



# Implementing a nurse-led quality improvement project in nursing home during COVID 19 pandemic: A qualitative study

## Research Paper

Silvia Gonella<sup>1</sup>, Paola Di Giulio<sup>2</sup>, Marianna Angaramo<sup>2</sup>, Valerio Dimonte<sup>1</sup>, Sara Campagna<sup>2</sup>, Kevin Brazil<sup>3</sup> & the mySupport Study Group<sup>3</sup>

<sup>1</sup>Department of Public Health and Pediatrics, University of Torino, Torino, Italy; Azienda Ospedaliero Universitaria Città della Salute e della Scienza di Torino, Torino, Italy; <sup>2</sup>Department of Public Health and Pediatrics, University of Torino, Torino, Italy; <sup>3</sup>School of Nursing and Midwifery, Medical Biology Centre, Queen's University, Belfast, Ireland

**Corresponding author:** P. Di Giulio (paola.digiulio@unito.it)

## ABSTRACT

**Background:** There is broad consensus that the quality of nursing home (NH) care is a research priority to advance NH practice. However, NHs often fail to implement quality improvement (QI) research projects and complex circumstances such as Coronavirus disease 19 (COVID-19) pandemic may further hinder compliance. This study aims to describe the challenges associated with implementing a nurse-led QI project in NH during COVID-19 pandemic and potential strategies for their overcoming. **Methods:** A descriptive qualitative study was performed, and three data collection strategies employed, including: 1. semi-structured, open-ended interviews with follow-up questions (one NH manager, three members of the NH staff, and two family caregivers of people with advanced dementia); 2. research diary; and 3. in-the-field-notes. A combined deductive and inductive content analysis was adopted to analyze data. **Results:** Challenges may be anticipated or unanticipated. QI projects should include preliminary assessments to identify the willingness to change and establish partnerships at multiple levels with all stakeholders, adjust the implementation plan to the organizational context, and be open to ongoing changes. **Conclusions:** Early and regular engagement of stakeholders strengthen relationships. Moreover, an ongoing reflective practice throughout the entire implementation process promotes openness to change, and finally learning and improvement.

## KEYWORDS

COVID-19; Nurses; Nursing Home; Qualitative Research; Quality Improvement

## FUNDING SOURCE

This study has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 643417.

This is an EU Joint Programme - Neurodegenerative Disease Research (JPND) project. The project is supported through the following funding organisations under the aegis of JPND - www.jpnd.eu: Canada, Canadian Institutes of Health Research; Czech Republic, Ministry of Education, Youth and Sport; Netherlands, Netherlands Organisation for Health Research and Development; Republic of Ireland, Health Research Board; UK, Alzheimer's Society.

## BACKGROUND



There is broad consensus that improving the quality of nursing home (NH) care is priority for research and practice to advance NH practice, particularly for people with advance dementia at the end of life (Morley et al., 2014). In fact, even in countries with relatively high levels of palliative care development in NHs (i.e., Belgium, England, and the Netherlands), there is wide room for improvement particularly in residents' physical and emotional distress near death and advance care planning (Pivodic et al., 2018).

The profile of NH residents is changing compared to the past: they have higher levels of dependency, impaired cognitive functioning, and their death is usually expected within three years from institutionalization (Joling et al., 2020; Ng et al., 2020). Consequently, NH staff has to address complex, physical, emotional, spiritual, and existential needs. Unfortunately, NH staff reported that residents' or their families' needs could be missed due to insufficient resources, lack of education, and poor or missed communication (Kong, Kim, & Kim, 2021; Schonfeld, Stevens, Lampman, & Lyons, 2012). Similarly, over half of families with a relative in a NH, reported that their relative received insufficient emotional support, one third was unsatisfied with symptom control, and over 40% was concerned about information received (Teno et al., 2004).

Quality improvement (QI) research projects characterized by structured, organization-wide approaches aimed to improve work processes (Berlowitz et al., 2003), are emerging as promising means for enhancing the NH care quality (Toles, Colón-Emeric, Moreton, Frey, & Leeman, 2021). Their implementation is associated with improved residents' outcome, increased staff satisfaction and standardization of advance care planning in practice (Kezirian et al., 2018; Mills et al., 2019; Vogelsmeier et al., 2021). However, NHs often fail to implement QI research projects aimed to introduce innovative care practices (Cranley et al., 2018; Rantz et al., 2012). Literature suggests that NHs are confronted with unique challenges which may complicate the implementation of QI research projects, including vertical organizational structure with top-down communication; limited amount of time the staff can devote to QI activities due to staffing shortages, caring for residents with increasingly complex conditions, and compliance with filling

documentation; high staff turnover; perceptions that QI activities are burdensome; lack of experience in implementing innovations; researchers perceived as outsiders who bare deficits of the NH; and poor opportunities to be involved in research (Jenkins, Smythe, Galant-Miecznikowska, Bentham, & Oyeboode, 2016; Lam et al., 2018; Maas, Kelley, Park, & Specht, 2002).

Regular and informal reinforcement as well as ongoing meetings between researchers and the NH staff and leadership facilitate success of QI projects by promoting understanding of QI activities and equipping NH staff with implementation skills (Mills et al., 2019). However, when these regular meetings are not possible such as during Coronavirus disease 19 (COVID-19) pandemic (Chen, Ryskina, & Jung, 2020; Miralles et al., 2021), misunderstanding are more likely with increased risk of participants' frustration and attrition (Almost et al., 2016). Moreover, the COVID-19 pandemic exposes NH staff to increased workload and emotional burden of caring for residents who face isolation, illness, and death alone due to visitation restrictions (White, Wetle, Reddy, & Baier, 2021). These complex and stressful circumstances may further hinder participation to and compliance with QI activities.

Exploring obstacles and facilitators to implementing QI projects is essential to understand the dynamics of a context and identify key strategies to create a successful research environment, particularly during difficult times and in complex settings such as NHs (Mills et al., 2019). Moreover, looking at different stakeholders' perspective including researchers, NH staff, NH leadership, family caregivers, and residents, when possible, provides a comprehensive overview of potential barriers and resources for implementing QI projects.

## STUDY AIM AND RESEARCH QUESTION

The aim of this study was to identify and summarize the challenges encountered during the implementation of a nurse-led QI research project in the NH setting during COVID-19 pandemic and strategies employed for their overcoming, by exploring multiple stakeholders' perspectives. Our research question was as follows: What are the challenges to successfully implement a nurse-led QI research project in NH during difficult times such as



COVID-19 pandemic and potential strategies for their overcoming?

