Innovation behaviour of nursing professionals in elderly care:

A descriptive multiple case study

Student:	Mieke Karels-Krijgsman, RN
Student number:	3846350
Course name:	Research Internship
	Master of clinical health sciences, Nursing Sciences, Utrecht University
Course teacher:	Janneke de Man-van Ginkel, RN, PhD
Mentor:	Carolien Smits, PhD
Institution:	Windesheim University of Applied Sciences

Innovation behaviour of nursing professionals in elderly care: A descriptive multiple case study

Student

Mieke Karels-Krijgsman, RN, District Nurse, RST Zorgverleners, Barneveld and student during this study, Clinical Health Sciences, Faculty of Medicine, Utrecht University, The Netherlands (corresponding author)

Peer student

Cea Müller, RN, Docent Health Care, University of Applied Sciences, Leiden and student during this study, Clinical Health Sciences, Faculty of Medicine, Utrecht University, The Netherlands

Mentor

Janneke M. de Man-van Ginkel, RN, PhD, Department of Rehabilitation, Nursing Science and Sports, University Medical Centre Utrecht, Utrecht, The Netherlands

Supervisor

Carolien H.M. Smits, PhD, Research Group of Innovation of Care of Older Adults, Windesheim University of Applied Sciences, Zwolle, The Netherlands

DUTCH SUMMARY

INLEIDING. Herstructurering van de ouderenzorg is noodzakelijk vanwege de verwachte stijging van het aantal ouderen en het verwacht tekort aan arbeidspersoneel. Innovaties leveren een belangrijke bijdrage aan herstructurering. Uit eerder onderzoek blijkt dat gedrag van zorgverleners bepalend is voor het succes van een innovatie. Er is echter nog weinig bekend over innovatiegedrag van zorgverleners in de ouderenzorg.

DOEL EN ONDERZOEKSVRAAG. Doel: het verkrijgen van inzicht in innovatiegedrag van zorgverleners in de ouderenzorg. Onderzoeksvraag: op welke manier geven zorgverleners in de ouderenzorg vorm aan innovatiegedrag?

METHODE. Design: multiple case study. Twee teams in een verpleeghuis, een team in de thuiszorg en een team in de gehandicaptenzorg zijn onderzocht. De dataverzameling bestond uit focus interviews, observaties en documentatie. De topic- en observatie lijst was gebaseerd op de CanMEDS rol 'kenniswerker'. De data analyse is uitgevoerd met behulp van de Kwalitatieve Analyse Gids uit Leuven.

RESULTATEN. Innovatiegedrag van zorgverleners wordt gevormd door activiteiten, attitude en zelfreflectie. Het thema 'activiteiten' omvat acties op het gebied van innovaties, zoals het signaleren van tekorten in de zorg. Het thema 'attitude' gaat over de houding van zorgverleners ten opzichte van innovaties, zoals weerstand. Het thema 'zelfreflectie' gaat over beschouwingen van zorgverleners met betrekking tot activiteiten en attitude.

CONCLUSIE. Uit de resultaten blijkt dat zorgverleners door middel van verschillende activiteiten vorm geven aan innovatie gedrag. Ondanks dat er ontwikkelpunten zijn, bevestigen de resultaten dat zorgverleners in de ouderenzorg een belangrijke bijdrage leveren aan innovaties.

AANBEVELINGEN. Zorginstellingen zouden een klimaat moeten creëren waarin innovatiegedrag wordt gestimuleerd. Het onderwijs zou meer aandacht moeten geven aan de borging van aangeleerd innovatiegedrag en aan het leren reflecteren op eigen gedrag. Er is verder onderzoek nodig naar factoren die innovatiegedrag stimuleren of belemmeren en naar de wijze waarop geleerd innovatiegedrag gewaarborgd kan worden in de praktijk.

TREFWOORDEN. Innovatie, innovatiegedrag, ouderenzorg, leiderschap, geriatrie

ENGLISH ABSTRACT

BACKGROUND. Innovations in elderly care are necessary because of the expected increase in the number of older persons and the expected deficit of available labour potential. Previous research showed that innovation behaviour of nursing professionals is a necessary condition for successful care innovation. However, in elderly care, empirical studies are missing about innovation behavior of nursing professionals.

