real patients, therapists believed the restructured consultation framework improved their communication with the patient. Therapists experienced difficulty with time management, believing that they did not have enough time to use all of the management strategies and techniques effectively. However, therapists believed that the opportunity to practice using the principles, techniques and restructured consultation framework was a valuable learning experience. The final training day helped consolidate knowledge and understanding of the methodology, and therapists felt confident and prepared.

<<hd3>>**Post-training.** <<hd4>>*Theme 1: defining person-centered care.* After training, therapists did not change their description of person-centered care, but instead acknowledged

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a deeper and more complex understanding of it (Table 5).<<T5>> Importantly, therapists described an increased ability to integrate person-centered care within their patient consultations.

<<hd4>>*Theme 2: sharing responsibilities.* After training, therapists believed that they had a bigger role to play in supporting their patients to adhere to prescribed exercise and physical activity recommendations. This belief was particularly apparent in relation to creating strategies or plans to help patients move forward with their exercise program and assisting them to make a decision to take action and commence an exercise program. Therapists noted they should be less prescriptive with patients in clinical practice.

<<hd4>>*Theme 3: changed conceptions of role.* There was evidence of both acceptance, and resistance, to incorporating person-centered care methodology into usual clinical practices after training. Therapists believed that the training had positively impacted their communication style with patients in the clinic, with many spending more time discussing personal barriers and facilitators to exercise. Some acknowledged that it was difficult to change their practice habits, and George did not believe that a person-centered approach suited his personality or the way he liked to interact with patients, and did not intend to incorporate it into his practice.

<<hd1>>**DISCUSSION**

Our study explored physical therapists' experiences of training in person-centered practice and how these experiences impact on their beliefs about their role managing patients with chronic disease. Other qualitative studies have explored the impact of cognitive behavioral therapy training programs on physical therapists' perceptions of their clinical roles and behaviors. Nielsen et al (43) trained physical therapists to deliver cognitive behavioral therapy for people with OA, involving a 3–4 day workshop and weekly group tutorials with a psychologist for 3–6 months, followed by biweekly tutorials for the next 18 months while delivering the intervention as part of an RCT. Another study trained physical therapists to deliver cognitive functional therapy, a multidimensional intervention that explores and manages cognitive, psychological, and social factors in the management of chronic low-back pain (31), where therapists on average completed 9 workshops (timeframes not specified) and received supervised practice delivering the program for at least 4 sessions of clinical practice. Both studies reported similar findings to ours, where therapists reported an increased

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understanding of the role of patient beliefs and appreciation for the therapeutic alliance (31), and were able to encourage their patients to take a more active role in their rehabilitation (43), post-training.

Some design elements of our training program were similar to previous physical therapist training studies. The most common element is the use of workshops to deliver training (30,31,43), although the content and theoretical underpinnings varied, as well as the duration of the workshops. The most recent Cochrane review evaluating the effectiveness of training health care professionals in person-centered care concluded that short-term training programs (<10 hours duration) were equally as effective as longer training programs, in terms of having positive effects on consultation processes and levels of empathy (12). Our training program involved approximately 24 hours of workshop training, in addition to practice consultations with 4 patients over 3 months. This design reflects the breadth of content of HealthChange Australia training. Longer duration of training is needed to adequately teach therapists to restructure consultations, in addition to behavior change techniques and person-centered practice principles, and to allow adequate time for feedback, self-reflection, and practical application of skills. Similar to our study, 2 previous training programs (30,43) involved expert audit of patient consultations, but in contrast to ours did not involve self-audit of skills.

In pretraining, therapists described person-centered care as shared decision-making, recognizing the patient as an individual and promoting independence, consistent with some elements of person-centered care defined in the literature (44). However, person-centered care is broader than this and spans 8 different dimensions, including respect for preferences and values; emotional support; physical comfort; information, communication, and education; continuity and transition; coordination of care; involvement of family and friends; and access to care (45). After the first 2 training days, therapists felt overwhelmed as they realized the limitations of their current knowledge and skills. They were anxious about applying a restructured consultation framework that required them to deviate from their usual communication and consultation style. This manifested as a loss of confidence from pretraining. Once provided the opportunity to practice with real patients, therapists then gained confidence over time. Post-training, therapists believed they had a deeper knowledge about how to provide care that was person-centered.

