ORIGINAL RESEARCH

Development of a self-scan to evaluate and improve person-centered care in nursing homes: A Delphi study

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ABSTRACT

Background and objective: Person centered care (PCC) has become the gold standard for providing care in nursing homes (NHs). Therefore, it is important for healthcare professionals in NHs to learn PCC-skills and to be supported to learn about- and improve the quality of PCC they provide. At this moment an instrument to support healthcare professionals in NHs to monitor and evaluate PCC is limited. The aim of the study was to develop a self-evaluation tool that provides healthcare professionals in NHs insight into the extent to which they provide PCC to residents, so that they can learn and further improve their current ways of working in a person-centered way.

Methods: A three-round Delphi study with an expert panel (n = 25) in the domains of PCC, quality of NH care and education of caring staff. Findings were validated by residents and relatives during semi-structured interviews. Thematic analysis and descriptive statistics were used to analyze the data.

Results: In the first round the experts did not provide measuring instruments, but we identified 18 key aspects of PCC. In the second round, three clusters were identified, and a scale was added, to enable assessment. In the third round, we deduplicated, restructured and used more clear language. This led to 14 key aspects of PCC, 24 measures, grouped into five clusters: knowing the resident, establishing relationship, a respectful approach, making decisions jointly and personal development. The result is a PCC self-scan for healthcare professionals in NHs. Residents and relatives, agreed with all aspects and stated that no aspects were missing.

Conclusions: In this study we developed an accessible self-report learning tool for healthcare professionals that makes it possible to evaluate and improve their PCC-skills and improve the quality of PCC in NHs.

Key Words: Delphi, Person-centered care, Nursing homes, Learning, Quality of care

1. BACKGROUND

Quality improvement of nursing home (NH) care has been a challenge for years.[1–3] Nowadays, person-centered care (PCC) is accepted as the gold standard in long-term care for older adults.[4,5] PCC is a comprehensive approach to care that takes into account the whole person and is underpinned by values of respect for personhood, the individual right to self-determination, mutual respect, and understanding.[5,6] To ensure high-quality PCC, (student) healthcare professionals (hereafter, healthcare professionals) in NHs have to keep up with fast-paced developments and constantly continue to learn and improve their PCC-giving practices.

One way to assess the quality of PCC is with instruments or tools healthcare professionals use to rate the extent to which

NH-care is person-centered.[7–10] An example is the Person-Centered Care Assessment Tool (P-CAT), a self-report assessment scale that measures the extent to which NH teams rate their wards to be person-centered.[11] However, none of the existing tools cover all aspects of PCC in NHs, such as tools assessing compassion and dignity,[7, 12] client experiences (CQ-index)[7, 13] or person-centered communication,[7, 14, 15] nor do they enable healthcare professionals to evaluate their own PCC-giving practices.[7–11, 16, 17] Accordingly, there is a need for a tool that healthcare professionals in NHs can use to evaluate and improve all aspects of their PCC-giving practices. Because more administration leads to more time pressure, resulting in less time to provide PCC, such a tool should not increase the administrative burden experienced by healthcare professionals in NHs.[18, 19] The perspectives of NH residents and their relatives should also be incorporated in the development of a quality improvement tool to ensure the tool meets their needs and desires and, therefore, aligns with PCC.[20, 21]

Previous research has shown that actively involving practically trained caregivers in their own learning activities and keeping them responsible for their own learning are important factors in facilitating learning (Muller-Schoof, 2021). Practically trained caregivers make up 80% of the healthcare professionals in NHs in Western society.[22–25] Therefore, we aimed to develop a self-evaluation tool that helps healthcare professionals to reflect on PCC aspects and discuss these aspects with others, such as team leaders, colleagues, or residents, as part of a dynamic learning process. The tool was intended to actively involve healthcare professionals in their own learning process.

2. METHOD

This study was part of a larger project[26] that aims to develop learning strategies to transfer scientific knowledge regarding PCC into tools and instruments for healthcare professionals who work in daily practice in NHs. As part of the learning strategies, we aimed to develop a tool that enables healthcare professionals to evaluate and improve their own PCC. Our research question was: Which tool provides healthcare professionals in NHs insight into the extent to which they provide PCC, so that they can learn and improve in PCC without additional care registrations?