AIM AND RESEARCH QUESTON. Aim: to get insight into innovation behaviour of nursing professionals who elderly care. Research question: how is innovation behaviour of nursing professionals manifested in elderly care?

METHOD. Design: multiple case study. Two teams in nursing homes, one team in home care and one team in care for disabled persons were included. Data collection consisted of focused interviews, observations and documentation. A topic list and observation guide were used, based on the CanMEDS role of scholar. Data was analyzed using the Qualitative Analysis Guide of Leuven.

RESULTS. Innovation behaviour of nursing professionals is manifested in activities, attitudes and self-reflection. The theme 'activities' concerns tasks of nursing professionals on innovations, like signal deficiencies. The theme 'attitude' affects nursing professionals' inclination towards innovations, like resistance. The theme 'self-reflection' concerns contemplation on activities and attitude.

CONCLUSION. The findings show that nursing professionals manifest innovation behaviour by several tasks. Despite different points for improvement, the results confirmed that nursing professionals contribute significantly to innovations.

RECOMMENDATIONS. Care institutions should create an environment that encourages innovation behaviour. Education should pay more attention to sustain learned behaviour, and to learn how to reflect on behaviour. Further research is needed to factors which are stimulating or obstructing innovation behaviour and to the way in which innovation behaviour can be sustained in practice.

KEYWORDS. Innovation, innovation behaviour, geriatrics, care for older people, leadership

BACKGROUND

The expected increase in the number of older persons and the expected deficit of available labour potential make care innovations in care for older people urgently necessary in western countries [1-3]. Keeping elderly care affordable while raising its quality is a big challenge [3, 4]. Innovating elderly care, focusing on efficiency and quality, may be the appropriate approach to overcome the challenges observed in elderly care [5]. The definition of an innovation is: 'an idea, practice, or object that is perceived as new by an individual or other unit of adoption' [6].

Care innovations are considered to be complex processes. Factors at different levels play a role in the success or failure of an innovation: structures and systems of an organization, characteristics of workers, context and innovation behaviour [7]. Nursing professionals - here defined as Registered Nurses (RN) and Licensed Practical Nurses (LPN) - may be in a central position in the process of innovating, because they provide up to 80% of primary care [8]. Therefore, it is important to know the influence of nursing professionals in innovation processes and what innovation behaviour they show. Innovation behaviour can be defined as a process during which nursing professionals reinforce the generation, establishment, evaluation and implementation of creative ideas [9]. Another definition is 'everything from altering routines or making use of new remedies, to simplifying work, to improving the service provided to the end-user, or to being able to give the end-user new offers' [10].

In contrast with general health care, elderly care is delivered by relatively low-educated workers [11]. In the Netherlands, 54.2% of the RN work in hospitals, but only 20.9% of them work in elderly care. Of the LPN, 2.4% work in hospitals and 87% of them work in elderly care [11].

According to the new competency profiles of 'Verpleegkundigen & Verzorgenden Nederland' (professional association of healthcare professionals in the Netherlands), nursing professionals should be competent in innovation-related activities like conducting practical research and implementation of new scientific insights [12, 13]. The competency profiles are based on the Canadian Medical Educational Directives for Specialists (CanMEDS) framework, which describes seven roles leading to optimal healthcare outcomes [14]. One of them, the role of scholar, is related to innovation behaviour and is described in the following domains: designing, researching, innovating and professional development [15].

A recent cross-sectional study on the influence of leadership and innovation climate on innovation behaviour in elderly care states that organisational climate has a significant impact on innovation behaviour [9]. Another study identified some important aspects of leadership manifestations in care innovation in practice: accessibility, role model behaviour, care background and presence on the ward [16]. However, these behaviours were related to

aspects of innovation team leaders and not to aspects of nursing professionals. The question remains as to what innovation behaviour nursing professionals show in daily practice [16].