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From a pedagogical perspective, these changes in confidence reflect the stages of learning proposed by the educational theorist Vygotsky (46). Therapists' descriptions of how they appreciated opportunities to practice and consolidate learning after initially feeling overwhelmed illustrates the educational significance of scaffolding professional development to enable extension of skills within a supported zone of skills development (46). The stages of learning highlighted in our study also align with other educational approaches, including learning through simulation, where learners acquire skills through experience in realistic situations of environments (47), and models of skill acquisition, where learners are supported through experience, feedback, and deliberate practice (48). The experiences of therapists in our study suggest that facilitation and/or encouragement of deliberate practice of skills with real patients is an important component of training that influences successful uptake and implementation of the new knowledge provided.

Although our study was specifically nested within an RCT to improve outcomes for people with knee OA, our findings are generalizable to a variety of patient populations. HealthChange Methodology is designed for people with health conditions who need support to adhere to treatment and lifestyle recommendations. Thus, this training program has broad relevance for physical therapy practice in musculoskeletal, neurologic, and cardiorespiratory conditions, and in children and adults alike. Most physical therapists in our study worked in private practice musculoskeletal settings, and some felt uncertain whether all aspects of the methodology would be applicable to all patients that they usually see. Some therapists believed that principles/techniques focused on helping patients make a decision to take action (e.g., commence an exercise program) may not be as relevant in private practice settings where many patients are assumed to have already made that decision by self-referral for therapy in the first place. In addition, some believed that they would not have enough time to include all aspects of the methodology, in addition to their usual consultation tasks, in the typical time allowed for patient consultations in the private practice setting.

Physical therapists in our study believed that the training covered new concepts that had not previously been taught in their undergraduate training, which probably contributed to their feelings of being overwhelmed and out of their comfort zone initially. Given that 3 of our 8 physical therapists graduated in the previous 7 years, our findings are probably relevant to physical therapists graduating from contemporary university courses. Therapists commented on how difficult it was to change their established clinical behaviors, and how easy it was to

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fall back into old behaviors when in their familiar clinical practice environment. This difficulty suggests that specific training in person-centered practice should ideally be incorporated into physical therapy entry-level qualifications, rather than after graduation, when clinical practice habits have formed. This is particularly important given the anticipated changes in the role and scope of private physical therapy practice in Australia expected in coming years (49). An aging population is expected to drive greater demand for chronic and complex disease, not only for OA but also diabetes mellitus, heart disease, obesity, osteoporosis, and mental health. In addition, a greater focus on wellness will drive demand for health coaching services that focus on personal goal setting and self-management.

Our findings have a number of important implications for the design of person-centered care training programs. Therapists felt overwhelmed by the first 2 training days, experiencing difficulties with the volume of content being delivered, as well as the new terminology and/or ideas presented. This experience suggests that training programs may benefit by reducing the amount of new information, at least initially, or by extending the number of initial training days to allow more time to review concepts and minimize feelings of being overwhelmed. Our therapists were completing the training in preparation for an RCT and were invested in learning the methodology, thus their feelings and experiences may be more positive than other therapists less motivated to persist with training. A key finding was that therapists highly valued the 3-month practice phase, as well as the followup training day that took place after the practice phase, both of which are advocated for training of health care professionals in health behavior change methods (50). Future training programs should consider including these elements to further allow skill consolidation.

Strengths of our study include evaluating a training program that is accessible to all Australian health care organizations and clinicians outside the research setting, the use of qualitative methods to gain a deeper understanding of training experiences and changes in beliefs, as well as our longitudinal design, incorporating interviews before and after training. Our study also has some limitations. Our small sample comprised therapists who applied to deliver care for an RCT, were mandated to undergo training, and were reimbursed for their time. Our findings may not be generalizable to the broader population of physical therapists, who may be unwilling to invest time in, and/or pay for, professional development in person-centered practice. Only 1 researcher (BJL) coded and analyzed all transcripts, and therefore data analysis may have been influenced by her own attitudes or perspectives. In an attempt to

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overcome this bias, a sample of transcripts was independently coded by a researcher who had no contact with the physical therapists. In addition, the fact that BJL was not a physical therapist, or any kind of health professional, also minimized the chances of any personal bias being introduced. Parts of our interview guide were directive, and this fact was reflected in some of the subthemes that were developed. We interviewed physical therapists immediately after training was complete, and whether benefits of training are sustained beyond that time is not clear. Future studies should involve long-term qualitative explorations of changes in beliefs to ascertain whether positive impacts on clinical practice behavior can be sustained, and also investigate training impacts on patient outcomes. We plan to quantitatively evaluate how well our physical therapists implemented person-centered practice principles and behavior change techniques into patient consultations after the 2-day training workshop, based on an audit of the telephone consultations.

