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A Clinical Leadership Lens on Implementing Progress Feedback in Three Countries: Development of a Multidimensional Qualitative Coding Scheme

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Author Contributions

Susan Douglas managed the research efforts and chaired the discussion meetings during which the project was conceptualized, in which Bram Bovendeerd, Maartje van Sonsbeek, Ingunn Amble, Dana Atzil-Slonim, Michael Barkham, Kim de Jong, Tony Kendrick, Samuel S. Nordberg, Wolfgang Lutz, Julian A. Rubel, and Tommy Skjulsvik participated. Except for the last three, the same group conceptualized the research design and development of the research protocol. Susan Douglas, Bram Bovendeerd, Maartje van Sonsbeek, Christian Moltu, Nisha Bala, and Runar Tengel Hovland recruited participants, conducted interviews, developed, and applied the first order qualitative coding scheme. Except for the last two, the same group plus

Mya Manns, Xavier Patrick Milling, and Ke'Sean Tyler developed and applied the second order qualitative coding scheme. Analysis of qualitative coding was conducted by Susan Douglas, Tim Satterthwaite, and Bram Bovendeerd. Susan Douglas drafted a first version of the manuscript to which Bram Bovendeerd, Maartje van Sonsbeek, and Christian Moltu contributed. Christian Moltu provided expert guidance on qualitative methods. All authors contributed to subsequent versions of the manuscript and agree with the content of the paper.

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Statements and Declarations

Vanderbilt University and Susan Douglas receive compensation related to the Peabody Treatment Progress Battery; and Susan Douglas has a financial relationship with MIRAH, and both are Measurement-Based Care (MBC) tools. The author declares a potential conflict of interest. There is a management plan in place at Vanderbilt University to monitor that this potential conflict does not jeopardize the objectivity of Dr. Douglas' research. Christian Moltu

and Samuel S. Nordberg own equity in a Norwegian private company that markets and sells a clinical feedback technology based on the Norse Feedback methodology. The authors declare a potential conflict of interest. There is a management plan in place at Førde Hospital Trust to monitor that this potential conflict does not jeopardize the objectivity of Dr. Moltu's research. Michael Barkham was the Principal Investigator in the development of the CORE Outcome Measure (1995-98) which has been used in feedback research. He is a CORE System Trustee but receives no financial benefit from the use of the measure.

Abstract

Background. Progress feedback, also known as measurement-based care (MBC), is the routine collection of patient-reported measures to monitor treatment progress and inform clinical decision-making. Although a key ingredient to improving mental health care, sustained use of progress feedback is poor. Integration into everyday workflow is challenging, impacted by a complex interrelated set of factors across patient, clinician, organizational, and health system levels. This study describes the development of a qualitative coding scheme for progress feedback implementation that accounts for the dynamic nature of barriers and facilitators across multiple levels of use in mental health settings. Such a coding scheme may help promote a common language for researchers and implementers to better identify barriers that need to be addressed, as well as facilitators that could be supported in different settings and contexts.

Methods. Clinical staff, managers, and leaders from two Dutch, three Norwegian, and four mental health organizations in the USA participated in semi-structured interviews on how intra- and extra-organizational characteristics interact to influence the use of progress feedback in clinical practice, supervision, and program improvement. Interviews were conducted in the local language, then translated to English prior to qualitative coding.

Results. A team-based consensus coding approach was used to refine an *a priori* expert-informed and literature-based qualitative scheme to incorporate new understandings and constructs as they emerged. First, this hermeneutic approach resulted in a multi-level coding scheme with nine superordinate categories and 30 subcategories. Second-order axial coding established contextually sensitive categories for barriers and facilitators.

Conclusions. The primary outcome is an empirically derived multi-level qualitative coding scheme that can be used in progress feedback implementation research and development. It can be applied across contexts and settings, with expectations for ongoing refinement. Suggestions for future research and application in practice settings are provided. Supplementary materials include the coding scheme and a detailed playbook.

Keywords: Measurement-based care, progress feedback, implementation, qualitative, organizational

A Clinical Leadership Lens on Implementing Progress Feedback in Three Countries: Development of a Multidimensional Qualitative Coding Scheme

Progress feedback, also known as measurement-based care (MBC), where patient-reported outcome measures are routinely collected to support clinical and administrative decision-making (Lewis et al., 2019), has been recognized as a key ingredient to improving mental health care (Barkham et al., 2023) and forms the foundation of a value-based approach to healthcare (Baumhauer & Bozic, 2016; Centers for Medicare & Medicaid Services, 2016; Forti et al., 2014; Fortney et al., 2015, 2017; Hermann et al., 2006; Porter et al., 2016). Progress feedback has broad support as an evidence-based practice (Boswell et al., 2023), with the two most recent meta-analyses finding small to medium positive effects on patient outcomes (De Jong et al., 2021; Rognstad et al., 2023). However, progress feedback implementation is complex (Lewis et al., 2019; Mellor-Clark et al., 2016; van Sonsbeek et al., 2021). There is a need for a common language to better identify barriers that need to be addressed, as well as facilitators that could be supported in different settings and contexts. In this article, we describe the development of a qualitative coding scheme intended to be useful with any type of progress feedback and that adds organizational perspectives with the inclusion of leadership perspectives.

In the USA, progress feedback has been reported to be implemented in fewer than 20% of community mental health settings (Fortney et al., 2015). A survey of US clinicians indicated that only 5% of clinicians use progress feedback in every session, and as many as 61.5% of clinicians never use progress feedback (Jensen-Doss et al., 2018). Yet, multisite research studies have found that when implementation is ‘good enough’, feedback contributes to better mental health outcomes in US youth (Bickman et al., 2016) and Dutch adult (Bovendeerd et al., 2022)

populations. Further, in a study of Norwegian adults using mental health services, it was found that with implementation support provided, the effect of feedback on outcomes increased over time compared to treatment as usual (Brattland et al., 2018).

The quality of implementations may lead to wide variation in the use and utility of progress feedback systems. Variations include frequency of assessment, clinical use of feedback tools, clinician and patient attitudes toward progress feedback, and decisions to discontinue use of progress feedback. What is particularly difficult in implementation research is that all these factors, and more, are likely interdependent at some level. van Sonsbeek and colleagues (2021) labeled this the 'vicious cycle', where poor completion of patient-reported measures and lack of clinician addressing feedback or measure completion in sessions contribute to lower measure completion rates, which might then contribute to poorer clinician attitudes toward feedback, and so on. Healthcare systems are in dire need of guidance on how to implement progress feedback efforts to maximize benefit.