## METHODS

### *Study Design*

A descriptive qualitative study design (Sandelowski, 2000) was used while implementing a nurse-led QI research project on family care conferences for caregivers of people with advanced dementia in NH (primary study) between March to June 2021 (mySupport Study, 2019-2022). Methods have been reported here according to the COnsolidated criteria for REporting Qualitative studies (COREQ) guidelines (Tong, Sainsbury, & Craig, 2007). The COREQ guidelines guide in reporting important aspects of the research team, study methods, context of the study, findings, analysis, and interpretation.

### *Quality Improvement Research Project*

A transnational multidisciplinary implementation study, known as mySupport study (2019-2022), that involved a consortium of six countries (Canada, United Kingdom, Ireland, Italy, Netherlands, and Czech Republic), explored the benefits of structured nurse-led family care conferences associated with written resources in supporting family caregivers of NH residents with advanced dementia who have to take decisions for their relative's end-of-life care, as perceived by family caregivers themselves and healthcare professionals.

The intervention was delivered by trained nursing staff. Training was a merge of online and face-to-face: firstly, nurses attended a 3-hours online training and then two face-to-face meetings one hour and half each. Training content included a review of the written resources used during family meetings, how to select families, organize and conduct a family conference, reflection on communication skills required for effective family conference and documenting process and outcomes. The online training module was accessible for the entire project to allow nurses solve doubts that could arise as the project unfolded.

The intervention (i.e., structured nurse-led family care conferences) has been implemented across a minimum of two NHs per participating country over a 12-month period.

### *Current Study*

The current study explores challenges encountered during the early phases of mySupport study implementation in one Italian NH. This site is an urban, non-profit NH that assists elderly people privately or through agreements with the National Health Care Service. The NH is in a town of just over 5,000 inhabitants that is close to main roads and easily reachable with public transportation. It provides care to 106 residents who are located into five wards according to their care needs and does not have a dedicated dementia care unit despite 36 residents currently have a formal diagnosis of dementia. There is no specific protocol in use regarding Advance Care Planning and family conferences take place according to a resident's changing health status and family caregivers' needs. Time of care depends on regional regulation (DGR 30 July 2012, n. 45-4248): residents at high care intensity receive 30 to 46 minutes per day of nursing, psychological and rehabilitative care compared to 8 minutes/day for residents at low care intensity.

The staffing structure covers five areas, including clinical, rehabilitation, social care, service and administrative, and has regular access to general practitioners, geriatricians, physiotherapists, psychologists, and educators. Dietitians, dentists, specialist nurses, pharmacists and social workers are external partners in care.

### *Data Collection Process*

Two female nurses (one external - hereafter external facilitator- and one internal - hereafter internal facilitator- to the NH) trained in qualitative research were responsible for data collection. Specifically, they were (a) a research nurse with postgraduate specialization in bioethics and (b) a nurse experienced in NH end-of-life care, respectively. Three data collection strategies were employed, including: 1. semi-structured, open-ended interviews with follow-up with probe questions; 2. research diary; and 3. in-the-field-notes.

The external facilitator (SG) carried out six interviews exploring the perspective of NH manager, internal facilitator, two NH workers who were informed of the project and not delivering family care



conferences (hereafter key informants), and two family caregivers of people with advanced dementia at the end of life, about their perceived barriers and opportunities for implementing mySupport study. Identification of key informants and family caregivers was discussed and shared among NH manager, internal and external facilitator. Potential participants were informed about the project in-person or over the telephone.

Interviews were audio-recorded and transcribed verbatim after being listened to several times. A member of the team (MA) transcribed the interviews. Another member (VD) checked transcripts against audio-recorded interviews to assure accuracy. Participants had the opportunity to review their transcript and only two participants requested copies which were returned with no revisions. Interviews had a mean duration of 12 (range 7-16) minutes.

The internal facilitator (MA) kept a research diary where she reported her “on action” reflections (Janssens, Bos, Rosmalen, Wichers, & Riese, 2018; Schon, 1984), which were in-depth personal reflections about experienced situations and emotions. The “on action” reflections were collected over the entire implementation process, thus making the research diary as a repository for personal reflections (Snowden, 2015).

Both the internal and the external facilitator collected and regularly shared their “in action” reflections (Janssens et al., 2018; Schon, 1984) through in-the-field notes, thus ensuring validity and reliability of data collection and minimizing researcher bias. In-the-field notes were defined as written narratives of observational data emerged by fieldwork including descriptive and interpretive data based on the observational experience of the researcher (Jackson, 2019). The “in action” reflections were collected over the overall implementation process with regard to: (i) the interview plan (e.g., whom to interview; how to approach participants; how to word, how order and pose questions; how to record what was being said - tape or notes -; and when to stop) (Pawluch, 2005); (ii) the setting for the interview (e.g., NH, interviewee’s house); (iii) the appearance and demeanor of participants (e.g., emotional status and non-verbal behaviors); and (iv) challenges emerging as the implementation of the primary study unfolded and strategies adopted for their overcoming (e.g., family caregivers’ need to let

off steam during family care conferences, thereby internal facilitator had to allow some deviations and then took back on the focus of the interview)

Interviews transcripts, the research dairy, and all in-the-field notes were uploaded in ATLAS.ti (version 6) for analysis.

### **Data Analysis**

The data analysis consisted of two separate processes, whose findings were finally merged in a unique dataset. Specifically, a deductive content analysis was employed to analyze interview transcripts (Crabtree & Miller, 1992; Graneheim & Lundman, 2004), while an inductive content analysis was used to analyze the research diary and in-the-field notes (Graneheim & Lundman, 2004; Merriam, 2009).

Interview transcripts were analyzed by two independent researchers (MA and SG) who separately identified the relevant meaning units and attributed codes available in the pre-established matrix of analysis shared among the consortium (Crabtree & Miller, 1992; Graneheim & Lundman, 2004). When no codes fitted the identified meaning units, new codes were created. The others team members (PDG, SA and VD) provided feedback on the fit of codes.

Two researchers (MA and SG) individually coded the research diary and in-the-field notes by using an open coding process (Merriam, 2009) based on content analysis (Graneheim & Lundman, 2004), then discussed and consolidated codes. Codes were shared within the team and discussed until reaching a consensus for the final coding schema.

Finally, regardless of the initial process employed, all codes obtained were analysed comprehensively through an inductive approach (Merriam, 2009). Specifically, two researchers (MA and SG) gathered codes into categories and then categories into themes, based on similar meanings. After completing the initial analysis individually, they discussed and came to a consensus. The team assessed the fit of codes into categories and themes, made suggestions for further consolidation, and a consensus was finally achieved.