AUTHOR CONTRIBUTIONS

All authors were involved in drafting the article or revising it critically for important intellectual content, and all authors approved the final version to be submitted for publication. Dr. Hinman had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Study conception and design. Lawford, Delany, Bennell, Bills, Gale, Hinman.

Acquisition of data. Lawford, Delany, Bennell, Hinman.

Analysis and interpretation of data. Lawford, Delany, Bennell, Bills, Gale, Hinman.

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Figure 1. Conceptual model depicting changes in physical therapists' confidence in their ability to practice in a person-centered manner across phases of training and beyond.
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Table 1. HealthChange methodology person-centered practice principles and essential behavior change techniques

	Explanation
Person-centered practice principles	
Client-centered, client choice, client control	A practice principle that prompts clinicians to be person-centered by balancing duty of care with patients' rights to make fully informed, conscious decisions about what actions they will take. Encourages respect for autonomy and choice wherever possible.
Call it as you see it (with tact)	A practice principle that prompts clinicians to engage in honest and open communication with patients and refrain from engaging in pretense in relation to patients' readiness to take action. Calls for clinicians to tactfully highlight contradictions in a person's behavior with regard to readiness.
Four aspects of goal setting	A practice principle that outlines 4 aspects that need to be considered when setting health and quality of life goals with patients: 1) objective clinical targets; 2) behavioral treatment, lifestyle and referral categories; 3) short-term behavioral personalized health goals; 4) motivational drivers. Structures goal setting processes to be systematic and effective.
One thing at a time, one step at a time, adding up over time	A practice principle that prompts clinicians to engage patients in goal setting and action planning in a manner that ensures goals and actions are realistic, manageable, and clinically effective over time.
The RICk principle	A practice principle that prompts clinicians to consider that in order to take action on recommendations, patients need to be Ready, think the actions are Important enough to do, have the Confidence to do them, and have enough knowledge about what they are trying to do and why, so that they are more likely to take and sustain action over time.
First ask, then offer	A practice principle that prompts clinicians to check patients' existing knowledge and ideas prior to offering information, education, or suggestions. Used to identify correct understanding, knowledge gaps, and misinformation and allow tailored provision of information.

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Wait ‘til 8	A practice principle that prompts clinicians to provide patients with adequate thinking time (8 seconds) to formulate responses to questions that need consideration.
Invite the client to write	A practice principle that prompts clinicians to invite patients to write down any aspects of a consultation that they might wish to review later.
Trial and error	A practice principle that prompts clinicians to encourage a trial and error approach to taking action and changing complex behaviors so that patients are more likely to persevere in the face of barriers to action.
Essential behavior change techniques	
Client first	A technique that provides a formula to construct phrasing to operationalize the “first ask” part of the “First ask, then offer” principle to elicit patient knowledge and ideas prior to offering information.
Menu of options	A technique that provides a formula to construct phrasing to operationalize the “then offer” part of the “First ask, then offer” principle to offer information and choice in a person-centered way.
RICk radar	A technique that prompts clinicians to consider both verbal and nonverbal cues regarding patients' readiness, importance, confidence, and knowledge levels relating to taking recommended actions and to detect ambivalence to taking action.
Ask RICk	A technique that provides instruction on how to effectively inquire about patients' levels of readiness, importance, confidence, and knowledge (health literacy) when these are not obvious to the clinician.
RICk-focused decisional balance	An extended decisional balance technique that incorporates actively assessing, building and reinforcing readiness, importance, confidence, and knowledge (health literacy) into the process of inquiring about the pros and cons of 2 sides of a decision.
Changing thinking habits	A technique that provides clinicians with a formula to construct phrasing to identify everyday thinking barriers that may impact on patients' ability to carry out agreed tasks within the agreed time frame.

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Tracking and monitoring	Techniques that enable clinicians and patients to track behaviors and monitor outcomes for the purpose of assessing and reinforcing progress. To be included in action plans.