PROBLEM STATEMENT

Care innovations in elderly care are necessary to anticipate future demographic and care organizational changes. Nursing professionals are in a central and critical position to provide innovative solutions and to improve quality of care. Innovating is influenced by many factors and therefore not a simple task. Although various studies stress the importance of innovation behaviour, little is known about what innovation behaviour nursing professionals show in elderly care.

AIM

The aim of this study was to get insight in what innovation behaviour nursing professionals show, working in elderly care. Insight in innovation behaviour makes future innovations possible and elderly care affordable, responding to the increase of elderly and deficit of available labour potential.

RESEARCH QUESTION

How is innovation behaviour of nursing professionals manifested in elderly care?

METHODS

Design

A qualitative multiple case study was the preferred design to gain in-depth insight into innovation behaviour [17, 18], and because of the explanatory focused research question [18], the study of a bounded system as a care team and the use of multiple forms of data collection [19]. Four care teams were included to explore differences within and between the teams and to obtain robust and compelling evidence [18, 20, 21]. The number of four care teams is expected to achieve data saturation, because of the selection of settings where innovation behaviour manifests itself most strongly [17]. To get a maximum of variation, in order to fully describe multiple perspectives about innovation behaviour [19], different care organizations were chosen.

The Medical Ethics Committee of Isala concluded that formal ethical approval was not required. This study was conducted according to the principles of the Declaration of Helsinki (64th WMA General Assembly, Fortaleza, Brazil, October 2013).

Setting

The study was conducted in association with a University of Applied Sciences in the Netherlands. This University collaborates closely with care organisations in the area, for

example on in-service training of nursing students. Four of the in-service training places in elderly care were used for data collection. During this study, the students were not yet active in the included in-service training places.

Participants

The selection of the four teams followed a convenience sample, because of the special access of the University to the care organizations [18]. The participating nursing professionals were both RN and LPN. RN or LPN who had experience with formal leadership in health care were excluded, because they had above-average experience with innovations and leadership roles.

Procedure and data collection

Data was collected from February to April 2014 using focused interviews, observations and documentation, to corroborate the obtained data and to acquire more convincing and accurate findings [18].

The team leaders of the four selected care teams were contacted by a coordinator of the University and informed about this study. After obtaining written consent, the researcher contacted potential participants to confirm their voluntary participation, to inform them in detail about the study and to set a date for interviews. All included participants gave written informed consent. The researcher had no professional relationship with the participants.

Focused interviews were conducted to gain insight into innovation behaviour from the perspective and experience of nursing professionals [17]. The contact persons of the four selected care teams were asked to purposefully select participants who met the criteria of being a RN or LPN. The researcher used a topic list but assumed a conservational manner to allow the interviewee to provide a fresh and personally stated commentary [18]. The topic list was based on the role of scholar of the CanMEDS framework (Table 1) [15]. Each interview took approximately 45 to 60 minutes and was recorded on audiotape. The researcher transcribed all interviews verbatim.

Participant observations were conducted using an observation guide, to investigate what innovation behaviour actually takes place in everyday situations [17], and was also based on the role of scholar (Table 1) [15].

[Table 1]

During the study, the observation guide was further developed according to user experience [17], which means that the observation guide was elaborated in detail including examples of innovation behaviour.

Ten participant observations were performed by nurse students during a day shift because they actually participated in work practice of the participating teams [18]. First, the students were instructed by the researcher by e-mail. To complement these observations, the researcher observed three times during team meetings. All eligible persons, being present that day, were observed.

Reports of previous team meetings were used to provide specific details to corroborate information from other sources [18].

Demographic details were collected at the beginning of the interviews and observations and consisted of sex, age, current function, highest level of education and years of work experience.

Data analyses

All case study data was managed and analyzed using a qualitative data analysis software program NVivo, to make the process as structured as possible. In this way the final results reflected a concern for construct validity and for reliability and were worthy of further analysis [18].

Data was analysed in a qualitative way using the method described in the Qualitative Analysis Guide of Leuven (QUAGOL) [22].