Data analysis and collection were iterative and occurred simultaneously. This allows continuous adjustment of the interview guide for depth exploration of emerging issues.

Emerging themes are cited using significant examples, which are identified by the source of information (Interview/NH manager; interview/internal facilitator; interview/key informants; interview/family caregivers; research diary; and in-the-field notes). Excerpts were agreed within the team.

### ***Trustworthiness and Authenticity***

Trustworthiness refers to processes that assure accuracy of qualitative research and includes credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1986; Patton, 2014).

This study sought to strengthen credibility through purposive sampling, different strategies of data collection (interview, research diary, and in-the-field notes), member checking, triangulation in data analysis, and regular face-to-face or online debriefing sessions between the internal and the external facilitator. Regular meetings among internal facilitator, NH manager and key informants took place to share impressions about how study unfolded, emerging challenges and proactively identify strategies for their overcoming.

To pursue transferability, reflexivity was promoted by regular documentation of project progresses and internal facilitator's impression in the research diary. Moreover, an audit trail was kept over the entire implementation process.

The research team enhanced dependability of results using two coders who individually coded, then met to consolidate, and triangulation within the overall team.

Confirmability was pursued through quality checking of interview transcripts and exploring different perspectives (i.e., NH manager, internal facilitator, external facilitator, key informants, and family caregivers) about perceived barriers and opportunities from implementing the mySupport project.

Authenticity takes the influence of context into consideration by addressing fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity (Lincoln & Guba, 1986; Patton, 2014).

Fairness was looked for by considering the different viewpoints to honor multiple parties and values in a balanced, impartial way.

This research plans to arrive at a better care delivery after intervention tested in this QI project (i.e., family care conferences) would be routinely performed (ontological authenticity).

In this study, educative authenticity concerns knowledge generation of what issues are being experienced as challenging while implementing the QI project; the involvement of several stakeholders, debriefings, and peer meetings helped to direct the key themes that this research addresses.

Catalytic authenticity concerns "the extent to which action is stimulated and facilitated by the research being carried out". Since knowledge in and of itself is insufficient to deal with the multitude of issues that participants arise during the research process, the findings generated from this QI project will also be published to help generate debate.

Tactical authenticity concerns whether the research empowered participants to take the action(s). Participants' testimonial would serve as the best indicator of tactical authenticity. For example, empowerment of family caregivers may be checked by looking at the documentation of advance care planning for their relative with advance dementia in clinical records; empowerment for NH staff delivering the QI intervention may be confirmed by how they were able to accommodate such intervention into their workload; and empowerment for NH leadership may be represented by the commitment and involvement in implementing the project.

### ***Ethics Considerations***

The Ethics Committee of the University of Torino (Italy) approved the study (Reference 131362/5.3.2020). All participants including the two researchers who collected the data gave their written informed consent to participate in the study.



Participants who were involved in interviews, consented to be audio-recorded after being informed about the study purpose and data collection process, were free to participate and could stop the interview at any time and for any reason. A protocol to manage the onset of emotional distress during interviewing was available. Moreover, transcriptions were anonymized for all sensitive information.

## RESULTS

Seventeen categories were identified and gathered into three themes that describe the early phases of mySupport project implementation in Italian long-term care setting during COVID-19 pandemic: (1) setting the stage; (2) adjusting the implementation plan to the context; and (3) being open to ongoing changes ([Table 1](#), [Figure 1](#)).

### Setting the Stage

Before the factual implementation of QI projects in NH, preliminary assessments are needed to ascertain potential participants' willingness to adhere to such projects. Therefore, QI projects should be presented at multiple levels, including unit-level (i.e., colleagues) and organizational/system-level (i.e., NH leadership).

*"I've tested the waters among colleagues to understand their potential willingness to welcome the project." (Research Diary)*

*"The project needs to be presented at my workplace, first to the administrative and healthcare leadership, and then to my colleagues including nurses, nurses' aides, psychologists, and educators." (Research Diary)*

Openness to change both at the unit- and organizational/system-level as well as adequate training is pivotal to make QI projects take off. In this NH, being involved in mySupport project is perceived as an opportunity to improve the quality of care, discuss neglected topics (i.e., end-of-life care), and of education and reflection. Training, both online and in-person, for all people involved in QI activities as well as self-education are perceived as essential to start QI projects.

*"[With such projects] we can improve the assistance of our patients and provide better patient-centred care." (interview/internal facilitator)*

*"[This project] allows us to reflect and confront with issues that are mostly neglected and denied." (Research Diary)*

*"This project moves across very thorny issues. Experience is limited, it's really challenging to daily deal with people at the end of life who are not fully aware of what is happening. Being supported by material and people experienced in the field is a precious enrichment for all of us [...]. Anyway, I believe that some difficulties may arise to persuade us all of how important this project is, make us become familiar with it, and introduce the project into our clinical practice. This should not be taken for granted. According to my experience, every time a new intervention is proposed there is always some resistance to change." (interview/key informants)*

*"I was surprised by the NH manager's enthusiastic reaction, 'How can we improve without research? she told me'." (in-the-field notes)*

Establishing partnerships at multiple levels with all stakeholders (i.e., family caregivers, team members, NH leadership, external facilitator, and university) can better ensure that QI projects find favourable conditions to take off, and then being sustained and spread over time. Availability, collaboration, listening and sharing among family caregivers, NH staff and leadership is essential to initiate and support culture change.

*"The success will depend on family caregivers' availability, their trust toward the facility and the staff." (interview/internal facilitator)*

*"This is a project that makes all of us professionally grow, so if we all commit ourselves we can get good results." (interview/key informant)*

*"The project is in line with the current and future priorities of the facility." (interview/NH manager)*

Establishing a partnership with external facilitators, it favors different perspectives to interface, thus promoting sharing of concerns and identification of strategies to address emerging challenges. Such partnership has been based on both methodological and emotional support that external facilitator provided in training staff, navigating project



documentation, selecting participants, and coping with obstacles while implementing the QI project.

*“Together [the external facilitator and I] we concluded that I’ll have to accept the fears of family caregivers, let them off steam, welcome their outburst, and then bring the discussion back to the focus of the family care conference.” (Research Diary)*

*“We discussed the strategies that I can adopt in the next family care conferences to not exceed 60 minutes, especially considering that this conference will become part of our routine within the working hours at the end of the project.” (Research Diary)*

Finally, facility-university partnership is pivotal to start QI projects in NH. Collaborative relationships and mutual exchange need to be established and it is useful that preliminary formal contacts - usually by e-mail communication -, are followed by informal, face-to-face meetings to know each other and lightly clarify doubts.