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Table 2. Physical therapist characteristics (n = 8)

Pseudonym	Sex	Work setting	Clinical experience, years*	Previous training in behavior change
Susan	Female	Private and public	20	Yes†
George	Male	Private	4	No
Peter	Male	Private	15	Yes†
Jill	Female	Private	7	No
Meg	Female	Public	28	No
Alice	Female	Private and public	14	Yes†
Tom	Male	Private	5	No
David	Male	Private	17	No

* Mean ± SD 14 ± 8 years.

† Day/weekend courses, no formal assessment.

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Table 3. Pretraining themes, subthemes, and exemplary quotes*	
Theme/subtheme	**Exemplary quote**
Usual communication style	
1. Delving into patients' lives	George: "I think it's very important to be able to delve into patient's lives...if they're interested and they're giving you that back, but I think it's important to talk about other things than just physio and their knee, because I think, you know, learn about what they do for a job, do they have kids, what do their kids do and, I suppose, just build conversation and relationships that way, because then I think you build trust with the patient." Alice: "A lot of the time it's listening, and also finding out what their goals are...are you trying to get back to work, are you trying to get back to sport...trying to make it all relevant to them." David: "I think trying to develop a bit of trust, and I think that comes about by listening to the person, and giving them time and opportunity to talk about what their problems are and how they're feeling."
2. Understanding patient expectations	George: "I suppose from a communication style is to be...to be really positive as well, I think, but also be quite firm in the way I say things, and almost give them 'well these are my expectations because you need to do this to get better,' so you should very much still be driving the bus for them, and making sure that they are on track, but at the same time being polite, friendly, being very upbeat." Jill: "I think one of the most important factors is making sure they feel involved in the process, involved in the decision-making as well, and again, as I mentioned before, that understanding of why we want them to do certain things I think is so important, not just handing over a sheet or piece of paper saying 'do these,' it's an understanding and that communication 'OK, this is what we're trying to achieve, what are your goals?' Setting goals with people and just how we're going to get there, and this is why you need to be doing

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	certain things.”
	Tom: “The other key thing is patient expectations, that’s really the key thing. If you can work out what they want and you can verbalize ‘this is what I think you want’ and get it right, I think that goes a long way to having them on track and develop that rapport and they know that you’re actually listening to them and thinking about what they want.”
	David: “I’ll typically just get the patient to talk about what they’re coming for, what their goals are, and just get them talking openly about what their problems are, and then also try and link that in with how their condition or impairment is affecting their functions, their lifestyle, and based on that then try and, yeah, give them the right treatment program and plan for them.”
Defining person-centered care	
1. Shared decision-making	Jill: “Keeping them involved in the decision-making process and explaining why we want them to do certain things, making sure that the treatment that we’re providing does fit into their lifestyle.”
	Susan: “I guess with some people if they’re more functionally limited and they’ve got carers and family members then it’s also getting input from those people as well.”
	Meg: “So it’s where we’re working with patients and their families but we’re actively encouraging their participation in sort of shared decision-making.”
2. Recognizing the patient as an individual	Jill: “I guess my interpretation of patient-centered care is treating each client as an individual, even though they may have quite a common problem, it is individual to them, and we need to be respectful of what they’re aiming to get out of treatment.”
	Meg: “So giving them lots of options and talking to them about these sorts of things will be really useful, but

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	what sorts of things do you think will best fit in with your lifestyle, what sorts of things do you know you'll be most likely to continue with."
	Alice: "I guess it's providing care that's specific to the person, so making sure you're not kind of giving a generalist program, and tailoring it to the individual. And modifying it accordingly if they have exacerbations or difficulties, you change your method accordingly."
3. Promoting independence	David: "So person-centered care is more about making that patient independent and have the skills in place where they can manage and cope with their condition or their problem. It's very much giving them that awareness that they need to be self-managing those problems."
	Peter: "Person-centered care, I guess, is the ability of a client to actually have ongoing active involvement in their own well-being and therefore progression of their pathology for the better. Being reliant on self motivation and exercise compliance kind of stuff."
Sharing responsibility	
1. Ultimately up to the patient	Susan: "Ultimately even if you put in the program that you've agreed on with the patient that seems to fit into their life best and that you've put in some clear sort of goals, and you've motivated them and you're trying to get them to have regular appointments or regular contact to help support them, ultimately it's the patient's responsibility to do it."
	Jill: "Ultimately it's the patient. I think they've really got to want to do it, they've really got to be looking after themselves...we can only do so much as a therapist in helping people along the way."
2. Therapist responsibility to educate the patient	Meg: "You can't expect them to be responsible for it if they don't understand how it can help."
	Susan: "I'd like to think that ultimately the physio's got a really important role to help educate the patient to understand why it's important [to adhere to exercise]."