First, a detailed description of each case, and themes within that case, were given [18], following the approach of a multiple case study analysis. Significant statements were extracted and codes were formulated that displayed specific data of that case. Second, common categories produced across the different cases were determined. Finally, an interpretation of the meaning of the cases and lessons about innovation behaviour were reported, in order to describe how innovation behaviour works in elderly care [18].

A descriptive analysis was performed to examine whether the demographic details affect innovation behaviour and how they may relate to the distinguished codes and categories.

All data was read and analyzed by the researcher. In addition, the data of the first case was independently read and coded by a second researcher (CM) and subsequently discussed until agreement was reached, to ensure the reliability of the obtained information [18]. All findings were discussed by a research team and always verified with the interview transcripts. The research team consisted of three members: the researcher, a second researcher and the lector of 'Care innovation in elderly care' (MKK, CM, CHMS). Analysis started after the first interviews and continued until saturation was reached, which means that no new codes were necessary to label fragments that appeared in the data [17].

During data analysis, memos were made to retrieve how findings were derived from the data, to reflect on the role of researcher and to assert the quality of the research [17].

RESULTS

The four included Dutch care teams were situated in two nursing homes, one home care organization and one care organization for older disabled persons (Table 2).

The purposive sampling for the interviews consisted of eight female nursing professionals (four RN and four LPN), with an average age of 37 years (Table 3).

[Table 2 and 3]

The analysis of innovation behaviour resulted in two main themes and one overall theme: *activities*, *attitudes* and *self-reflection. Activities* and *attitudes* were related to the nursing professional. *Activities* concerned innovation related tasks of nursing professionals. *Attitudes* was about nursing professionals' inclination towards innovations behaviour. *Self-reflection* concerned contemplation of nursing professionals on both activities and attitudes (Figure 1). Each theme was subdivided into various aspects.

[Figure 1]

Activities

Activities include signaling and handling of deficiencies, participation in consultations, sharing knowledge, calling on the expertise of others, division of tasks, giving feedback and professional development (Table 4).

In all cases, nursing professionals signaled deficiencies in elderly care. The way in which deficiencies were handled varied among nursing professionals and among the cases. In all cases, nursing professionals took action, but in three cases it occurred that they did nothing. Within the cases, nursing professionals handled each scenario in different ways with deficiencies. One looked for a solution itself, another asked a colleague for advice. In two cases, both in nursing homes, deficiencies were raised with the team leader.

Another activity was the participation of nursing professionals in consultations with colleagues or other healthcare disciplines, in order to improve the quality of care. In case 1, it was notable that there was consultation with other organizations: *"Look, last week we went to a number of organizations together, with eh, what questions we actually have and what we would like to improve."* In case 3, consultations with only RN took place: *"Eh, yes once in a while we have a team meeting with the nurses".*

Activities such as sharing knowledge with colleagues and calling on the expertise of other healthcare professionals were found to be in evidence in all cases. In case 2, advice was often asked of nurses with a Bachelor degree and sharing knowledge was a specific action of nurses with a Bachelor degree. In case 3, sharing knowledge was an activity of nurses with a

Bachelor degree or by specialized nurses: *"The wound nurse came over, because she simply has more experience and knowledge than us as nurses"*.

A recurrent activity related to innovation behaviour was about teamwork: division of tasks and giving feedback. The leading role of the RN stood out noticeably as they performed several specific tasks in all cases, such as implementing new work methods and providing clinical lessons for LPN: "*It is generally the district nurses doing it*". In case 1, 3 and 4, nursing professionals gave each other feedback.

Further, most nursing professionals were concerned with professional development: they kept their own knowledge up to date. In all cases, the nursing professional undertook some of his own professional development by, reading literature or following discussions in the media, the other part was performed because it was required by a manager or team leader of the care institution, such as taking training. It was striking that all respondents for interviews were positive about their own professional development: *"Yes, I love to read things, you know, it just has my interest"*. Only one respondent mentioned that private matters come first.