*“The project manager at the University of Turin sent an invitation letter to my NH manager asking for our collaboration for the mySupport project.” (Research Diary)*

*“Today, the external facilitator and I have met the NH manager to unravel the last doubts relating to the start of the project, especially regarding the commitment required and the participants’ selection process.” (Research Diary)*

### **Adjusting the Implementation Plan to the Context**

QI projects are more likely to be successful when the implementation plan is adjusted to the organizational context. This means to engage all stakeholders, tailor modalities to approach participants and deliver QI activities, and manage both anticipated (e.g., time and resource constraints) and unanticipated (e.g., Covid-19 pandemic) difficulties.

The selection of the participants required sharing, negotiation and discussion within the team, and finally triangulation with the external facilitator and NH manager to achieve agreement and resolve doubts.

*“The same reasons that prompted me, the external facilitator and the NH manager to undoubtedly include this family caregiver in the project were instead perceived as an obstacle by my head nurse. After prolonged discussion we finally agreed on selected participants.” (Research Diary)*

Potential participants were informed about the QI project by telephone, or in-person meeting and documentation provided on paper or by email, according to their preferences. QI activities were designed on participants’ needs with regard about the: i) modalities, by employing a bottom-up approach and personalizing family care conference according to participants’ awareness, training needs, and fears; and ii) timing, by scheduling the family care conference when family caregivers come to the facility to visit their relative. Moreover, a welcoming setting with no potential sources of interruptions and/or distractions was identified.

*“I perceived a complete lack of awareness, highlighted by fears mostly related to the legal aspects and denial of issues of advanced dementia, therefore I decided to read written documentation point-by-point, then leaving space to the family caregivers for her impressions and doubts.” (Research Diary)*

*“The family care conference took place in the psychologist’s office, a welcoming and quiet place, with no interruptions and distractions.” (Research Diary)*

Implementing the QI project required participants to confront time and resource constraints, which were initially underestimated. Then, also with the support of external facilitation, NH staff progressively learned to set aside time for the project, identified strategies to deliver family care conferences while keeping down times, and to some extent was available to work on the project in the free time.

*“Finally, I managed to save a moment, but then I had to move following the numerous calls which had already arrived at my business mobile”. (Research Diary)*

*“Unfortunately, timing and resources within nursing homes are extremely limited to the point that it becomes difficult to think to conduct the study during*



*working hours [...]. Thus, I decided to conduct family care conferences in my free time to work on them with the right time and calm without any pressures.” (Research Diary)*

In addition to these difficulties which can be anticipated to some extent, the implementation plan had to be adjusted to sudden unanticipated challenges such as Covid-19 pandemic. The pandemic i) affected training modalities with online training for both internal and external facilitators, ii) limited in-person contact between family caregivers and NH staff thus potentially threatening trusting relationships to be established, and iii) impacted the organization of the facility with a high nursing turnover.

*“The pandemic did not allow to strengthen those relationships of trust which usually develop over time between family caregivers and NH staff.” (Research Diary)*

*“This year of pandemic has made relationships gone less because I have not had many contacts anymore [...]. They informed me but I could not interact anymore.” (interview/family caregiver)*

*“The difficulties in recruiting staff with an almost total turnover of the nursing staff are clear signs of the transformation which has been taking place in the last year.” (in-the-field notes)*

*“Participants’ selection is going slowly due to the high workload of this period.” (in-the-field notes)*

### **Being Open to Ongoing Changes**

While implementing QI activities, confronting contrasting emotions both supportive and challenging is frequent and ongoing reflection is usually required, thus resulting in ongoing learning and changes.

QI activities may be supported at multiple levels, including family caregivers, NH staff, NH leadership, and external facilitators.

*“I was extremely pleased to see how all the children of the resident were interested in the project and desired to understand how it worked.” (Research Diary)*

*“I am enthusiastic with his [psychologist of the NH] interest and his willingness to support me along the way, also in approaching family caregivers and during family care conferences if needed.” (Research Diary)*

*“In mySupport study, I’m an internal facilitator and feel supported and guided by X [external facilitator] in carrying out the project in my facility”. (Research Diary)*

*“I feel reassured by NH manager’s support because I know that there is some possibility to sow some kind of cultural change which can be implemented and sustained in the future, also following the end of the initial project”. (interview/internal facilitator)*

Instead, fear to not be enough prepared to deliver QI activities on thorny topics particularly when family caregivers distrust the NH or the staff, or contain family caregivers’ outburst, concerns of emotional involvement and increased workload, as well as difficulties in accepting criticism, emerged among the main challenging situations.

*“My concern is growing because I’m aware that it’ll certainly not be easy to sustain an end-of-life discussion with such a problematic daughter, who distrusts the facility and the care we are providing to her mum”. (Research Diary)*

*“[During the interview] she [family caregiver] attributes her mum’s worsening to a “standardized” care. I must recognize that it has been not easy for me to accept this criticism.” (In-the-field notes)*

*“I’m concerned about the increased workload and the high emotional burden which can result from end-of-life discussions with family caregivers.” (interview/internal facilitator)*

Successful implementation of QI research activities requires ongoing, reflective practice since the early phases of implementation and continuous adjustments according to emerging findings and challenges. This process includes reflection on participants’ selection, how best tailoring QI activities, and regular debriefing to recognize opportunities to initiate QI improvement. Moreover, ongoing reflection occurs at multiple levels including personal-, NH staff-, NH leadership-, and external





facilitator-level. This leads to ongoing learning and improvement in the quality and reliability of the data collected (e.g., reduced amount of missed data after changes in the modality of data collection).

*“Following the first family conference, I had debriefing with the external facilitator who attended the meeting in the background, to identify strengths and opportunity of improvement. Among improvement strategies, we identified the synthesis of written information, particularly when family caregivers have some knowledge about end of life, and the adoption of a bottom-up approach starting mostly from family caregivers’ doubts and information needs.” (Research Diary)*

*“After the external facilitator pointed out some missed data in the questionnaire to be filled in before the family conference and I made family caregivers complete just before the meeting, I decided to provide the questionnaire in advance, let family caregivers fill it at home and then return it at the following visit. In addition to reduce the risk of missed data due to perceived pressure, this modality prevents my presence from influencing the response since perceived family caregivers’ care quality is one of the topics explored.” (Research Diary)*

## DISCUSSION

This study identified the challenges encountered during the implementation of mySupport study in the Italian long-term care setting during COVID-19 pandemic and strategies employed for their overcoming. Our findings suggest that to be successful, QI projects including nurse-led projects should (1) set the stage; (2) adjust the implementation plan to the context; and (3) be open to ongoing changes.