2.1 Study design

A Delphi method was employed to develop a tool that enables healthcare professionals in NHs to evaluate and improve their PCC-giving skills. The Delphi method focuses on consensus-building by using a series of questionnaires to collect data from a panel.[27] We also conducted semi-structured inter-

views with NH residents and relatives to validate the findings of the Delphi study.

2.2 Delphi study

A Delphi study was conducted between March and May 2020. We invited 52 people from our networks (author 1, 2 and 4) to participate in the study. These participants had expertise in the domains of quality of care in NHs, PCC, nursing education (at both practical and applied science institutions) and the practice of NH care (some participants were nurses, both practically trained and educated at the university of applied sciences). We aimed for an evenly distribution across the expert domains, with a total of 15–20 experts and a minimum of three to four experts per domain. We recruited participants by sending an e-mail in which we explained the purpose of our study, the expert domains included, and the expected time investment. We also left room for questions. When experts agreed to participate, we sent an information letter and a link to the questionnaire by e-mail. We made use of Qualtrics, which is a platform for creating and distributing web-based surveys. All experts provided electronic informed consent in the first questionnaire. The responses to the questionnaires were analyzed and summarized by three authors (author 1, 2 and 4) and fed back anonymously to the expert panel. All experts were asked to participate in each round. Each questionnaire could be completed by the experts within a two-week period. In case of non-response, we sent an e-mail reminder after one week and a second reminder after two weeks.

Originally, we planned three rounds: an inventory round, a prioritization round, and a consensus round (see Figure 1). In the inventory round, we introduced the subject of the study and asked experts if they knew any tools or instrument aimed at healthcare professionals in NHs, in order to evaluate whether the care they provided was person-centered. Originally, we aimed to make an inventory of all measures, instruments, quality indicators, and feedback mechanisms that experts would come up with; ask them to prioritize the measures in the second round; and reach consensus on the most important measure in the third round (see Figure 1).

However, because experts did not come up with tools to evaluate PCC in the first round (only with ways to provide PCC) we decided to change our focus for the second round (see Figure 1). First, we analyzed the input of the experts provided in the first round and categorized this into aspects of PCC. We reasoned that a set of indicators linked to these aspects could possibly be the answer to our research question.

Therefore, we asked the experts in the second round to prioritize the identified aspects of PCC, rank their top three

most important ones, and argue their choice. We also asked the experts how to measure their top three aspects of PCC. Based on the outcome of round two, we clustered all PCC aspects and listed the most important ones as ranked by the experts, supplemented with measures. To turn this list into an evaluation and improvement tool to learn from, we added a scale for self-assessment. In the third round, we shared the tool with the experts. We asked the experts: "Which of the following aspects of PCC do you think does NOT fit in the tool for providing PCC?" We also asked if the language

was appropriate for all healthcare professionals in NHs or if aspects were missing. If they were missing, we asked if the experts had any suggestions. Furthermore, we asked whether the experts found that this tool would support healthcare professionals in reflecting on the extent to which they provide PCC. With the input of the experts, we adjusted the PCC tool, which we called the PCC self-scan. Afterwards, we presented the adjusted PCC self-scan from round three to the experts.
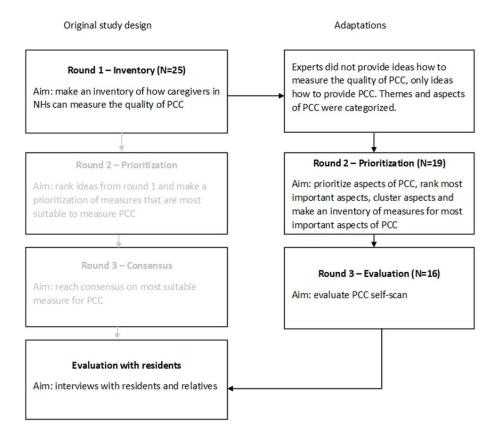
Original study design   Adaptations

Round 1 – Inventory (N=25)

Aim: make an inventory of how caregivers in NHs can measure the quality of PCC

Experts did not provide ideas how to measure the quality of PCC, only ideas how to provide PCC. Themes and aspects of PCC were categorized.