A priority is implementation research that goes beyond simple acceptability and usability studies of progress feedback to incorporate contextual and organizational factors that influence adoption and, in particular, sustainability over time (Connors et al., 2021; Douglas et al., 2016; Jensen-Doss et al., 2020; Lewis et al., 2019; Liberati et al., 2017; McLeod et al., 2022; Mellor-Clark et al., 2016; Youn et al., 2023). There are three key components to a comprehensive approach to advance our understanding of progress feedback implementation: clearly defined progress feedback-system parameters, clearly described implementation strategies, and the addition of organizational perspectives.

Clearly Defined Feedback System Parameters

The field of progress feedback research continues to be hampered by a lack of consensus on "what is feedback" and "how is it used" (Boswell et al., 2023; Carlier et al., 2012; Greenhalgh et al., 2017; Lewis et al., 2019; Lyon et al., 2016; McLeod et al., 2022). Existing findings may be of limited use because the feedback or its use are not described in enough detail. This contributes to potential confounds related more to the specific "brand" of feedback rather than to the use of feedback as an intervention. For our purposes, progress feedback was defined specifically as a feedback intervention, where the use of patient-reported measures goes beyond simply monitoring treatment progress (e.g., outcome monitoring), instead being integrated into clinical workflow for the purpose of informing clinical actions and discussion in session (McAleavey & Moltu, 2021). Thus, measures are used systematically as an integral component of ongoing treatment and, at minimum, reflect the perspectives of the patient (other stakeholder perspectives, including the clinician, caregivers, etc. are possible).

For example, in an ideal outpatient setting, measures would be administered prior to or as part of each session. Resulting feedback would be provided to clinicians and include data on treatment progress (e.g., symptoms and functioning) and/or treatment process (e.g., therapeutic alliance) to achieve the following: (1) alert clinicians to clinical problems or potential problems they may not have perceived or ignored, (2) assist in assessing patient progress so as to inform treatment plans and goals, (3) enhance dialogue with the patient by prompting areas for discussion or other clinical actions, and (4) contribute to case understanding in clinical supervision (Barber & Resnick, 2022; Barkham et al., 2023). Feedback data can be presented with or without data-driven suggestions for improvement, often referred to as clinical support tools (Hysong, 2009; Lutz et al., 2021; Lutz, Deisenhofer, et al., 2022).

Clearly Described Implementation Strategies

A priority in the larger field of implementation research in health and mental health care settings is more attention to the description and definition of implementation strategies. Lewis and colleagues (2019) conducted a narrative review of the implementation literature in progress feedback and suggested a 10-point research agenda to improve progress feedback integration into clinical practice, including the identification of discrete strategies to support implementation. The authors developed a list of specific barriers to using progress feedback and strategies to improve implementation at the individual patient and clinician level, the organizational level, and the system level.

Guided by the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009; Greenhalgh et al., 2004; Perry et al., 2019; Waltz et al., 2015), Powell and colleagues (Powell et al., 2012, 2015, 2017; Proctor et al., 2013) developed a list of 73 implementation strategies through a review of the literature and a modified Delphi process. These are strategies that are general and broadly applicable to health and mental health care, with the understanding that the strategies used will likely differ based on contextual factors and the innovation being implemented. The implementation strategies can be categorized into five factors (Powell et al., 2012): (1) intervention characteristics, (2) the extra-organizational setting, (3) the inner-organizational setting, (4) individual stakeholder characteristics, and (5) process factors (e.g., planning, engaging, executing, reflecting, evaluating). While not intended to be used as a checklist, lists such as these can be used as an assessment tool to explore strategies that have been found effective in implementing progress feedback. A common language to describe implementation across settings could be particularly helpful to better identify characteristics that

are common across settings and those that are unique to specific contexts, such as a particular country's health care system.

Addition of Management and Leadership Perspectives

To date, the growing literature on implementation barriers to progress feedback has been primarily targeted to the perceptions of patients (Solstad et al., 2019), clinicians (Boswell et al., 2013; Bovendeerd et al., 2023; Duncan & Murray, 2012; Gleacher et al., 2016), or both (Hovland et al., 2023; Låver et al., 2023) and focused on perceived usefulness and acceptability (De Jong et al., 2021; Fitzpatrick, 2012; Gelkopf et al., 2022; Lutz, Schwartz, et al., 2022; Martin et al., 2011; Wolpert et al., 2016). There is little understanding of the broader organizational perspectives that may be provided by middle managers (i.e., supervisors and clinical directors) and agency leadership. Yet, a basic premise of any organizational setting is that there is always something else already going on, which makes any implementation a dynamic and social process (May et al., 2018). The system-level contingencies and re-organizations that follow the initiation of a new process need to be understood and accounted for, ideally when planning implementation and, as a minimum, when evaluating implementation processes (Douglas et al., in press). Practice-level structures and policies that support management of progress feedback may best be explored by talking to managers and leaders. Without an organizational and contextual level of analysis in the model, evaluations risk mis-attributing a process disruption to individual stakeholders (e.g., clinician lack of motivation as barrier) where organization-level formulations would be more constructive.

Several organizational practice factors have been suggested that may influence implementation. These include information flow matched to organizational infrastructure and

priorities (Douglas et al., 2016; Jensen-Doss et al., 2020), multiple implementation strategies matched to various levels within an organization (Mellor-Clark et al., 2016), and potential for misuse as part of performance evaluation (De Jong, 2016). However, we have very little understanding of the influence of organizational culture and climate, structural and workflow processes, and regulatory requirements as they impact the use of progress feedback beyond the patient-clinician dyad. The lack of research on the contexts in which the feedback is being implemented is consistent with the larger field of information technology implementation in health care (Liberati et al., 2017).

This study focused on the development of a pragmatic empirically derived comprehensive multi-level qualitative coding scheme that can be used in research and development efforts where progress feedback implementation is a focus. Such standardized coding schemes can be used to simplify the integration of qualitative inquiry into implementation research (e.g., May et al., 2011; 2022). The coding process was created to allow for ongoing refinement over time as learning occurs across new contexts. The goal was to produce a coding scheme that promotes a common language to identify implementation barriers and facilitators across settings and those unique to particular contexts.

To allow for contextual variations, the study was conducted with mental health organizations in the USA, Norway, and the Netherlands. These three countries allow important cross-country diversity with vastly different health care systems and policies related to progress feedback use. In the USA, progress feedback is recommended as an evidence-based approach by more than two dozen professional organizations (Coalition for the Advancement and Application of Psychological Science, 2018), but use varies by state and setting. Only recently have some

funding agencies begun requiring progress feedback for accreditation (The Joint Commission, 2018) and funding requirements are expected to grow over time (Boswell et al., 2023). In the Netherlands, insurance funders imposed the use of progress feedback from 2007 to 2019 resulting in high rates of measure completion but low meaningful use in clinical care (Forti et al., 2014). Progress feedback practice continued after compulsory administration requirements were lifted in 2019, with an ongoing emphasis on clinically driven meaningful use of progress feedback to inform care. In Norway, use of progress feedback started similarly to the USA with adoption by individual agencies. However, in 2019, policymakers established expectations of progress feedback with routinely collected patient-reported measures (Directorate of Health, 2019).