Our analysis showed early phases of the implementation process to have a key role in favouring success of QI activities. During these phases, preliminary assessments were performed to explore openness to change, training was provided, and partnerships were established at multiple levels.

Introducing evidence-based QI activities to enhance the quality of care is not merely a technical change as it also encompasses a cultural dimension (Cohen et al., 2004). NHs have been suggested to

have a strong ‘corporate culture’ which is defined as value-infused codes of behaviors, rituals, and language commonly held by all its employees (Mannion & Davies, 2018). This culture is dynamic and can be shaped to improve the quality of care for its residents (Killett et al., 2016). Therefore, exploring willingness to change both at the unit- and system/organizational level as well as motivations to achieve the target can help to identify facilitating premises and overcome resistance. Our findings suggest that when QI activities are perceived as an opportunity of education and reflection, this facilitates the implementation of QI projects, thus finally resulting in improved NH culture.

Adequate stakeholders’ training as well as their early engagement in QI activities has been confirmed as an effective implementation strategy (Boyer et al., 2018; Harrison et al., 2019). Training has a key role in implementing, sustaining, and spreading QI activities (Mills et al., 2019; Rantz et al., 2012). When asked about facilitators to implementing QI projects, NH staff highlighted the importance of ensuring participants understand the rationale, expectations, and goals of implementation (Mills et al., 2019). Moreover, staff’s involvement in educational QI activities and QI committees, as well as plans of continuous education about QI process and how to do QI were demonstrated to sustain QI activities over time (Rantz et al., 2012). Engagement efforts promote the creation of partnerships which facilitate QI activities based on open dialogue and trusting, collaborative relationships (Harrison et al., 2019).

During the implementation of mySupport study, it was necessary to adjust the implementation plan to the organizational context and tailor the modalities to approach participants and deliver the QI activities. We approached participants in-person or over the phone and study material was provided on paper format or sent by mail. Moreover, how (i.e., modalities) and when (i.e., timing) QI were delivered, it was personalized on each participant. A bottom-up approach was employed and QI activities (i.e., family care conferences) were tailored on participants’ awareness, education needs, and worries. This approach allows family caregivers to reflect on their lived experience and promote awareness in ethically challenging situations, such as when they must take decisions on behalf of their incapacitated relative



with advanced dementia at the end of life (Elliott, Gessert, & Peden-McAlpine, 2009).

QI projects are confronted with numerous challenges during the process of implementation and the success depends on the ability to manage both anticipated and unanticipated challenges (Bail et al., 2020). Our findings confirmed anticipated challenges of the NH context such as difficulties in finding time to implement QI activities, low staffing levels and high staff turnover (Lam et al., 2018; Temkin-Greener, Cen, & Li, 2020). Moreover, we had to contend with COVID-19 pandemic which represented an unexpected challenge and required changes to the original implementation plan: training for the internal and external facilitator was delivered online, technology-based approaches were employed to reach family caregivers due to their decreased presence in the facility, and family care conferences had to be arranged in accordance with social distancing and personal protective equipment regulation. Our experience showed that support from multiple individuals at different levels including family caregivers' positive feedback, colleagues' cooperation, and leadership support may help to overcome challenges when implementing QI projects, regardless they are anticipated or unanticipated (Stetler et al., 2006). However, this happens only when trusting partnerships have been established at multiple levels since the early phases of the implementation process.

The adoption of a regular reflective practice promoted openness to change, that in turn resulted in ongoing adjustments, and finally learning and improvement in the quality of data collected. Indeed, changes in the modality of data collection after debriefing sessions led to less missing data. According to the Kolb's learning cycle, experience should be followed by a reflective process to be re-elaborated and new learning conceptualized. Then, the skills acquired will translate into changed behaviours and modalities of thinking (Kolb, 1984). Similarly, Schön highlights the relevance of reflection during the course of action, which emerges as meta-competence that generates new knowledge. When healthcare professionals reflect on their own action, they become able to overcome the sequential application of knowledge and experience reflection as means to emerge doubts and uncertainties (Schon, 1984).

One of the top key lessons we learnt from this study is the importance to adopt a multilevel approach throughout every stage of the implementation. During early phases, assessment of willingness to adhere to the project was performed at the NH staff-, NH leadership-, and family caregivers-level, thus promoting early partnerships at multiple levels, as aforementioned. Literature recognizes involvement of stakeholders at multiple levels as a systematic approach for any research project aimed at improving patient-centred care (Boyer et al., 2018) and recommends that worthy involvement should be based on mutual respect, trust, and finally empowerment of all stakeholders (Harrison et al., 2019). In our experience, the partnership between the internal and external facilitators was essential for the successful project implementation. This type of facilitation is known as blended facilitation and helps to identify barriers to implementation and develop strategies to overcome those obstacles by employing a 2-way process of relationship and skill building (Pimentel et al., 2019), while enabling individuals and teams to reflect (Stetler et al., 2006). Also in our experience, this partnership emerged as a critical process of interactive problem-solving and support based on a constant reflective practice which promoted implementation change. Similarly, ongoing engagement of the NH leadership based on both formal and regular, informal contacts had a pivotal role in the implementation process (Pimentel et al., 2019; Vogelsmeier et al., 2021). Establishing partnership with leadership essential to promote culture change at the system-level and sustain and spread quality activities over the project itself or following its cessation. While individual and unit-level factors were suggested to influence success of the QI initiative, it was primarily organizational-level factors that influenced the extent of sustainability or spread of the intervention (Cranley et al., 2018).

The multilevel approach was maintained while adjusting the implementation plan to the context as suggested by confront at multiple level during the participants' selection process (i.e., NH leadership, NH staff, and external facilitator), and during the ongoing reflective practice which resulted in continuous implementation changes and improvements by fostering co-learning of both stakeholders and researchers (Boyer et al., 2018; Harrison et al., 2019).