Round 2 – Prioritization

Aim: rank ideas from round 1 and make a prioritization of measures that are most suitable to measure PCC

Round 2 – Prioritization (N=19)

Aim: prioritize aspects of PCC, rank most important aspects, cluster aspects and make an inventory of measures for most important aspects of PCC

Round 3 – Consensus

Aim: reach consensus on most suitable measure for PCC

Round 3 – Evaluation (N=16)

Aim: evaluate PCC self-scan

Evaluation with residents

Aim: interviews with residents and relatives

Figure 1. Flow of the study

2.3 Interviews with residents and relatives

To validate the findings of the Delphi study and include the perspectives of residents and their relatives, we conducted interviews between July and September 2020. We aimed to recruit five participants. Recruitment was organized by a nurse within a collaborating NH connected to the larger research project. Inclusion criteria were that participants were cognitively competent to give written consent for participation and to be interviewed by telephone. We used a purposive sampling technique in which the nurse determined which residents were suitable, informed them orally and via an information letter about the study aim and procedures, supported residents in signing the consent form and made an appointment for a date and time at which the researcher

could call them. We conducted semi-structured interviews of approximately 30 minutes. During the interviews, the aim of the study was explained, as were the purpose of the PCC self-scan, how it was developed, and which aspects of PCC were covered in the self-scan. Residents and relatives were asked how important these aspects were and if any aspects were missing.

2.4 Data analysis

The answers to the open-ended questions in the Delphi study were analyzed and categorized into different aspects of PCC by authors 1, 2, and 4.

Based on the answers from the second round we used a scoring system to further prioritize the aspects of PCC. As experts

provided their top three PCC aspects, we assigned their first choices three points, their second choices two points, and their third choices one point. All scores were added up, and the total scores were used to prioritize the key aspects of PCC. We also listed the measures to cover all prioritized aspects of PCC, as provided by the experts. As experts pointed out overlap in aspects and measures that were multifaceted, we processed the feedback by clustering the aspects and removing duplicates. Altogether, this resulted in a tool for healthcare professionals to self-assess their PCC competence, which will be further described in the Results section.

In addition, the first author analyzed the audio recordings of the semi-structured interviews with residents and relatives and summarized the answers.

2.5 Ethics statement

This study was approved by the Ethical Review Board of the Tilburg School of Social and Behavioral Sciences of Tilburg University (registration number RP60 and amendment RP60).

3. RESULTS

3.1 Participants in the Delphi study

Of the 52 invited experts, 25 agreed to participate by responding to the first questionnaire. Six participants withdrew after the first round of the Delphi study due to other priorities related to their work in NH care and care education because of the COVID-19 lockdown in March 2020. Table 1 shows the distribution over the expert domains per round. We reached our minimum number of 15 experts and three to four experts per domain in each round. Practically trained caregivers were in both the domain of practice and that of education in all rounds.

Table 1. Number of experts and expert areas represented per round

	Round 1 (N)	Round 2 (N)	Round 3 (N)
Quality NH	13	8	9
Practice NH	8	7	6
PCC	11	7	8
Education	14	8	8
Total N	25	19	16

Note. NH = nursing home, PCC = person-centered care

3.2 Delphi rounds

3.2.1 *First round*

Based on experts' input, we found 18 key aspects of PCC (see Table 2).

3.2.2 *Second round*

In the second round, experts prioritized all aspects of PCC that resulted from round one. Table 2 shows the prioritization scores and ranking of these PCC aspects. Experts also argued for their choices and pointed out aspects that overlapped. For instance, they noted that someone uses communication skills by offering tailor-made care (see Table 2, numbers 18 and 4, respectively). As a result, the 18 aspects of PCC became 14 (see Table 2). Based on this, we clustered all aspects, which led to the following three most important clusters of aspects: (1) providing relational care, including knowing the resident; (2) providing care that leads to the resident's well-being; (3) knowing yourself as a healthcare professional.

Table 2. Prioritization and clustering of key aspects of PCC

The healthcare professional	Total prioritization score*	Cluster
1. Knows the client	25	1
2. Establishes a reciprocal relationship	16	1
3. Has an attentive attitude to the whole person	12	2
4. Offers tailor-made care	11	2
5. Knows her-/himself	9	3
6. Provides care that leads to well-being of the client	8	2
7. Continuously learns and develops her-/himself	8	3
8. Encourages client autonomy	7	2
9. Uses relational skills	5	1
10. Initiates shared decision-making	3	2
11. Provides care based on a flexible attitude	3	2
12. The environment contributes to client well-being	2	2
13. Provides care based on a curious basic attitude	2	2
14. Provides care based on a sensitive basic attitude	2	2
15. Knows the person-centered healthcare framework	1	2
16. Provides sensitive care	0	2
17. Provides healing care	0	2
18. Uses communication skills	0	1

Note. * = Scores are the sum of the prioritization (first choice = three points, second choice = two points, third choice = one point); total score ranging from minimum 0 to maximum 57; 1 = cluster 'providing relational care, including knowing the resident'; 2 = cluster 'providing care that leads to the resident's well-being'; 3 = cluster 'knowing yourself as healthcare professional'.