Methods

Study Context

The study was conceptualized by and based on discussions within the International Network for Psychotherapy Innovations and Research into Effectiveness (INSPIRE) meetings held at Leiden University in 2017 and 2018. INSPIRE includes senior and junior researchers across Europe and the USA who work to develop, implement, and research progress feedback systems in mental health. Consortium members defined three shared foundational points based on discussions of their experiences implementing feedback. First, implementation processes are best conceived as complex and systemic involving contingencies between different levels, processes, and actors within the implementation site. Second, the meaning of implementation processes is in part constructed by the stakeholders involved, and thus not universal. Third, implementation processes are multidirectional, including both intended and unintended

downstream effects. These premises represented an epistemological basis for planning the empirical work.

The multi-national nature of the INSPIRE consortium allowed a study design that addressed different health care contexts across countries and a variety of progress feedback systems. A goal of the consortium was to be progress feedback system-agnostic; that is, not to focus on any specific type or named brand of progress feedback. Instead, progress feedback in each setting is described in terms of common characteristics, such as measure domains, frequency of measure administration, respondents, etc.

The study protocol was submitted for internal data security and human subjects review at Vanderbilt University, USA, Helse Førde Hospital Trust, Norway and the Institutional Review Board of the Dimence Group, the Netherlands. Vanderbilt University determined that the study was exempt from human subjects review. All data were anonymized, which made it impossible to identify participants. Therefore, the General Data Protection Regulation (GDPR) did not apply.

Measures

Background Survey

A brief survey was completed by a manager at each participating site prior to the interview to gain initial understanding of the service context and progress feedback system characteristics.

Semi-structured interview

The semi-structured interview protocol was developed to explore participant perceptions of progress feedback implementation processes and structures enacted within their contexts.

Normalization Process Theory (NPT; May & Finch, 2009) was used as a framework for developing questions about the different kinds of work that people do around implementing a new practice. Interview questions were tailored to feedback implementation and interviewers were trained to follow-up with additional questions to explore responses as needed.

The interview protocol is included as Appendix A, with sample questions as follows for each of the four NPT constructs. Coherence is the sense-making work that people do individually and collectively when they are faced with the problem of operationalizing some set of practices (e.g., "What is the purpose of feedback in your agency? Is that a shared understanding?"). Cognitive participation is the relational work to build and sustain a community of practice around a new practice (e.g., "How were clinical staff involved in the decision-making about adopting feedback?"). Collective action is the operational work to enact a new practice (e.g., "How are new staff onboarded?"). Reflexive monitoring is the appraisal work to assess and understand the ways that a new practice affects them and others around them (e.g., "How, if at all, is feedback discussed in regular agency communication or meetings?").

Participants were also asked about any external pressures or motivations (e.g., accreditation requirements) that may have factored into the organization's decision to adopt feedback. The COVID-19 pandemic restrictions on in-person mental health services across the globe occurred in the spring of 2020, before data collection was to take place. Therefore, items related to the impact on use of progress feedback of COVID-19 restrictions and the transition to telehealth services were added to the interview protocol. The 60-minute interview protocol was piloted with a US organization for intended length and participant understanding.

Procedures

Sampling and Recruitment

A purposive sampling approach (Malterud et al., 2016; Maxwell, 2009; Patton, 2014) was used to engage participating mental health organizations that deployed a variety of progress feedback systems, had been implementing progress feedback for at least a year, and served mental health patient populations with mild to severe psychiatric disorders in outpatient settings (although other services may be offered). Organizations had to have a hierarchical structure or identified roles consistent with leaders (e.g., director-level) and middle managers (e.g., supervisors, team leaders, etc.). Recruitment materials asked that interview participants include leaders and managers (with clinicians as optional) who were familiar with the progress feedback implementation at their site, both as typically done and any modifications to implementation due to the COVID-19 pandemic and subsequent transition to telehealth. In addition, organizations were screened to ensure that the progress feedback system parameters were met as detailed in the introduction. These included the use of patient-reported measures, a plan for measure administration that was systematic and frequent, and the intended use of feedback to inform clinical actions including being shared together with patients in session.

Researchers used their professional networks in the progress feedback sector to recruit sites within their respective countries. A total of nine mental health organizations were recruited, with four from the USA, three from Norway, and two from the Netherlands. Table 1 presents the characteristics of the study sites by country as derived from the background survey.

Insert Table 1 here

All nine participating mental health organizations provided outpatient services on a weekly (five sites) or bi-weekly basis (four sites). Two sites each in the USA and Norway and both sites in the Netherlands provided multiple services including intensive outpatient or day treatment (six sites), partial hospitalization (four sites), inpatient or residential treatment (six sites), and other services such as emergency services, crisis management and outreach, and forensic psychiatry. All sites reported patient sessions were conducted in a variety of modalities including face-to-face and telehealth, and individual and group. All sites provided adult treatment and seven sites served children and/or adolescents.

All nine sites reported using digital feedback systems with direct patient entry of measure responses with one exception, where agency staff entered patient responses from paper measures. Progress feedback had been implemented for over three years for six sites, and between one to three years for the remaining three sites. Five sites had been involved in feedback research where implementation support was provided. Patient-reported measure domains included symptoms and functioning, with additional measures related to treatment process (e.g., therapeutic alliance) and strengths/resilience or well-being utilized in six sites. For intended progress feedback use, all the sites reported sharing feedback with patients in sessions. Seven sites intended for feedback to be reviewed in supervision and/or case review meetings. Other intended uses of progress feedback included case conceptualization and clinical decision-making (five sites) and to inform ongoing treatment management (e.g., planning for periodic treatment reviews) (six sites). Three sites indicated that patients got their own feedback reports sent to them by email or some other way. Six sites reported the use of aggregated feedback data to monitor outcomes at multiple levels (e.g., patient group, program, clinic, agency).

Data Collection

The background survey and interview protocol were translated to Dutch and Norwegian before being used to enable participants to provide data in their working language. Background surveys were collected using REDCap (Research Electronic Data Capture), a secure, web-based software platform hosted at Vanderbilt University (Harris et al., 2009, 2019). Conducted between July and November 2020, interviews were typically held by video due to distance and COVID-19 pandemic restrictions. However, participants could choose to meet in person where possible. Informed consent from organization stakeholders was verbally obtained at the start of each interview, with the opportunity to withdraw without consequences explicitly stated. All interviews were audio recorded and transcribed verbatim for data analysis. To standardize data coding and analysis, Dutch and Norwegian transcripts were then translated to English prior to data analysis (Nurjannah et al., 2014).