## STRENGTHS AND LIMITATIONS

Despite several strategies of data collection allowed to consider different perspectives, including family caregivers, the research diary and in-the-field notes provided the main contribution, because the interview guide was too structured to grasp detailed information. The short period of observation (four months) may have prevented from identifying obstacles that occur infrequently, such as changed government policies for NH staffing, salary of the NH personnel or changed NH leadership. The in-the-field notes though collected by two nurses with experience in elderly care could be very unlikely biased due to the continuous reflective practice and debriefing sessions between the internal and the external facilitator. Finally, the study was conducted in a small and private NH, characteristics associated with an increased likelihood of success for QI research project (Cranley et al., 2018).

## CONCLUSIONS

This study offers understanding of challenges in implementing nurse-led QI projects during times of crisis such as COVID-19 pandemic, and potential strategies for their overcoming. Our findings suggest that challenges may be anticipated such as time and resources constraints, or unanticipated as COVID-19 pandemic. To increase the chance of success, QI projects should include preliminary assessments to identify the willingness to change and establish partnerships with all stakeholders, adjust the implementation plan to the context, and be open to ongoing changes.

Trusting partnerships at multiple levels which should be established since the early phases of the implementation process as well as an ongoing adjustment of the implementation plan to the organizational context may help to overcome both anticipated and unanticipated challenges. Early and regular engagement of all stakeholders strengthen relationships, which become an essential source of support in difficult times. Moreover, the adoption of an ongoing reflective practice throughout the entire implementation process promotes openness to change, continuous adjustments, and finally learning and improvement.

## REFERENCES

- Almost, J., Wolff, A. C., Stewart-Pyne, A., McCormick, L. G., Strachan, D., & D'Souza, C. (2016). Managing and mitigating conflict in healthcare teams: An integrative review. *Journal of Advanced Nursing*, 72(7), 1490-1505. <https://doi.org/10.1111/jan.12903>
- Bail, K., Merrick, E., Redley, B., Gibson, J., Davey, R., & Currie, M. (2020). "Blind leading the blind": Qualitative evaluation of unanticipated difficulties during nurse testing of a hospital health information system. *Collegian*, 27(1), 82-88. <https://doi.org/10.1016/J.COLEGN.2019.03.004>
- Berlowitz, D. R., Young, G. J., Hickey, E. C., Saliba, D., Mittman, B. S., Czarnowski, E., Simon, B., Anderson, J. J., Ash, A. S., Rubenstein, L. V., & Moskowitz, M. A. (2003). Quality improvement implementation in the nursing home. *Health Services Research*, 38(1 Pt 1), 65-83. <https://doi.org/10.1111/1475-6773.00105>
- Boyer, A. P., Fair, A. M., Joosten, Y. A., Dolor, R. J., Williams, N. A., Sherden, L., Stallings, S., Smoot, D. T., & Wilkins, C. H. (2018). A multilevel approach to stakeholder engagement in the formulation of a clinical data research network. *Medical Care*, 56 Suppl 10 Suppl 1(10 Suppl 1), S22- S26. <https://doi.org/10.1097/mlr.0000000000000778>
- Chen, A. T., Ryskina, K. L., & Jung, H. Y. (2020). Long-term care, residential facilities, and COVID-19: An overview of federal and state policy responses. *Journal of the American Medical Directors Association*, 21(9), 1186-1190. <https://doi.org/10.1016/j.jamda.2020.07.001>
- Cohen, D., McDaniel, R. R., Jr., Crabtree, B. F., Ruhe, M. C., Weyer, S. M., Tallia, A., Miller, W. L., Goodwin, M. A., Nutting, P., Solberg, L. I., Zyzanski, S. J., Jaén, C. R., Gilchrist, V., & Stange, K. C. (2004). A practice change model for quality improvement in primary care practice. *Journal of Healthcare Management*, 49(3), 155-168; discussion 169-170.
- Crabtree, B. F., & Miller, W. F. (1992). A template approach to text analysis: Developing and using codebooks. In B.F. Crabtree & W.F.



- Miller (Eds.), *Doing Qualitative Research in Primary Care: Multiple Strategies* (pp.93-109). Sage Publications.
- Cranley, L. A., Hoben, M., Yeung, J., Estabrooks, C. A., Norton, P. G., & Wagg, A. (2018). SCOPEOUT: Sustainability and spread of quality improvement activities in long-term care- a mixed methods approach. *BMC Health Services Research*, 18(1), 174. <https://doi.org/10.1186/s12913-018-2978-0>
- Elliott, B. A., Gessert, C. E., & Peden-McAlpine, C. (2009). Family decision-making in advanced dementia: Narrative and ethics. *Scandinavian Journal of Caring Sciences*, 23(2), 251-258. <https://doi.org/10.1111/j.1471-6712.2008.00613.x>
- Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24(2), 105-112. <https://doi.org/10.1016/j.nedt.2003.10.001>
- Harrison, J. D., Auerbach, A. D., Anderson, W., Fagan, M., Carnie, M., Hanson, C., Banta, J., Symczak, G., Robinson, E., Schnipper, J., Wong, C., & Weiss, R. (2019). Patient stakeholder engagement in research: A narrative review to describe foundational principles and best practice activities. *Health Expectations*, 22(3), 307-316. <https://doi.org/10.1111/hex.12873>
- Jackson, J. E. (2019). "I am a fieldnote": Fieldnotes as a symbol of professional identity. In R. Sanjek (Ed.), *Fieldnotes: The making of anthropology* (pp. 3-33). Cornell University Press.
- Janssens, K. A., Bos, E. H., Rosmalen, J. G., Wichers, M. C., & Riese, H. (2018). A qualitative approach to guide choices for designing a diary study. *BMC Medical Research Methodology*, 18(1), 1-12. <https://doi.org/10.1186/s12874-018-0579-6>
- Jenkins, C., Smythe, A., Galant-Miecznikowska, M., Bentham, P., & Oyeboode, J. (2016). Overcoming challenges of conducting research in nursing homes. *Nursing Older People*, 28(5), 16-23. <https://doi.org/10.7748/nop.28.5.16.s24>
- Joling, K. J., Janssen, O., Francke, A. L., Verheij, R. A., Lissenberg-Witte, B. I., Visser, P. J., & van Hout, H. P. J. (2020). Time from diagnosis to institutionalization and death in people with dementia. *Alzheimer's & Dementia : The Journal of the Alzheimer's Association*, 16(4), 662-671. doi:10.1002/alz.12063
- Kezirian, A. C., McGregor, M. J., Stead, U., Sakaluk, T., Spring, B., Turgeon, S., Slater, J., & Murphy, J. M. (2018). Advance Care Planning in the nursing home setting: A practice improvement evaluation. *Journal of Social Work in End-of-Life & Palliative Care*, 14(4), 328-345. <https://doi.org/10.1080/15524256.2018.1547673>
- Killett, A., Burns, D., Kelly, F., Brooker, D., Bowes, A., La Fontaine, J., Latham, I., Wilson, M., & O'Neill, M. (2016). Digging deep: How organisational culture affects care home residents' experiences. *Ageing & Society*, 36(1), 160-188. <https://doi.org/10.1017/S0144686X14001111>
- Kolb, D. A. (1984). *Experience as the source of learning and development*. Prentice Hall.
- Kong, E.H., Kim, H., & Kim, H. (2021). Nursing home staff's perceptions of barriers and needs in implementing person-centred care for people living with dementia: A qualitative study. *Journal of Clinical Nursing*. doi: 10.1111/jocn.15729. [Epub ahead of print].
- Lam, H. R., Chow, S., Taylor, K., Chow, R., Lam, H., Bonin, K., Rowbottom, L., & Herrmann, N. (2018). Challenges of conducting research in long-term care facilities: A systematic review. *BMC Geriatrics*, 18(1), 242. <https://doi.org/10.1186/s12877-018-0934-9>
- Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Program Evaluation*, 1986(30), 73-84. <https://doi.org/10.1002/ev.1427>
- Maas, M. L., Kelley, L. S., Park, M., & Specht, J. P. (2002). Issues in conducting research in nursing homes. *Western Journal of Nursing Research*, 24(4), 373-389. <https://doi.org/10.1177/01945902024004006>
- Mannion, R., & Davies, H. (2018). Understanding organisational culture for healthcare quality improvement. *British Medical Journal*, 363, k4907. <https://doi.org/10.1136/bmj.k4907>