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	David: “It’s a team effort, but it has to work on both sides, and I think certainly if there’s a therapist prescribing a program, it needs to be aware that they’ve set up those exercises for a particular purpose and the reason, and we need to say that to the patient, and explain to them the importance of why we’ve chosen those exercises for them.”
3. Therapist responsibility to understand the patient situation	Tom: “With the number of exercises or the number of times they do it a week and that sort of thing, you want to make sure you have a bit of a discussion with them on what’s going to be reasonable and also what’s going to fit into their schedule at the same time.”
	Peter: “I think certainly within the [RCT] that [having a physiotherapist touch base with a patient] can certainly be really effective and generate again that client feeling that this physiotherapist actually cares about their outcome and long term. Therefore their compliance to the exercise program I think will be better.”

* RCT = randomized controlled trial.

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Table 4. The training experience themes, subthemes, and exemplary quotes

Theme/subtheme	Exemplary quote
Learning a new language	
1. New terminology	Susan: "It was just how it all fitted together that was, I guess, like learning a different language. I guess initially I found the training a bit bamboozling. There was lots of new terminology and stuff." Alice: "There was a lot of information. And I found it really interesting but I had to kind of process all the information and digest it and put it into practice for it to really make sense." Tom: "Conception, I think, was particularly difficult. How to implement it, as in the exact wording and what situation calls for exactly what, comes with obviously just experience and trying it out. As a concept, each of the things were fairly understandable."
2. New ideas	Susan: "I guess the training had much more structure and more levels to it than perhaps I thought. I think the training and the methodology is quite comprehensive and there's quite a lot to it." George: "I just remember it being really informative, my head hurting in the end of the day and, you know, sometimes whether it's too informative…I don't know if it's too informative and too much content to digest, sometimes." Alice: "There was a lot, a lot of content and I don't know, I kind of felt like we jumped around a bit. So I kind of went away going 'wow a whole lot of information, I'm not really sure how to process it.'"
3. Feeling overwhelmed and anxious	Meg: "I found [the first 2 training days] really interesting, very engaging, a little overwhelming just because it was a lot of, in a way, a different way of doing things, I guess." Jill: "Very overwhelming would be my description of it. I went home from that first day of training very

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	confused and a bit disheartened to be honest because I've never felt so confused when trying to a learn a new content of any kind."
	David: "I found it was pretty overwhelming to start with, but having the 2 days [of initial training] was definitely beneficial and definitely consolidated some of the ideas and topics that were brought up on the previous day."
Challenging conceptions of practice	
1. Out of comfort zone	Meg: "It's just a very different way of conducting, I guess you could call it, a treatment as such from what we've been trained to do. So that was in itself a little bit overwhelming, but you can cope with it but just you had to get your head around doing things quite differently."
	Jill: "I was panicking a little bit...I probably spent an extra 2 to 3 hours just sitting there with all the resources again just trying to get my head around it before that first call [with a pilot patient]."
	George: "Say I hadn't done the training and you just said, 'Okay, off you go, call someone and teach them exercises over the phone,' I definitely would have gone about it differently. Truthfully, I would be sort of dictating to the patient what they needed to do rather than asking if they would like to do it and the whole of it."
2. Constraining usual communication style	Susan: "I felt like it was sort of maybe cramping my normal communication style as a physio where I feel quite confident that I can interact with the patient."
	Meg: "I think it was more a matter of feeling that I was going to cover up on all the different steps and trying to get that in a smooth fashion rather than sounding really clunky and a conscious sort of interacting in a different way."
	Alice: "So yeah, just getting my head around the structure of the conversation, it's a bit different how I would