Participating sites determined whether to engage in group or individual interviews based on their availability and consideration of their cultural preferences. The same hourlong semi-structured protocol was used for both formats. All US and Dutch interviews were conducted with two trained interviewers. In Norway, the protocol varied with both interviewers present for five interviews and one present for the remaining seven interviews. In all cases, if an author had a previous or existing research or consultative relationship with the organization, they did not directly conduct the interview.

Insert Table 2 here

Table 2 presents the interview type and participants' most senior role for all nine sites. All four sites in the USA participated in group interviews, with two to three participants in each. The two sites in the Netherlands participated in group interviews, with two to three participants each, and one individual interview (for a person unable to attend the group interview due to scheduling reasons). Participants from the three sites in Norway all chose to engage in individual interviews for a total of 12 interviews. Altogether, 19 interviews were conducted with a total of 29 participants representing nine mental health organizations. This resulted in a diverse sample that ensured rich and differentiated information (Malterud et al., 2016) in line with the project's scope. All participating sites were asked to include leaders and managers/supervisors, with the option of also including clinicians based on availability and preferences. The senior-most professional role per participant included 11 leaders (e.g., director-level), 11 middle managers (e.g., supervisors, program managers), and seven clinicians (e.g., therapists, psychologists, psychiatrists). These roles reflect the senior position held by participants, although most held multiple roles including supervising clinicians and seeing patients.

Qualitative Data Analysis

The transcripts were uploaded into Dedoose Version 9.0.62 (2022), a web-based platform for managing, analyzing, and presenting qualitative and mixed methods research data. The transcripts were segmented into excerpts prior to coding to ensure consistency in applying codes. This made it easier to compare codes across multiple raters. A 'chunking' approach to creating excerpts for coding was followed, where larger sections of text were selected to allow for greater context to understand why codes were applied. This resulted in a total of 1,511 excerpts available for coding.

As shown in Figure 1, the qualitative analysis followed a rigorous stepwise and team-based approach. It included both deductive and inductive processes (Fereday & Muir-Cochrane, 2006; Saldańa, 2015) across multiple stages of coding. This ensured that analyses were informed by existing knowledge about progress feedback and other related models of implementation. Furthermore, it allowed for new data to "speak back" and challenge preconceptions for new understanding and constructs to emerge. Epistemologically, this process constitutes a hermeneutic approach to generating knowledge (Laverty, 2003). The approach is briefly described here, with more detail available in appendix B.

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Insert Figure 1 here

First, the author team used their expertise and experience in progress feedback implementation along with a review of the literature to bring a top-down, research and theory-based approach to construct an *a priori* coding scheme for progress feedback implementation. Next, the interviews were first order coded, meaning themes were applied to describe implementation content at the concrete level with little interpretation (e.g., a reference to clinician caseload as overwhelming would be coded as Work Practical, clinician workload). To expand contextual understanding, each interview was separately coded by a researcher from the same country as the participating site and a researcher from a different country. Then in consensus meetings, two types of revisions to the coding scheme were made continuously throughout the process: assimilation (minor clarification or descriptive changes) and accommodation (adding or changing codes).

After the interviews had been first order coded for implementation content by expert feedback researchers, second order coding commenced. Second order meant interpreting the valence of the implementation content identified in first order coding as a barrier or facilitator. For example, a statement about a clinician caseload that is overwhelming and makes it difficult to add in new clinical tools like progress feedback would be coded as a Barrier.

First, the expert feedback researchers reviewed about a third of the data material resulting in a coding scheme with seven categories: three for barriers (barrier, barrier with potential, unsure), three for facilitators (facilitator, facilitator intended, unsure), and one for neither barrier nor facilitator. Next, to bring a fresh perspective and gain information on feasibility of coding for non-experts, pairs of student research assistants each separately coded the interview material. The student pair held a consensus meeting to discuss disagreements, and then brought any remaining issues to a group consensus meeting with the lead author. The data-informed approach to learning from consensus meetings and revisions to the coding process are described in more detail in Appendix B. Finally, to establish reliability of the coding process, all non-expert codes were reviewed by an expert rater. Figure 2 presents a graphical representation of the multi-dimensional coding scheme for progress feedback implementation content. Appendix C contains the coding playbook, which includes the first and second order coding schemes, detailed description of the recommended coding process, and a language markers table to aid in interpretation.

Insert Figure 2 here

Results

Promising Evidence of Reliability for Barrier and Facilitator Codes

To establish evidence of coding reliability, the suggested non-expert codes were reviewed by expert raters who then documented a final code. Agreement between expert and non-expert raters was calculated, with acceptable agreement considered as 80% or above, and high agreement at 90% or above (McHugh, 2012). Agreement between student and expert raters was acceptable or high for three of the second order codes, including Barrier (85%, N = 227 codes), Facilitator (93%, N = 729), and Neither Barrier nor Facilitator (87%, N = 347). However, agreement was lower for the two 'swing' categories of Barrier with Potential (73%, N = 141 codes) and Facilitator Intended (43%, N = 65). Review of disagreements indicated that for most excerpts the expert and non-expert codes were within the same type (e.g., a Facilitator, Facilitator Unsure, or Facilitator Intended). When the barrier codes and facilitator codes were each combined, agreement between expert and non-expert raters was acceptable (86%, N = 370 codes for Any Barrier) to high (92%, N = 794 codes for Any Facilitator).

The 'swing' categories appeared to require a higher level of interpretation that may have contributed to the lower reliability of coding across expert and non-expert raters. For the Barrier with Potential code, an example was content coded as Feedback Practical (other technology issue). At a site where tablet computing devices were used for patients to complete their measures, clinicians engaged in office-based outpatient treatment had stopped using progress feedback in sessions during the COVID-19 pandemic because of concerns about infection control. In the next sentence, the leader/manager stated, "But I have to examine now how we can clean those iPads to get started so that the infection control routines are not a justification for not

using [progress feedback].” While the difficulty cleaning the tablets is clearly a barrier to using feedback, it seems reasonable that the participant has identified a path forward to mitigating the barrier, and thus there is potential for the barrier to be removed or lessened.

An example of the Facilitator Intended code occurred in content coded as Work Practical (telehealth/Covid issue). In this lengthy excerpt, a participant was talking more broadly about learning related to the shift to telehealth because of the COVID-19 pandemic. The concept of using progress feedback to improve the treatment model in digital care seems to be clearly a facilitator. However, because the learning is still hypothetical as it hasn’t yet happened, it seems reasonable to categorize the content as intended rather than in place.