- Merriam, S. (2009). *Qualitative research: A guide to design and implementation*. John Wiley & Sons Inc.
- Mills, W. L., Pimentel, C. B., Snow, A. L., Allen, R. S., Wewiorski, N. J., Palmer, J. A., Clark, V., Roland, T. M., McDannold, S. E., & Hartmann, C. W. (2019). Nursing home staff perceptions of barriers and facilitators to implementing a quality improvement intervention. *Journal of the American Medical Directors Association, 20*(7), 810-815.  
<https://doi.org/10.1016/j.jamda.2019.01.139>
- Miralles, O., Sanchez-Rodriguez, D., Marco, E., Annweiler, C., Baztan, A., Betancor, É., Cambra, A., Cesari, M., Fontecha, B. J., Gąsowski, J., Gillain, S., Hope, S., Phillips, K., Piotrowicz, K., Piro, N., Sacco, G., Saporiti, E., Surquin, M., & Vall-Llosera, E. (2021). Unmet needs, health policies, and actions during the COVID-19 pandemic: A report from six European countries. *European Geriatric Medicine, 12*(1), 193-204.  
<https://doi.org/10.1007/s41999-020-00415-x>
- mySupport study. Scaling up the family carer decision support intervention: a transnational effectiveness-implementation evaluation. 2019–2022. <https://mysupportstudy.eu>. (Accessed 10 February 2022).
- Morley, J. E., Caplan, G., Cesari, M., Dong, B., Flaherty, J. H., Grossberg, G. T., Holmerova, I., Katz, P. R., Koopmans, R., Little, M. O., Martin, F., Orrell, M., Ouslander, J., Rantz, M., Resnick, B., Rolland, Y., Tolson, D., Woo, J., & Vellas, B. (2014). International survey of nursing home research priorities. *Journal of the American Medical Directors Association, 15*(5), 309-312.  
<https://doi.org/10.1016/j.jamda.2014.03.003>
- Ng, R., Lane, N., Tanuseputro, P., Mojaverian, N., Talarico, R., Wodchis, W. P., . . . Hsu, A. T. (2020). Increasing complexity of new nursing home residents in Ontario, Canada: A serial cross-sectional study. *Journal of the American Geriatrics Society, 68*(6), 1293-1300. doi:10.1111/jgs.16394
- Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice*. Sage publications.
- Pawluch, D. (2005). Qualitative analysis, sociology. In K. Kempf-Leonard (Ed.), *Encyclopedia of social measurement* (pp. 231-236). Elsevier.
- Pimentel, C. B., Mills, W. L., Palmer, J. A., Dillon, K., Sullivan, J. L., Wewiorski, N. J., Snow, A. L., Allen, R. S., Hopkins, S. D., & Hartmann, C. W. (2019). Blended facilitation as an effective implementation strategy for quality improvement and research in nursing homes. *Journal of Nursing Care Quality, 34*(3), 210.  
<https://doi.org/10.1097/NCQ.0000000000000376>
- Pivodic, L., Smets, T., Van den Noortgate, N., Onwuteaka-Philipsen, B. D., Engels, Y., Szczerbińska, K., Finne-Soveri, H., Froggatt, K., Gambassi, G., Deliens, L., & Van den Block, L. (2018). Quality of dying and quality of end-of-life care of nursing home residents in six countries: An epidemiological study. *Palliative Medicine, 32*(10), 1584-1595.  
<https://doi.org/10.1177/0269216318800610>
- Rantz, M. J., Zwygart-Stauffacher, M., Flesner, M., Hicks, L., Mehr, D., Russell, T., & Minner, D. (2012). Challenges of using quality improvement methods in nursing homes that "need improvement". *Journal of the American Medical Directors Association, 13*(8), 732-738.  
<https://doi.org/10.1016/j.jamda.2012.07.008>
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health, 23*(4), 334-340.  
<https://doi.org/10.1002/1098-240x>
- Schon, D. A. (1984). *The reflective practitioner: How professionals think in action*. Basic Books.
- Schonfeld, T.L., Stevens, E.A., Lampman, M.A., & Lyons, W.L. (2012). Assessing challenges in end-of-life conversations with elderly patients with multiple morbidities. *American Journal of Hospice and Palliative Care, 29*(4), 260-267. doi: 10.1177/1049909111418778.
- Snowden, M. (2015). Use of diaries in research. *Nursing Standard, 29*(44), 36.  
<https://doi.org/10.7748/ns.29.44.36.e9251>