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	normally talk to a patient."
3. Feeling uncomfortable using some of the techniques	Susan: "I remember talking particularly about 2 things that made me feel slightly uncomfortable, but I set my professional boundaries with things that I wouldn't usually do. One was talking about people's motivators in a more personal way...talking about those made me feel a little bit uncomfortable because that's not the place to usually go as a physio. When we initially talked about giving dietary advice and those kinds of things, again, I tend to be quite vague about that and try and steer someone in the direction of someone I thought had greater expertise." Jill: "I think certainly when we're talking about that kind of decisional balance type technique* I'm not sure how comfortable I'd feel using that on someone I may have met for the first time face to face, I'm not sure." George: "I normally really keep my patients in check and accountable for their actions and the patient hasn't done their exercise, it's like, 'Well, why?' Now it's like, oh, well, we're giving these patients so much room to move. It would be interesting to see if we lose compliance by being too lenient. I'm not too sure."
4. Deciding scope and limits of new methodology	Peter: "The decisional balancing* and all that sort of stuff I think is a little bit tricky in my work setting to a certain degree. And I think it's probably more that I don't get clients that it's significantly relevant for." George: "Sometimes I think whether it's a little bit too recipe focused, I'm not too sure. I think that...I think at the end of the day she's [the training facilitator] sort of the guru and you've got to trust her and go with what she says and, absolutely, that's what I'm going to do based on what she's saying, but once again I was a little bit surprised because I think that there's probably multiple recipes you could deliver to get the same outcome."
Putting it into practice	

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1. Improved communication	Susan: “I think there’s really good structure in the methodology, particularly around communication. I guess because the methodology is so detailed, I don’t have those concerns anymore about dealing with different types of communicators [in the RCT]. I feel like the methodology and the training that we’ve done has given me better skills to deal with lots of different types of communicators. I feel definitely more confident about that.” Alice: “I thought [the training] was really good from that point of view, as far as improving the verbal communication, which obviously when it’s over the phone, that’s the key bit.” Tom: “I thought [the methodology] was nice in the sense that it had a lot of concepts that I actually probably didn’t practice, but this put names to it and put a bit more of a system behind it. That was probably my biggest take from it...that it’s a nicer, more formatted way of doing things that I was potentially already doing, but that’s still good to work on.”
2. Time pressures	Susan: “You often have a sense of being under time pressure, and I understand that the training is more about choosing the things that are going to be of most value to the patient that you work on together, rather than trying to do all the things that you think that you need to do over physio, and some of that is very difficult to change your mind set about that.” Peter: “I think the pilot clients were really difficult to fit in, getting across everything that you wanted to get across in just 2 phone calls and set them up for a long-term 6-month plan. I felt that was just far too much to fit into the timeframes...whereas when you know you’ve got more phone calls that are perhaps over a longer period of time with that more difficult client, I would be confident of applying those methodologies.”

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	George: "I think time was a big issue...I'm just like here I am standing here going this is all taking too long and then I'm just like [based on feedback from the training facilitator] you're actually just going to make it longer. How much asking do you need to do, especially if you've got another patient coming in 2 or 3 minutes and you've got to get wound up? I'm just thinking maybe it would work more in the public [practice setting]. It definitely wouldn't work in the private practice that I'm at unless, I mean, we have 20 minute appointments, all goes pretty quick. Maybe if I had half an hour, an hour, where I could start to develop more action plans of patients and get their input."
3. Value of practice with pilot patients	Peter: "I think until you go and implement it, it's sort of quite idealistic and a little bit tricky to apply in the real world to a certain degree. So the thought process on how it flows in regards to delivering an actual interaction with a client was certainly tricky to visualize that."
	Jill: "I noticed from that first [pilot] participants to the last [pilot] participants I was a lot smoother, I could flow on from the conversation, get the information I want...so it was definitely worthwhile doing those practice clients."
	Meg: "[The pilot patients] have been, well, they continue to be useful, and I think it was really good to have that chance to kind of practice the methodology and try and put it into practice and then be able to have some time to self-reflect on it as well."
	David: "I think to work through how you can deliver the exercises to the patients and get them on-board and getting them compliant and trying to visualize what they're going through and quizzing them as they're going through the program, so that was really useful."
4. Value of final training day	Susan: "I thought [the final training day] was good. I think it was really necessary...I felt I really needed that last training to understand that grey area a bit better."