> I can't look at digital care as something you add or replace something in analogue care... Digital care is another concept of thinking about how I want to shape that treatment... In fact, we're already saying, partly prompted by the fact that we don't yet know if it works or if it's good and if we should do it better, and we're inventing a treatment model based on the experience of a colleague and a number of other sensible people involved. We also don't know what limit we can go to with the complexity of care, because it's quite exciting because we're going to do that with people who are not only in general mental health care, but also with people who are in specialized mental health care. People who entail quite a bit of risk. We have not necessarily said that suicidality is excluded. We're just going to try to do all kinds of things in it. But that means that you have to measure very well in advance and think about what is effective and what is ineffective. At that point [progress feedback] will no longer be an instrument that you have to do

> because someone once told you, "Gosh, you should do that". But [progress feedback] becomes an instrument that helps you to improve your own treatment model and yes, sounds stupid, but that is what it was once meant for.

Illustrative Example of Coding Practice Using the Multilevel Scheme

Interpretation of the coded data can begin at the descriptive level by looking at the frequency of themes that describe progress feedback implementation domains. For the interview data used in this study, the frequency of barriers and facilitators by implementation content is available in Table 6 in Appendix B (Coding Development Detail). As may be expected given the purpose of the semi-structured interview, most of the coded data corresponds to practical matters related to the feedback intervention or existing workflow and internal organizational factors.

An example of coded excerpts is provided below to increase understanding of how the applied code can show the dynamic nature of progress feedback implementation in practice. In the final coding scheme (see Coding Playbook in Appendix C), training was a subordinate code of the category Feedback Practical. This superordinate category referred to any discussion of the logistic considerations in implementing progress feedback. Although training is generally viewed as a facilitator of progress feedback implementation (Lewis et al., 2019), it emerged from the interviews, however, that the outcomes of training can vary depending on the context and circumstances in which it occurs.

Training as a facilitator

A manager stated that when training was not (yet) provided only a small number of clinicians were using progress feedback. “We had no training, so we had to figure out the tool ourselves.” After “proper training” was provided, “Seventy percent of us approved use of

progress feedback" and "at least sixty percent of us use it a great deal." Another manager indicated training to be 'Very, very important. I think it's completely alpha and omega …. it's a key [to successfully implementing progress feedback]."

Training as a barrier with potential

A program leader indicated that they had started training too early. There was still a lot of resistance about whether to use progress feedback and this had to be addressed first:

> There's the idea that it's on top of everything. That it steals too much time and, yes, you have all those arguments, they always wonder 'treatment is good anyway, so what should I use it here for?' So, we've been really good at meeting resistance. And when I say we, we who are tutors who have taken tutor training in it here. And we go out to colleagues and say "Tell me about your resistance. Tell me why you don't want to use it. […] And we do [this] before we [start training], we no longer say 'you should use it here'. We want to hear what our colleagues say.

Discussion

This study describes the development of a qualitative coding system for implementation of progress feedback (also known as MBC) that is comprehensive and multi-layered. Starting with an *a priori* literature review and expert input, the coding scheme and process (see supplementary materials) were iterated by expert and non-expert raters. Data materials comprised nineteen semi-structured interviews with 29 staff including leaders, managers and supervisors, and clinicians from nine mental health organizations in three countries. All nine mental health organizations had implemented progress feedback for at least a year. Their use

included patient-reported measures of symptoms and functioning, and they intended progress feedback to be shared with patients in session. The sites all used digital feedback systems, and all but one allowed patients to complete their measures electronically. Some of the mental health organizations had been using progress feedback for more than three years, administered non-symptom measures (e.g., therapeutic alliance), and/or used feedback for supervision or case review and quality improvement or program planning.

Developed with rigorous and systematic qualitative methods, the coding approach appears to be feasible for use by trained raters and has preliminary evidence of reliability. Notably, the interview content was complex and reflected the dynamic nature of progress feedback implementation in practice settings. Consequently, a two-step process was developed to increase consistency and decrease the cognitive burden of coding. The first pass was descriptive, categorizing statements as belonging to one or more levels of implementation consistent with multi-level frameworks from the literature (e.g., Powell et al., 2012) that have been applied to progress feedback implementation (Boyd et al., 2018; Gelkopf et al., 2022; Lutz et al., 2021). First order coding consisted of applying nine superordinate categories with a total of 30 subordinate codes. Second order coding was interpretive, categorizing first order coded statements as implementation barriers or facilitators (or neither). Materials were developed to aid in training non-expert raters (see Appendix C). Promising evidence of reliability was indicated by acceptable to high agreement between expert and non-expert raters for coding implementation content as a barrier or a facilitator. It stands out that two non-expert coders performed significantly better than coding done by only one non-expert (see Appendix B). Given the systemic and social nature of implementation in health service settings (Greenhalgh et al., 2004;

May & Finch, 2009), it's intriguing to consider that multiple perspectives may be useful to code implementation content in context.

An innovative feature of the coding scheme to explore further is the two 'swing' codes for implementation content that was not yet in place. These were barriers where a potential pathway to mitigation had been recognized, or facilitators that were being planned with intention to activate. Further development of these codes is needed due to insufficient agreement between raters that contributed to low reliability. We recommend modifying the second order coding process to mirror the first order coding, with superordinate codes for Barrier and Facilitator, and subordinate codes to identify whether it is in place, has potential or is intended, or the rater is unsure. To examine whether the new approach contributes to greater reliability, the revised INSPIRE coding scheme is currently being piloted in a research project that includes qualitative data collected from recordings of 'business as usual' meetings throughout the course of progress feedback implementation.

It is widely believed that tailored implementation approaches are superior to standard ones, yet the research is mixed on the effectiveness of such tailoring on implementation outcomes (Lewis, Boyd, et al., 2022). Just as there is growing interest in a mechanisms of action approach to improving the effectiveness of progress feedback (De Jong et al., 2023; Jensen-Doss et al., 2020; Lewis et al., 2019), there is growing interest in identifying the mechanisms associated with implementation of progress feedback. It has been suggested that a greater ability to link implementation strategies to causal mechanisms could serve to better address specific barriers or strengthen specific facilitators in local context (Lewis, Klasnja, et al., 2022). However, given the complex and systemic nature of implementing progress feedback in practice

settings, it is critical to recognize the interdependence of determinants of practice given their nested nature. For example, Sichel and Connors (2022) found that, when compared to low implementing clinicians, high implementing clinicians were more likely to have positive attitudes to progress feedback and perceived greater organizational level support. A multilayered coding scheme, such as the one described here, could be used to identify these areas of overlap to better tailor an approach to implementation.