In all four cases conducting practical research and implementing new work methods was mostly performed by nursing students: "*It happens, but it are often the students and trainees who are engaged in a task, and then run into things*".

Both interviews, observations and documentations confirmed each other, regarding all sub-themes of *activities.*

Attitudes

Attitudes include resistance, habituation, decreasing of critical view, characteristics of workers, receptive and interested in new things, obedience and disappointment (Table 5).

In case 1, 2 and 4 resistance with regard to an innovation was experienced by one or more team members, especially on the first occasion of implementing an innovation. A respondent of case 2 mentioned resistance as a result of the large number of changes. This was related to the second attitude, habituation over time. Nursing professionals needed time to become used to a new work method and to see the benefit of a change: *"By working often with the innovation, it drills in, and after a while people see the positive aspects of the innovation".* However, in case 1, 2 and 4, a team in general, or an individual, fell back into the old work method soon after implementing a new work method: *"Well, you will see that it decrease something, that people become easier".*

Nursing professionals in case 1 mentioned that, in their own experience, their critical view decreases as their time in the work goes on. Generally, they see in young, recently graduated nursing professionals a more critical view than in older nursing professionals with more work experience.

Another attitude concerned personal characteristics. Most of the time personal characteristics of nursing professionals caused a disproportionate division of labor: *"Yes, I notice a difference* [among nursing professionals]. *You can take it from me that I see also colleagues on a course or work meeting who never say something. I regret"*.

Most respondents mentioned that they were receptive to new ideas and that they were interested in new things. Only in case 4 it was not explicitly formulated. In case 2, one respondent mentioned that she did not look forward to change.

In all cases, decisions about innovations were made by the management or care leader. Especially in case 4 this returned frequently, both in interviews and observations: *"M* [care leader] *had decided this, but we agreed with it"*. Most of the time, care teams followed in the decision. However, disappointment occurred after a decision of the authorities had been made concerning work methods. Especially in case 1: "*We are very fed up with this, because of, yes, everything we've actually put in and what we want is…"* Decisions by the authorities gave nursing professionals the feeling that they cannot influence innovations.

Self-reflection

It was striking that nursing professionals talked about the authorities as something far away from them. Several times, nursing professionals realized during the interview that they didn't know which people held the top positions nor how a decision from the top was made.

During one interview, the respondent realized that she was doing many things which related to innovations.

Most respondents mentioned that taking training or doing a course had caused them to have a more critical view on work processes.

DISCUSSION

This study focused on innovation behaviour of nursing professionals in elderly care. The interviews, observations and documents showed that innovation behaviour was manifested in activities, attitudes and self-reflection. Nursing professionals performed tasks related to an innovation, or as a result of an innovation. Nursing professionals' attitudes determined the way in which innovation behaviour was manifested and that they sometimes experience obstructions to innovations. The theme of self-reflection showed that nursing professionals were not always aware of their behaviour nor their abilities in elderly care.

Strengths of this study are the thorough data collection method, using four different cases and three different data sources, and forward-backward dynamics using a constant comparative method [17]. Also, the data analysis by two independent researchers was a strength of this study [17].

This study has limitations too. The conclusions to be drawn from this study are to be seen in a context of limited number of participants and the fact that they have volunteered themselves to participate. It is possible that the participants show above-average innovation behaviour, because they were interested in this study. Another limitation is that some participants had a more central position in a care team with regards to innovation behaviour, whereas others had no special task in innovation behaviour. This may cause an unrealistic view of innovation behaviour of a general nursing professional in elderly care. Because of the specific setting associated to a case study design, it is difficult to generalize the results of this study to other settings in elderly care [20].

The results show that nursing professionals demonstrate innovation behaviour. However, per care organization it differed how strictly activities of innovation behaviour were delineated by RN and LPN. Also it depends on the attitude and personal characteristics of nursing professionals as to how innovation behaviour is manifested. This corresponds to the innovation model of Van Linge, where different factors as structures of an organization and characteristics of workers play a role in the success or failure of an innovation [7].