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5. Feeling confident and prepared	Jill: “The way it was set out to have that extra day of training that couple of months later was vital. I thought that that was the key component that made me a lot more comfortable with being able to do what the study is wanting me to be able to do. And I think without that third day I’d be not as capable as I should be.” David: “I think without those training days it’d be a nightmare, it’d be really difficult to work out what the expectations are and what we have to try and cover...without the 3 days of training I don’t think we would have felt equipped to do that.” George: “I do feel confident. To answer your question, I do feel confident. I feel ready to go.” Meg: “I feel a bit more confident spending a bit more time at that above the line† discussion so that you're helping them to get to the point where they may be able to do the self-management of their problem. I think I’m moderately confident but I still think there’s areas where I can continue to improve. Just I guess because it’s such a departure from the way that we’ve been trained and we’d normally do our assessments and treatments.” Tom: “Certainly confident...yeah, I think it’s certainly something that I’m comfortable doing, but, as I said before, with room to improve.”

* HealthChange Methodology technique that involves asking a series of questions probing the patient about the advantages and disadvantages of performing, and not performing, a specific action (e.g., completing an exercise program).

† HealthChange Methodology phrase referring to a patient who has not made a decision to take action on a behavior.

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Table 5. Post-training themes, subthemes, and exemplary quotes

Theme/subtheme	Exemplary quote
Defining person-centered care	
1. Deeper understanding	Jill: "I think I had not changed but my knowledge probably expanded, I understood the meaning of it in a more complex way. So I kind of understood how treatment should be patient-centered, but now I understand how you actually do that." Alice: "I think [my understanding of person-centered care has] improved. I probably thought I was doing person-centered care but realized that perhaps I wasn't. It was still kind of me pushing my own agenda, and I'm just trying to learn not to do that as much, not to be so prescriptive, which is a challenge." David: "I think perhaps [my understanding of person-centered care has] became a little bit clearer I'd say. I feel like I've got the practical skills now to make what I do more patient-centered definitely."
Sharing responsibilities	
1. Bigger role in supporting adherence	David: "I guess the training highlighted that to me, that adherence comes down to both parties, but it's also up to us as professionals to identify what might be holding the patient back and then trying to create strategies or plans for them to move forward with their program." Meg: "I'd say that my responsibility is probably a little bit higher in terms of making sure that I assist the person as much as possible...not just with giving them the information but trying to assist them with getting to the point where they feel ready to utilize that information. Before the training it probably would have been a little bit more about, okay, you know, I'm the physio, I'm giving you all this information, what you do with it is

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	your responsibility. But now I think it's a bit more my responsibility also to get them to be 'below the line.'"* Susan: "I feel like after doing the training I understand that the physio can have a much bigger role to play [in helping exercise adherence]." Jill: "I learnt how careful you've got to be with the way you say things. One or 2 words changed in a sentence can be portrayed very differently to someone else. I think that's one thing that I really have to take a step back and think a little bit more about the way I was saying things to try and get people on board [to exercise]. I think the other thing is just the fact of how much we just get used to telling people do this, do this, here's your exercises, see you later, come back...so it certainly made me be a bit more aware of what the patient wants rather than what I want as a therapist."
Changed conceptions of role	
1. New clinical practices: acceptance	Jill: "[The training was] extremely useful for the study, extremely useful for my general life, extremely useful for clients in the clinics. Yeah, and I found it very worthwhile doing. A part of me wonders why I wasn't taught some of this earlier in my career." Meg: "It's just that it's been a really positive experience thus far. I've got a lot out of it and not just for the study but...it's also something that I've been interested in looking into for a while, so I'm hoping to continue incorporating it in my other work as well." Alice: "Yes [my practice] has [changed]. Especially regarding exercise prescription, that's changed a lot and how I talk to them about exercises and I guess making it more person-centered for my own patients." David: "Yeah, definitely [my practice has changed] and I'm wanting to roll out and have more of an impact down the track too. It's been very refreshing and nice to have this method apply to my thinking and my practice for sure."