Ultimately, it would be ideal to utilize the INSPIRE coding scheme to create systematic learning and feedback loops as part of real-time implementation efforts. Further research is needed to explore methods to increase its feasibility for use in pragmatic quality improvement approaches in practice settings. For example, a rigorous qualitative process, such as the one described here, could strengthen a rapid-cycle mixed methods evaluation (Skillman et al., 2019). The INSPIRE coding scheme could be applied to naturalistic sources of information such as meeting notes or recordings where implementation is discussed, with "change talk" identified from the swing codes as barriers or facilitators that are ripe for change (Arbuckle et al., 2020). Resulting deployment of implementation strategies could then be measured using readily available progress feedback metrics like measure completion rates by patients and feedback viewing rates by clinicians. Such a data-informed approach to tailoring ongoing implementation could be an important step for clinicians to bridge the 'knowing-doing gap' to direct informed action (Pfeffer & Sutton, 2000). As noted by the student raters, use of the coding approach by internal staff may deepen awareness of the dynamic and multi-level implementation process for progress feedback.

Limitations of the Current Study

There were several limitations to the current study that need further exploration. The data were collected with semi-structured interview protocols using the framework of Normalization Process Theory (NPT; May & Finch, 2009) about the different kinds of work that people do around implementing a new practice. Further development of the coding scheme that currently consists of the first order descriptive and second order interpretive coding is needed to link the multi-level framework to the NPT constructs. This could allow for greater specification of implementation content as contextual, determinants of practice, or effects of how things change as implementation processes occur (May et al., 2022). Inclusion of outcomes is a critical next step to make the coding approach more useful in guiding implementation actions in practice settings and in research.

A strength of the current study was the specification of feedback parameters used to screen potential organizations for inclusion. These were based on accepted definitions of progress feedback available in the literature (Lewis et al., 2019). This choice allowed us to include agencies using different progress feedback systems and to focus our interview questions at the level of feedback as an intervention rather than a specific feedback system. However, there are several aspects that we did not assess, such as the number of items being measured, that could impact implementation outcomes. In addition, the recruitment of participating organizations from existing professional networks limits the generalizability of results. Five of the nine organizations had participated in feedback research that provided support for implementation, and thus our results may not be representative of feedback implementation in clinical settings where no research-practice affiliation existed. Future research could benefit from broader recruitment methods and greater specificity of feedback elements (e.g., McLeod et al.,

2022) to better account for variance across feedback systems that likely impacts how feedback is used and implemented.

While others are encouraged to utilize the interview guide and other supplementary material available, the current coding approach is limited to the data material collected across nine mental health organizations in three countries. In qualitative research the researcher has a subjective influence over how data is collected and how it is interpreted that introduces risk of biasing results. Safeguards used in this project included research process transparency and procedural rigor (Kitto et al., 2008), reflected in the detailed procedures described herein and available in the supplementary material. A shared log of discussions and decisions throughout coding was kept and is available upon reasonable request. In addition, researcher reflexivity (Malterud, 2001) was a particular focus of this project, inclusive of differences among researchers related to context (i.e., country and health care system) and expertise. Further use of the coding approach in different contexts would allow ongoing development to assimilate new perspectives and accommodate new constructs. Different methods, such as rapid ethnographic approaches (Lewis et al., 2021) would also allow for exploration of relevant implementation factors that were not assessed with the semi-structured interview framework used here.

Further development of the coding approach should include a greater focus on establishing interrater reliability (Fereday & Muir-Cochrane, 2006; Maxwell, 2009; Patton, 2014; Saldaña, 2015). Percent agreement was meaningfully used in this project to signal need for discussion and establish agendas for consensus meetings. This procedure could support helpful contextual reflection should the coding scheme be utilized by implementation teams. However, percent agreement is just one aspect of interrater reliability. Other statistics like Cohen's *kappa*

also take chance agreement into account and could serve to strengthen the reliability of the coding scheme (Krippendorff, 2011; McHugh, 2012). Particular attention should be paid to developing examples and language markers for the two 'swing' codes of Barrier with Potential and Facilitator Intended with a goal of enhancing training and usefulness of the code with non-expert raters. The 'swing' codes may be approached as a spectrum, where the middle is neutral. Content that starts in the neutral or positive position and becomes more positive may be a Facilitator Intended, while a Barrier with Potential may start in the negative area with movement towards the positive. However, where on that spectrum the content may fall needs to be clarified for greater consistency in coding.

Finally, applicability is limited due to the intensity of resources and time needed for the coding process. Currently, the INSPIRE coding scheme requires trained researchers with dedicated resources available for qualitative coding. The coding scheme could be a good fit for practice-oriented research, where pragmatic approaches are used to collect data with little interference in the clinical routine (Castonguay et al., 2021). Future research efforts could focus on increasing feasibility of the INSPIRE coding scheme in practice settings with the application of artificial intelligence models, such as natural language processing (e.g., Tanana et al., 2016).

Practical Application of the Feedback Implementation Coding Approach

We find it intriguing that the process of coding itself may be a generative organizational practice that could deepen awareness of the dynamic nature of implementation. A goal is to contribute to organizational learning for better progress feedback implementation, where research like this may contribute to promising innovations in real world settings (Youn et al.,

2023). Figure 3 presents a stepwise approach that could be used in practice-oriented research to deploy the coding approach described here and detailed in the supplementary materials.

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Insert Figure 3 here

First, organizations would need to be able to create data material from business-as-usual meetings or interviews where the topic is related to progress feedback implementation. The burden can be eased with web-based tools for transcription and software for qualitative data management and analysis. However, a simple spreadsheet program is sufficient for both coding and calculation of agreement to signal areas for discussion and guide the agenda for consensus meetings. In our experience, coding could be accomplished reliably by university students who had expertise in neither progress feedback nor implementation.

We believe the process of having two people code material separately then come together in a group with at least one other person for consensus meetings is a critical part of the process, given our findings that multiple perspectives appear to be useful to reliable coding. In addition, we recommend descriptive coding of the content first followed by interpretive coding to reduce burden of the coding process. Once the coding has been completed, interpretation can occur at the descriptive level by looking at the relative frequency of codes, as well as exploring within certain codes as we presented in the results above. It could be of particular interest to conduct coding exercises periodically throughout implementation to guide allocation of resources to address barriers that appear ripe for change or facilitators that may be strengthened. This kind of

a tailoring approach would bring the systematic benefits of a data-informed approach together with the idiosyncrasies encountered as change happens in real world contexts.

The approach described here could be a good fit for practice settings that have staff and resources available for quality improvement initiatives. However, embedding strategies like the progress feedback implementation coding process described here may be beyond the capacity of many practice settings, and thus require additional resources from outside. Elsewhere, we have suggested that the evaluation-practice partnership can bring benefits not just in resources but may also improve bi-directional learning from the practice setting to the larger field and vice versa (Douglas et al., in press).