Activities and attitudes of innovation behaviour did not totally correspond to the CanMEDS framework and the competency profiles of 'Verpleegkundigen & Verzorgenden Nederland' [12, 13, 15]. According to CanMEDS, signal deficiencies is completed by setting up a research and implement new work methods. The findings show that practical research and implementation of new work methods was mostly performed by the top of a care institution or by nursing students, but rarely by nursing professionals themselves. This may be related to the decrease of critical view over time. According to the competency profile, RN should participate in practical research [13], irrespective years of work experience.

Another difference between the findings and the competency profiles is the ability to reflect. The findings show that nursing professionals have difficulty in reflecting on their own behaviour and in seeing their behaviour in a wider context. However, both profiles of RN and LPN describe the competence of reflecting [12, 13].

The differences between RN en LPN in consultations, sharing knowledge and giving advice were confirmed by the literature [12, 13, 15]. However, the small number of differences between RN en LPN, may be aspects of innovation behaviour that are specific to elderly care. It is possible that the relative small number of Registered Nurses in elderly care [11] causes another division of tasks compared to general health care. Anyhow, the findings demonstrate that both RN and LPN contribute significantly to innovations.

Resistance as a result of the work method of an organization is confirmed by the literature. Managers should encourage and stimulate the creative and innovative behaviour of nurses [9]. Organizations need to have a support climate that encourages creativity of

nursing professionals [8]. An innovative climate may prevent resistance of nursing professionals.

CONCLUSIONS

The present study provides insight into how innovation behaviour of nursing professionals is manifested in elderly care. Despite that the results cannot be readily generalized to other settings, the findings contribute significantly to the knowledge of innovation behaviour in elderly care. Both activities and attitudes of nursing professionals were identified, as well as self-reflection.

The findings show that nursing professionals contribute significantly to innovations in elderly care.

RECOMMENDATIONS

The results of this study emphasize the need for an innovative climate in all care organizations in elderly care, where innovation behaviour of nursing professionals is stimulated. Both RN en LPN in elderly care manifest innovation behaviour, but there are a lot of factors which can obstruct their innovation behaviour. Therefore it is important to create a climate that encourages creativity and innovation behaviour. In that way, care organizations can utilize the competencies of nursing professionals to anticipate future care changes.

The results are a call to educate nurses to sustain the activities such as conducting practical research and implementing new work methods. Also learning reflection on own behaviour and sustaining this could be improved.

There is a need for further research in order to develop innovation behaviour of nursing professionals. In particular to determine which factors motivate or obstruct innovation behaviour and to learn how innovation behaviour of nursing professionals becomes sustainable.

REFERENCES

1. Tsang M: **Connecting and caring: innovations for healthy ageing.** Bulletin of the World Health Organization 2012, **90**:162-163.

2. Hamers J: **De intramurale ouderenzorg: nieuwe leiders, nieuwe kennis, nieuwe kansen.** *Maastricht University* 2011.

3. Lambregts J, Grotendorst A, Van Merwijk C: **Deel 1 Leren van de toekomst.** *V&V 2020* 2012.

4. Miller E, Booth M, Mor V: **Assessing experts' views of the future of long-term care.** Research on Aging 2008, **30**:450-473.

5. **Raad voor de Volksgezondheid en Zorg** [http://www.rvz.net/2013/04/18]

6. Rogers E: **Diffusion of preventive innovations.** Addictive Behaviors 2002, **27**:989-993.

7. Van Linge R: *Innoveren in de gezondheidszorg. Theorie, praktijk en onderzoek.* 1st ed. Maarssen: Elsevier gezondheidszorg; 2006.

8. Hughes F: **Nurses at the forefront of innovation.** International Nursing Review 2006, **53**:94-101.

9. Weng R, Huang C, Chen L, Chang L: **Exploring the impact of transformational leadership on nurse innovation behaviour: a cross-sectional study.** Journal of Nursing Management 2013.

10. Amo B: **Employee innovation behaviour in health care: the influence from management and colleagues.** International Nursing Review 2006, **53**:231-237.