- Stetler, C. B., Legro, M. W., Rycroft-Malone, J., Bowman, C., Curran, G., Guihan, M., Hagedorn, H., Pineros, S., & Wallace, C. M. (2006). Role of "external facilitation" in implementation of research findings: A qualitative evaluation of facilitation experiences in the Veterans Health Administration. *Implementation Science, 1*, 23. <https://doi.org/10.1186/1748-5908-1-23>
- Temkin-Greener, H., Cen, X., & Li, Y. (2020). Nursing home staff turnover and perceived patient safety culture: Results from a national survey. *The Gerontologist, 60*(7), 1303-1311. <https://doi.org/10.1093/geront/gnaa015>
- Teno, J.M., Clarridge, B.R., Casey, V., Welch, L.C., Wetle, T., Shield, R., & Mor. V. (2004). Family perspectives on end-of-life care at the last place of care. *Journal of the American Medical Association, 291*(1), 88-93. doi: 10.1001/jama.291.1.88.
- Toles, M., Colón-Emeric, C., Moreton, E., Frey, L., & Leeman, J. (2021). Quality improvement studies in nursing homes: A scoping review. *BMC Health Services Research, 21*(1), 803. <https://doi.org/10.1186/s12913-021-06803-8>
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*(6), 349-357. <https://doi.org/10.1093/intqhc/mzm042>
- Vogelsmeier, A., Popejoy, L., Canada, K., Galambos, C., Petroski, G., Crecelius, C., Alexander, G. L., & Rantz, M. (2021). Results of the Missouri quality initiative in sustaining changes in nursing home care: Six-year trends of reducing hospitalizations of nursing home residents. *The Journal of Nutrition, Health & Aging, 25*(1), 5-12. <https://doi.org/10.1007/s12603-020-1552-8>
- White, E. M., Wetle, T. F., Reddy, A., & Baier, R. R. (2021). Front-line nursing home staff experiences during the COVID-19 pandemic. *Journal of the American Medical Directors Association, 22*(1), 199-203. <https://doi.org/10.1016/j.jamda.2020.11.022>



**Table 1: Codes, categories, and themes**

Themes	Categories	Codes
Setting the stage	<b>Preliminary assessments</b>	Testing the waters Assessing the willingness of potential participants to welcome the project Awareness that starting the project will not be easy
	<b>Openness to change</b>	Willingness to change by NH management Willingness to change by the NH team Participation to research projects as opportunity of education Participation to research projects as opportunity to improve the quality of care Participation to research projects as opportunity to discuss neglected topics Participation to research projects as opportunity of reflection
	<b>Training</b>	Training to conduct the project Training of the internal facilitator Training of the external facilitator Online training perceived as useful Face-to-face training Self-education activities
	<b>Establishing a partnership with family caregivers and their familiar network</b>	Family caregivers' availability Establishing trusting relationships between staff and family caregivers Understanding the distrust and powerlessness perceived by family caregivers Letting family caregivers off steam Welcoming family caregivers' outburst Giving family caregivers room to raise concerns and ask questions Reassuring family caregivers Avoiding to create barriers Putting yourself in a condition of observation and listening Feeling to have a family role during the pandemic Feeling to be the reference healthcare professional for decision making
	<b>Establishing a partnership with the working team</b>	Confronting with the working team to outline the role of each in the project Presenting the project to the colleagues
	<b>Establishing a partnership with the nursing home management</b>	Presenting the project to the NH administrative leadership Presenting the project to the NH healthcare leadership Providing clarifications to the NH leadership to facilitate the start of the project Clarifying the potential impact of the project to the NH leadership Triangulation internal facilitator-external facilitator-NH manager to clarify doubts
	<b>Establishing a partnership with the external facilitator</b>	Regular meetings between internal facilitator and external facilitator Sharing concerns with the external facilitator Feeling clarified about the project after discussing with the external facilitator Confront between internal facilitator and external facilitator as stimulus of new perspectives External facilitator's presence during family care conferences Discussing potential strategies to overcome time constraints with the external facilitator



		Ongoing external facilitator's guidance and support External facilitator's support in navigating project documentation External facilitator's support to address issues arising with family caregivers
	<b>Establishing a partnership between nursing home and university</b>	Soliciting the NH manager to answer the invitation to participate to the project Promoting NH-university partnership
<b>Adjusting the implementation plan to the context</b>	<b>Confronting to select participants</b>	Confronting within the team to select participants Discussing with the external facilitator and the NH manager about participants' selection Achieving agreement within the team on selected participants Factors perceived at the same time as facilitators and obstacles of participants' selection according to different perspectives Believing that the project may be more useful for some family caregivers than others
	<b>Tailoring modalities to approach participants</b>	Preliminary telephone contacts to illustrate the project In-person presentation of the project Sending project-related documentation by email
	<b>Tailoring the delivery of quality improvement activities to participants</b>	Scheduling meetings with family caregivers on the occasion of their scheduled visits to the relative Adopting a bottom-up approach (i.e., starting from participants' doubts/needs) Individualizing quality improvement activities based on participants' awareness and fears Personalizing data collection methods Intervention delivery facilitated by participants' awareness Respect of the times facilitated by participants' awareness
	<b>Choosing the right place</b>	Identifying a suitable place to conduct the family care conferences Guaranteeing privacy Avoiding external interruptions
	<b>Managing time and resource constraints</b>	Participants' selection process hindered by high workload Underestimating the obstacle of time issues in conducting the project Lack of time to design family care conferences Inability to carry the project out during working timetable due to limited resources Delivering family care conferences out of the working timetable Setting aside time for moving forward with the project Summarizing written information to keep the schedule
	<b>Confronting with Covid-19 pandemic</b>	Online training Missed opportunity of in-person meetings with family caregivers Massive nursing turnover during Covid-19 pandemic Family caregivers-staff relationships threatened by the pandemic Participants' selection process hindered by their limited attendance at the facility
	<b>Being open to ongoing changes</b>	<b>Supportive emotions</b>
<b>Challenging emotions</b>		Feeling worried Feeling unprepared to conduct quality improvement activities on thorny





		topics such as end-of-life care Experiencing difficulties to accept family caregivers' criticism Fear to be emotionally involved Fear to not be able to limit family caregivers' outburst during family care conferences Fear to not be able to conduct family care conferences with 'difficult' family caregivers Fear of increased workload
	<b>Ongoing reflective practice and learning</b>	Doubting about participants' selection process Doubting about selected participants after confronting with colleagues Experienced colleagues' perspective as source of reflection Ongoing reflection on how tailoring the intervention Need of ongoing sharing within the team to reach agreement Need to reflect to reach agreement Debriefing within the team after family care conferences Debriefing with the external facilitator after family care conferences Reduced missed data Reduced potential influence of healthcare professionals

Figure 1: Diagrammatic presentation of relationship between codes, categories, and themes