In addition, the INSPIRE coding scheme is still in the developmental phase, and any who utilize the approach described here are encouraged to share their experience with the authors. A strength of this study was that the coding scheme was developed through an international partnership with data gathered from mental health organizations in three countries. However, as noted previously, it is expected that others who use the coding scheme may need to adapt it given the dynamic nature of progress feedback implementation in clinical settings. It is through the application of this common language for describing progress feedback implementation that understanding will grow. In their development of a coding manual intended for broad use, May and colleagues (2022) noted, “the whole purpose of coding, and linking coding to theory, is to build and inform interpretation and understanding” (p. 13).

Conclusions

This study described the development of an evidence-based coding approach for progress feedback implementation with the intention of giving practice leaders and researchers a

pragmatic tool to identify barriers and facilitators at multiple levels. With a goal of being broadly useful in practice-oriented research, the resulting coding approach can be used to describe factors that may aid, or hinder implementation of progress feedback related to people, processes, structures, and contexts internal and external to mental health organizations. The two 'swing' codes to identify barriers with potential and facilitators that could be deployed are an innovative feature intended to improve identification of levers of change to improve ongoing implementation. The coding approach has proven to be feasible as part of research efforts, with detailed descriptions and protocols to make it possible for use by non-expert raters and has promising evidence of reliability. Further research is needed to continue the development of the coding approach to build reliability and feasibility as part of ongoing implementation efforts.

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Table 1

Title: Study Site Characteristics

Characteristics	**USA (4 sites total)**	**Netherlands (2 sites total)**	**Norway (3 sites total)**
Population Served			
Child/Adolescent	All	All	1
Adult	All	All	All
Services Provided			
Outpatient Only	2	0	1
Outpatient + Other	2	All	2
Outpatient Session Frequency[1]	3 sites weekly; 1 site bi-weekly	Both sites bi-weekly	2 sites weekly; 1 site bi-weekly
Session Modalities			
Face-to-face	All	All	All
Telehealth	All	All	All
Individual	All	All	All
Group	All	All	All
Feedback Implemented			
< One year	0	0	0
One to Three years	2	0	1
> Three years	2	2	2
Feedback Research Support			
No	3	0	1
Yes	1	All	2
Feedback Technology			

Digital Reports	All	All	All
Patient Data Entry[1]	3	All	All
Measure Domains			
Symptoms and Functioning	All	All	All
Strengths, Resiliency, Well-Being	1	1	2
Treatment Process	2	1	All
Intended Feedback Use			
Patients get their own feedback reports.	1	All	0
Feedback is shared together with patients in session.	All	All	All
Feedback is reviewed to inform clinical decision-making.	All	1	0
Feedback is reviewed with supervisors.	3	All	2
Feedback is reviewed in clinical case review meetings.	2	All	2
Feedback informs ongoing treatment management.	All	All	0
Agency staff review aggregated feedback.	All	All	0

[1] Patient data entry means patients were able to electronically complete measures either on their own device or on a device at the clinic. For one site in the USA, patients completed measures on paper, with results then entered into a computer by clinic staff. All sites utilized feedback technology and had viewable reports available in digital form.

Table 2

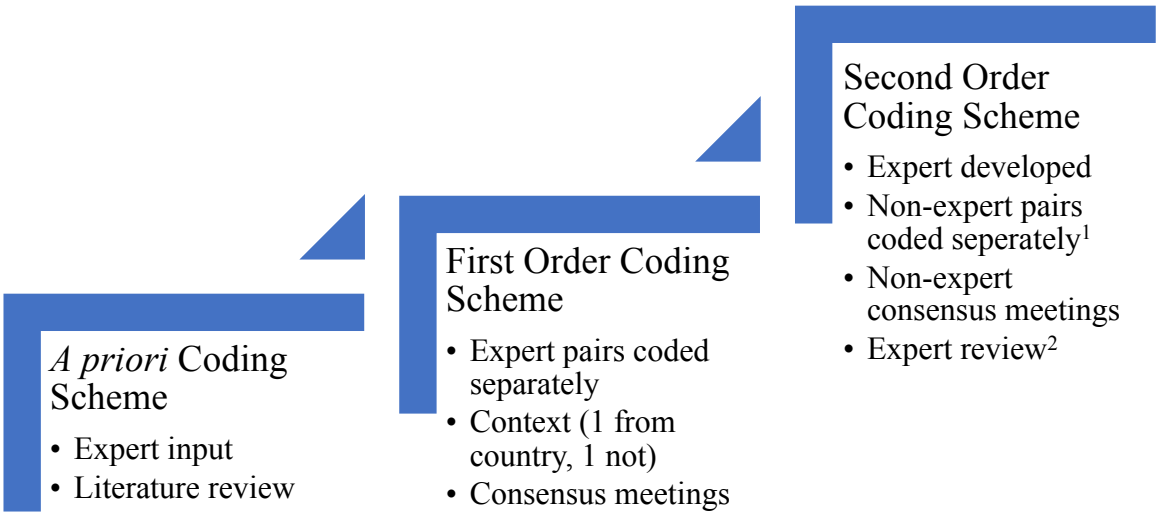
Title: Staff Role[1] by Site Tabulation for Interview Participants

Site & Location	Interview Type(s)	Leader (n)	Managers (n)	Clinicians (n)
USA 1	Group	3	0	0
USA 2	Group	1	2	0
USA 3	Group	1	1	0
USA 4	Group	1	2	0
Netherlands 1	Group + Individual	1	1	1
Netherlands 2	Group	1	1	1
Norway 1	Individual	1	2	1
Norway 2	Individual	1	1	2
Norway 3	Individual	1	1	2

[1] Staff often held more than one role, including seeing patients (for all roles) or supervisory responsibilities (for leaders). Only the senior-most role held by an individual is reported here, so the numbers add up to the number of participants.

Figure 1

Title: Steps Employed in the Development of the Coding Scheme



Note. Across first-order and second-order coding, iterative learning was captured in two types of revision: assimilation (minor clarifications or descriptive changes) and accommodation (adding or changing codes).

[1] Data to inform the development of the coding process included initial agreement for non-expert blind coding prior to discussion and review of meeting notes.

[2] Data to inform reliability of the coding process included agreement between non-expert and expert raters.