In addition, experts provided input into how to measure their top three aspects of PCC. In total, we received 14 measures to cover all unduplicated aspects of the three clusters of PCC (see Table 3). We also added a 5-point Likert scale, which enables healthcare professionals to assess their current PCC-skills. The scale ranged from 1 (= no control or knowledge) to 5 (= excellent control or knowledge). In addition, we rewrote the phrase "establishes a reciprocal relationship" to "providing relational care," as some experts found the word "reciprocal" too complex.

3.3 Third round

We asked experts in round three to provide feedback on the preliminary version of the PCC self-scan, and whether this PCC self-scan gave insight into the extent to which healthcare professionals in NHs provide PCC. The majority (75%,

n = 12) agreed, 19% (n = 3) were indecisive and 6% (n = 1) disagreed. We used most disagreements or indications of "not knowing" to make changes to the final PCC self-scan and to our advice to use it.

Based on experts' feedback, we shortened the sentences and used clear language to make the PCC self-scan accessible for all healthcare professionals, including practically trained caregivers. We also adapted the clusters. First, the cluster "providing relational care, including knowing the resident" was split into "providing relational care" and "knowing the resident." "Knowing the resident" was renamed to "knowing and acknowledging the resident." In addition, we changed the more general cluster "providing care that leads to the resident's well-being" into two more specific clusters: "shared decision making" and "respectful approach." We renamed

the cluster "knowing yourself as a healthcare professional" to "feedback and personal development." Furthermore, we included representatives of people with dementia by adding them in several items, such as "I treat their relations (or representative) with respect." Multiple measures of PCC aspects were split into single measures. For instance, the measure "I know the life course, personality traits, relationships/social context of the residents to whom I provide care" was split into three single measures, each addressing a single aspect of PCC ("I know the life course," "I know the personality traits," and "I know the relationships/social context"). We also changed the measure "I prefer to provide care with peace and calm, know when I am not peaceful and calm, and know how to find that again" into a broader self-knowledge measure, namely "I know my own standards and values."

Table 3. Second-round results: preliminary version of the PCC self-scan

1	2	3	4	5
No control or knowledge	Hardly control or knowledge	Adequate control or knowledge	Good control or knowledge	Excellent control or knowledge
Providing relational care, including knowing the resident				**My score:**
I know the care plans of the residents to whom I provide care				1 2 3 4 5
I know the life course, personality traits, and relationships/social context of the residents to whom I provide care				1 2 3 4 5
I know what the residents to whom I provide care like to do, what they wish for, what they find important, and what they dislike				1 2 3 4 5
I know what each resident still can and wants to do, and do not take over				1 2 3 4 5
I first coordinate with the resident and meet with the resident's needs and/or wishes before providing care				1 2 3 4 5
Providing care that leads to the resident's well-being				
I listen without judgment and do not fill in				1 2 3 4 5
The resident's wish is leading and determines what a day looks like				1 2 3 4 5
I consult with the resident (or their representative), and we decide together				1 2 3 4 5
I approach the resident holistically: I know and see the person (not the condition)				1 2 3 4 5
I regularly check whether the resident is still satisfied and whether my care contributes to the resident's well-being				1 2 3 4 5
Knowing yourself as a healthcare professional				
I ask myself daily why I care the way I do				1 2 3 4 5
I regularly ask for feedback from residents and colleagues, can receive feedback and do something with it				1 2 3 4 5
I participate in peer review and indicate my points for development to the team				1 2 3 4 5
I prefer to provide care with peace and calm, know when I am not peaceful and calm, and know how to find that again				1 2 3 4 5