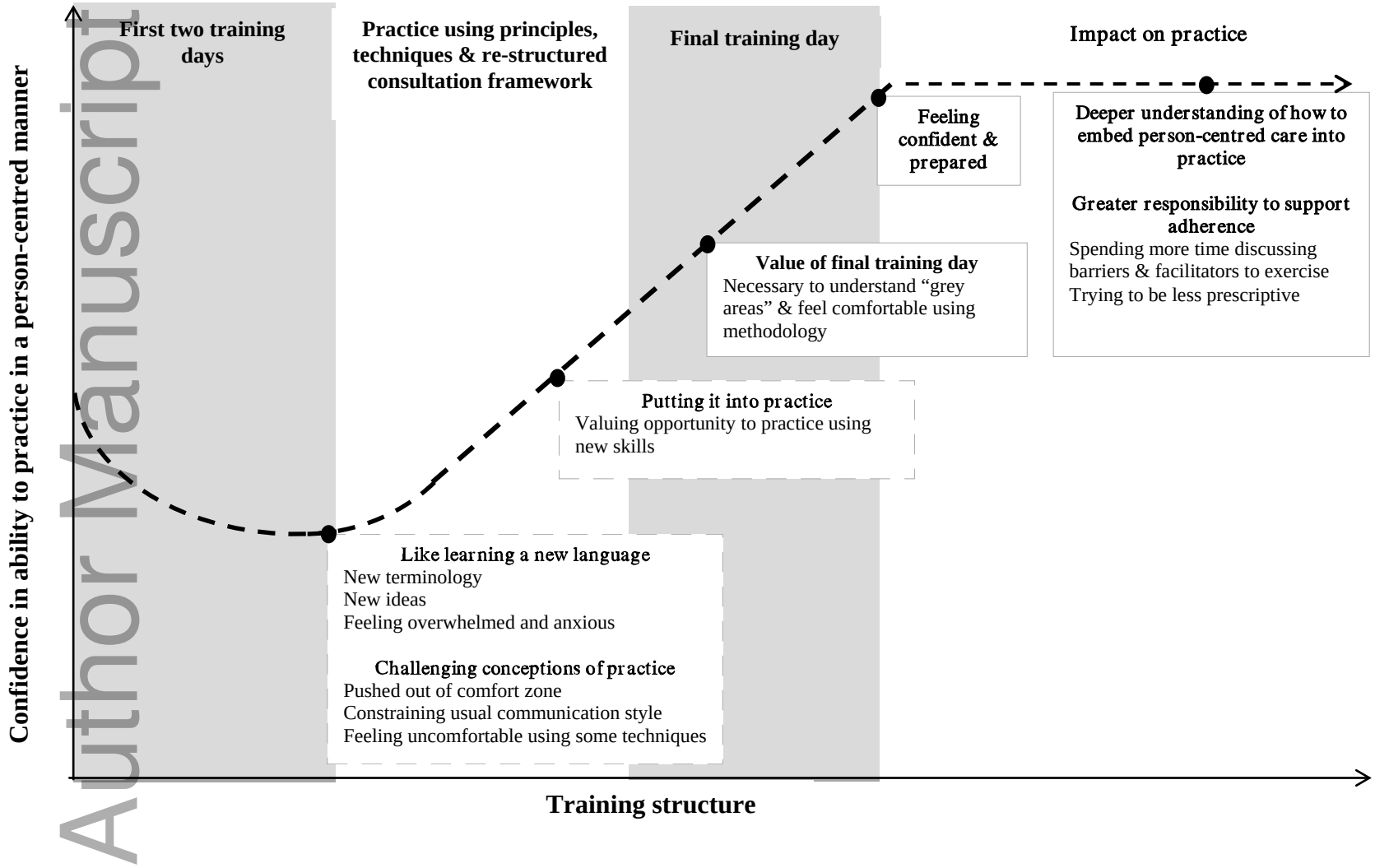
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2. New clinical practices: resistance	George: “I think there’s potentially other ways to go about it that probably suit my personality better and then that could actually get a better result...I suppose it’s just a lot of trust to go, yeah, [the HealthChange Methodology] way is going to be the right way, even though I probably want to conduct an interview with this or, yes, I do want to sort of dictate a little bit to my patient...I would say no [my clinical behavior hasn’t changed]. I’m just definitely not as patient-centered.” Susan: “Part of it’s about time, so the trade-off is about ticking the boxes of the stuff that you want to do for the patient because it’s your natural way of thinking, that you’re doing a good job versus also trying to add something in that you think has got value from the training, and the reality is that they’re not all going to fit in the same amount of space. I think it takes a much deeper, it’s going to take more time and more depth of really thinking about how to change my practice, because it’s hard to go against so many years of doing things a certain way.” Tom: “Certainly trying to [change my practice]. It’s definitely hard to change your habits. Once you’re in a familiar environment, you do tend to fall back into old behaviors, but certainly keen to have an influence.”
* HealthChange Methodology phrase referring to a patient who has made a decision to take action on a behavior.	

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