Figure 2

Title: Multi-dimensional Coding Scheme for Progress Feedback Implementation

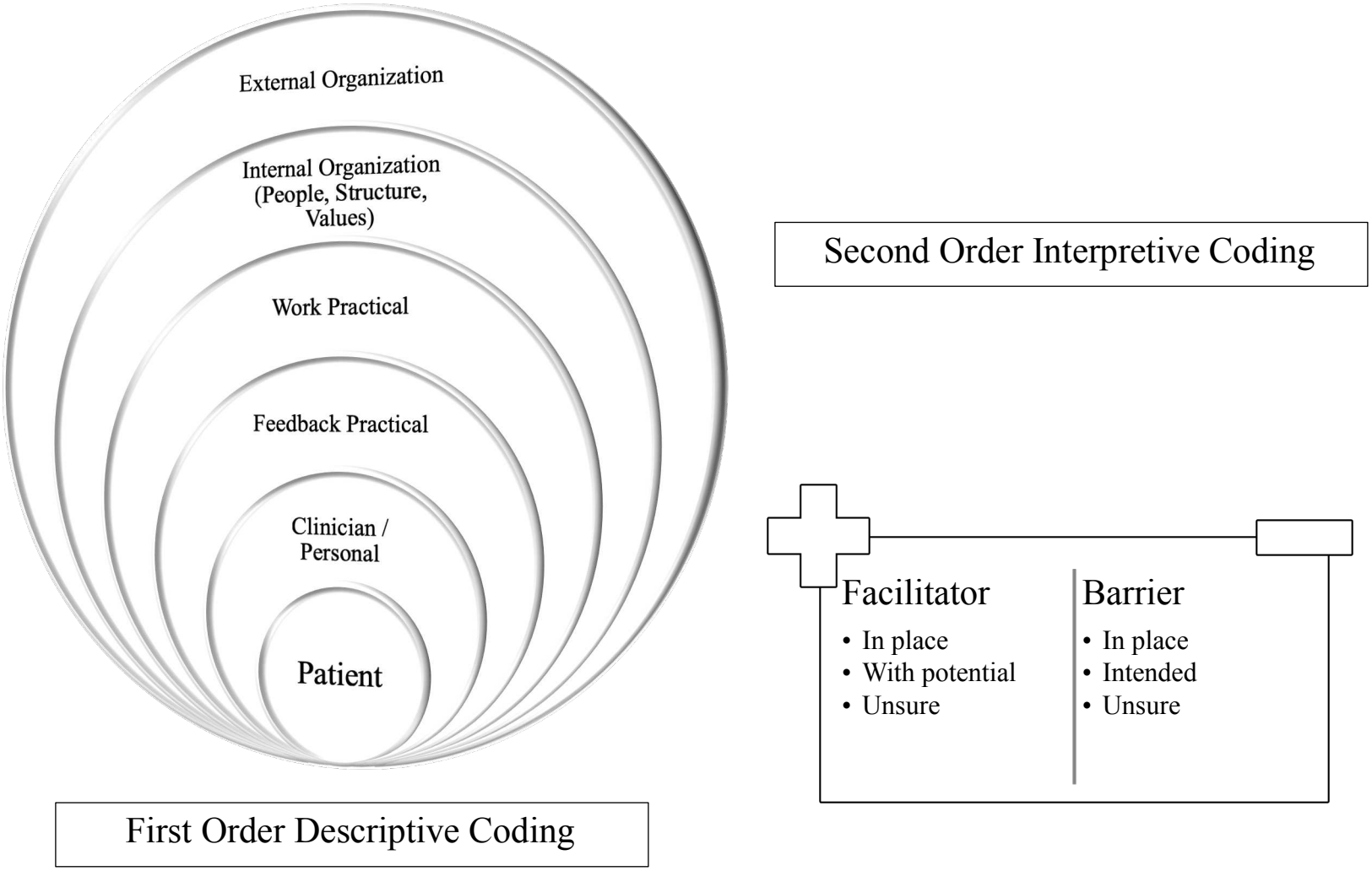
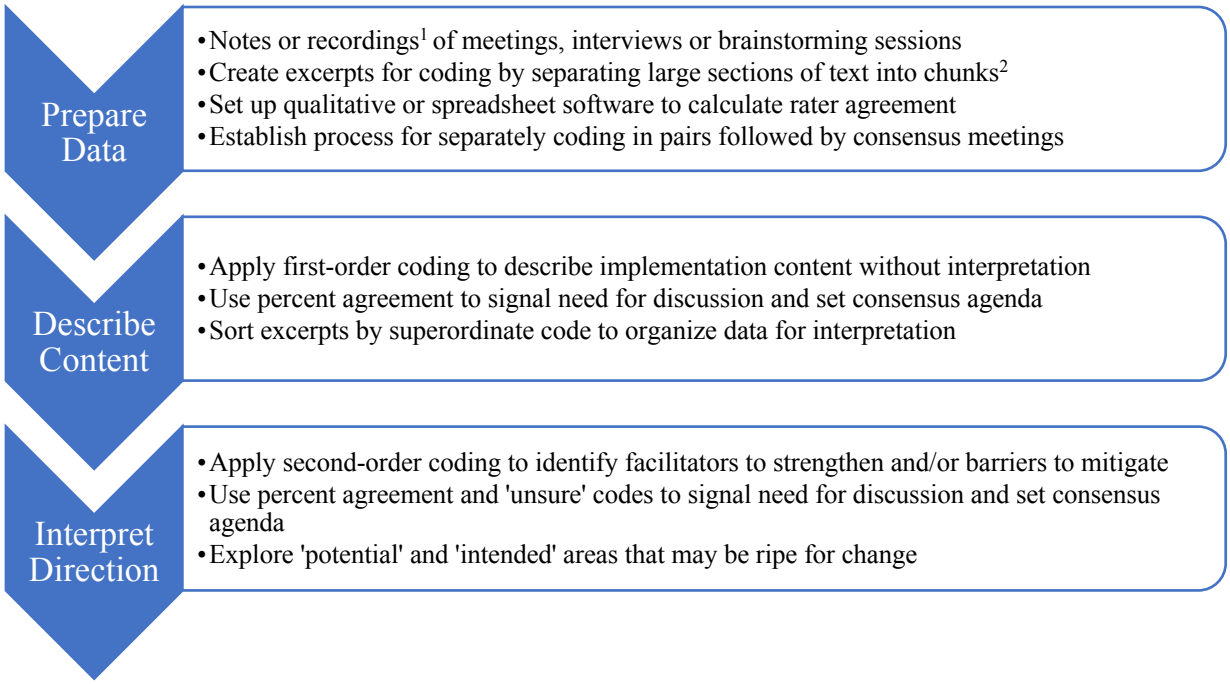


Figure 3

Title: Steps to Deploy Coding Approach in Research and Practice



[1] Web-based applications to transcribe audio recordings are readily available, and in our experience, are a cost-effective strategy to create transcripts that can be edited for quality.

[2] Chunks may be thought of like paragraphs, where there is some context around a central idea. For more tips, see https://www.dedoose.com/blog/best-practices-in-excerpting-and-coding-and-capitalizing-on-dedoose-features.