Finally, one expert disagreed that this PCC self-scan gave insight into the extent to which healthcare professionals in NHs provide PCC. The expert argued that the PCC self-scan could not be used as a stand-alone tool. We agreed and advise using the PCC self-scan in combination with reflection with others. An expert was indecisive because the self-scan was lacking an interprofessional consulting aspect. We therefore

added the measure "I consult with colleagues" to the cluster "shared decision making." The second indecisive expert argued that the relational aspect, such as that in "to really have an eye for the other, to treat someone with respect" was underexposed. Therefore, we renamed the cluster "Providing relational care" to "Aligning, connecting and establishing a relationship," to make the phases of building relations more

explicit. We added the measure "I treat the residents with respect." One indecisive expert could not see how this PCC self-scan would work in practice. Figure 2 shows the final PCC self-scan with five clusters of 14 key aspects and 24 measures. The PCC self-scan was originally developed in Dutch and translated forward-backward into English.
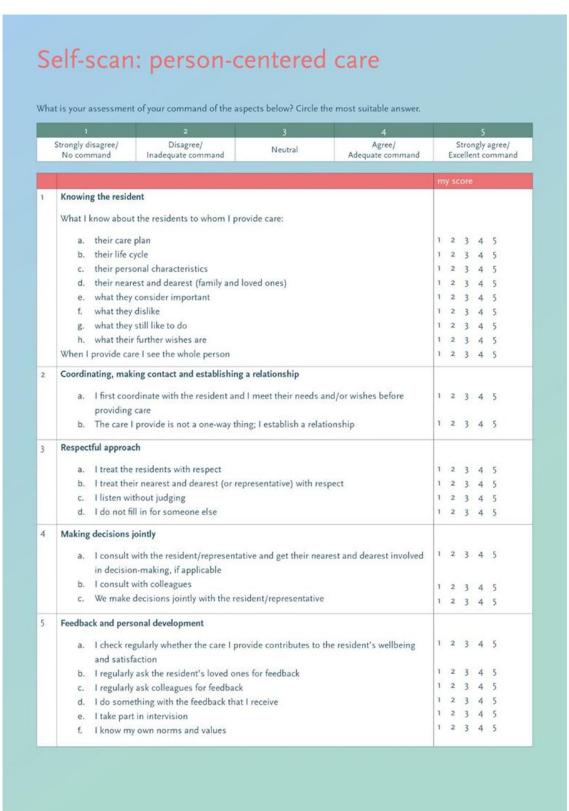

Figure 2. Final version of the PCC self-scan

3.4 Interviews with residents and relatives

In total, two male NH residents (101 and 86 years old) and two relatives, a son and a daughter of persons with dementia, were interviewed. One of the potential interviewees, a female NH resident, refused the interview at the agreed time. Due to the COVID-19 pandemic and related measures, it was not possible to find a new participant in time. All interviewees agreed that all five clusters of the PCC self-scan were important, and that no aspect was missing. One participant said:

"If healthcare professionals know the residents well and the relation is good, good PCC will follow as a consequence." (relative)

Based on the results of the interviews no further adaptations were made to the PCC self-scan.

4. DISCUSSION

In this study, we aimed to answer to following question: which tool provides (student) healthcare professionals in NHs insight into the extent to which they provide PCC, so that they can learn and improve in PCC, without additional care registrations? Based on results from our Delphi study, we developed a PCC self-scan based on 14 key aspects of PCC, resulting in 24 measures, grouped into five clusters. A 5-point Likert scale enables health professionals to rate their skills level regarding the individual items. The findings of the Delphi study were validated by NH residents and relatives. According to experts, residents, and relatives, the PCC self-scan is a useful tool for evaluating and improving the quality of PCC in NHs.

To date, no tool has been developed that enables healthcare professionals in NHs to evaluate and improve the quality of their PCC-giving practices. Therefore, this study and the PCC self-scan make a valuable contribution to the current literature regarding ways to assess and improve the quality of PCC.[7–10]

Comparing the PCC self-scan with other existing tools that also measure PCC highlights the uniqueness and added value of the self-scan. First, the Person-centered Care Assessment Tool (P-CAT) aims to measure the extent to which staff members who take care of people with dementia rate their wards as person-centered.[11] The PCC self-scan, however, has been developed for healthcare professionals in NHs and not for a ward. In addition, the PCC self-scan can be applied to all NH care, not exclusively dementia care. Secondly, the Person-centred Practice Inventory – Staff (PCPI-S) examines how hospital nursing staff perceive person-centered practice.[28] This is an extensive list with 59 items, which was tested by registered nurses in eight acute hospital settings, not in NHs.

In the Western society, the vast majority (about 80%) of the direct care staff in NHs is practically educated.[22–25] As a result, the PCPI-S has not been tested and/or validated by this majority in an NH setting at the moment of publication of this study. From an earlier study,[29] we know that learning materials for practically trained caregivers should not be too long, should not contain difficult vocabulary, and should not be incomprehensible. Our PCC self-scan has taken this into account. This does not apply to the PCPI-S.

Finally, we know from the Dunning-Kruger effect[30] that people are not always effective in self-assessing. The Dunning-Kruger effect occurs with incompetent people: precisely because of their incompetence, they lack the metacognitive ability to recognize that their choices and conclusions are sometimes wrong. Less competent healthcare professionals tend to overestimate their performance and skills. As well, highly competent people tend to underestimate themselves. Therefore, we suggest using the PCC self-scan effectively in a dialogue with others, such as colleagues, a team leader, or residents and their relatives, or as a part of a feedback process, correcting the Dunning-Kruger effect by adding perspectives of others.

4.1 Strengths and limitations

Whereas the above-mentioned tools developed to measure PCC focus on wards for people with dementia or registered nurses in hospitals, we succeeded in developing a tool for evaluating and improving the quality of PCC continuously for all healthcare professionals in NHs. We included a heterogenous expert panel, including practically trained caregivers, that represented relevant expert domains in all Delphi rounds. We were also successful in involving the perspectives of residents and their relatives.

However, some limitations of the study have to be taken into account. First, we assumed that the tool would not cause extra administrative burden for healthcare organizations, or would cause as little as possible. One can also argue that it is remarkable that nothing about PCC is included in registrations, while this is seen as the gold standard. However, because more administration leads to more time pressure, resulting in less time to provide PCC, we decided to develop a tool that does not put an extra burden on the administration.

Second, we deliberately chose a broad, open-ended question in the first round of the Delphi study. The reason for this was that, to date, no PCC measure has been developed for healthcare professionals. We wanted to provide the experts with the opportunity to come up with outside-the-box ideas, such as feedback mechanisms, reflection methods or learning tools. The downside of such a broad question was that we

got broad answers and we had to adjust our first plan. Nevertheless, based on this adjusted plan, we were able to answer our research question, with an accessible learning tool as a result.

Furthermore, although all expert domains were represented in all Delphi rounds, participants with practical expertise (i.e., healthcare professionals in NHs), were slightly underrepresented. This can be explained by the outbreak of COVID-19 during this Delphi study. Yet we reached the minimum number of five each round, what we had assumed beforehand, and every voice was heard. Therefore, we argue that the PCC self-scan is suitable for daily practice of all healthcare professionals in NHs.

In addition, the number of residents and relatives interviewed about the PCC self-scan was small. Because of COVID-19, we had to do the interviews by telephone. This form of communication was suboptimal for this target group, and may have caused a lack of clarity regarding the aim and content of the PCC self-scan. Face-to-face interviews would possibly have provided more opportunity to clarify and answer any questions, as we could have shown the PCC self-scan and register the personal (non-verbal) reactions better.

4.2 Recommendations for future research
We recommend further research on how healthcare professionals that use the PCC self-scan have a dialogue about their PCC skills, and with whom. This will be part of a follow-up study. Additionally, we suggest a continuing validation of the PCC self-scan among healthcare professionals in NHs, particularly among practically trained caregivers, and a study of to whom and in what context the PCC self-scan is most of help to evaluate and improve PCC. We further suggest

validation of the scale dimensionality, construct and content. As the PCC self-scan is a part of a larger project, it is currently being tested among student healthcare professionals as part of two learning programs regarding PCC. We are investigating whether and/or where the PCC self-scan can be useful in care education.

5. CONCLUSIONS
In this study, we developed an accessible self-report learning tool for healthcare professionals in NHs. A heterogeneous panel, and also residents and their relatives provided their expertise from different perspectives, which ensures broad support for the instrument. The tool helps to raise awareness about PCC-skills individually, and can be used in dialogue with others, to reflect on PCC-skills and learn from the dialogue. The tool contributes to the literature and nursing practice, by making it possible to personally evaluate aspects of PCC by all healthcare professionals in NHs, including practically trained caregivers, to learn from the evaluation and improve the quality of their individual PCC-giving skills.

CONFLICTS OF INTEREST DISCLOSURE
No conflict of interest has been declared by the authors.

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