11. Bolle F, De Bont M: **Op één lijn komen. Visie op de rol van verpleegkundigen in de eerstelijnszorg.** *V&VN* 2010.

12. Lambregts J, Grotendorst A: **Deel 2 Beroepsprofiel zorgkundige.** *V&V 2020* 2012.

13. Schuurmans M, Lambregts J, Grotendorst A: **Deel 3 Beroepsprofiel verpleegkundige.** V&V 2020 2012.

14. Neufeld V, Maudsley R, Pickering R, Turnbull J, Weston W, Brown M, Simpson J: **Educating future physicians for Ontario.** Acad Med 1998, **73**:1133–1148.

15. Velsen van T, Gloudemans M: **Competentieprofiel HBO Verpleegkundige Gerontologie - Geriatrie (HBO-VGG). Uitwerking volgens de Canmeds systematiek.** *Stuurgroep HBO-VGG, Bureau G&D* 2012.

16. Span M, Smits C: **Leadership manifestations in care for older people: a qualitative study in a care innovation program.** Nursing Education, Research and Practice 2013, **4**:138-46.

17. Boeije H: *Analysis in Qualitative Research:* 1st ed. California: SAGE Publications; 2010.

18. Yin RK: *Case Study Research. Design and methods.* 4th ed. United States of America: SAGE Publications; 2009.

19. Creswell JW: *Qualitative inquiry & research design:* 2nd ed. California: Sage Publications; 2007.

20. Polit DF, Beck CT: *Nursing research. Generating and assessing evidence for nursing practice.* 9th ed. China: Wolters Kluwer Health | Lippincott Williams & Wilkins; 2012.

21. Herriott R, Firestone W: **Multisite Qualitative Policy Research: Optimizing Description and Generalizability.** Educational Researcher 1983, **12**:14-19.

22. Dierckx de Casterlé B, Gastmans C, Bryon E, Denier Y: **QUAGOL: A guide for qualitative data analysis.** International Journal of Nursing Studies 2012, **49**:360-371.

TABLES AND FIGURES

Table 1. Main points of topic list and observation guide

ROLE OF SCOLAR*	
Designing	**Researching**
The ability to develop protocols, standards, procedures and care paths in the context of the promotion of quality, efficiency and effectiveness of care for older people on the basis of evidence-based knowledge.	The ability to interpret evidence-based results of nursing research and the ability to contribute to the development of knowledge in relation to care for older people by applied research.
Innovating	P**rofessional development**
The ability to implement and apply new insights, protocols, standards, procedures, care paths and technology in the context of promoting quality, efficiency and effectiveness of care provided to older people.	The ability to expand own professional expertise and the spreading of new research among colleagues nurses and other health care providers, relevant for their own professional practice.

* [15]

Table 2. Case descriptions

Case 1: Care for older disabled persons	Case 2: Home care
Team members: N = 23 (all female)	Team members: N = 20 (all female)
Educational level	Educational level
Registered Nurses: N = 7	Registered Nurses: N = 7
Licensed Practical Nurses: N = 16	Licensed Practical Nurses: N = 13
Age in years (range): 25 – 60	Age in years (range): 20 - 65
Case 3: Nursing home	**Case 4: Nursing home**
Team members: N = 35 (all female)	Team members: N = 30 (29 female, 1 male)
Educational level	Educational level
Registered Nurses: N = 3	Registered Nurses: N = 2
Licensed Practical Nurses: N = 32	Licensed Practical Nurses: N = 28
Age in years (range): 20 - 60	Age in years (range): 22 - 61

Table 3. Main characteristics of respondents for interviews

	Registered Nurse	Licensed Practical Nurse
Participants	N=4	N=4
Gender		
Male	0	0
Female	4	4
Age in years (mean; range)	35; 25-53	40; 29-59
Work experience in years (mean; range)	10; 2-24	17; 8-27
Care organization		
Nursing home	2	2
Home care	0	2
Care for older disabled persons	2	0

Figure 1. Classification of main results
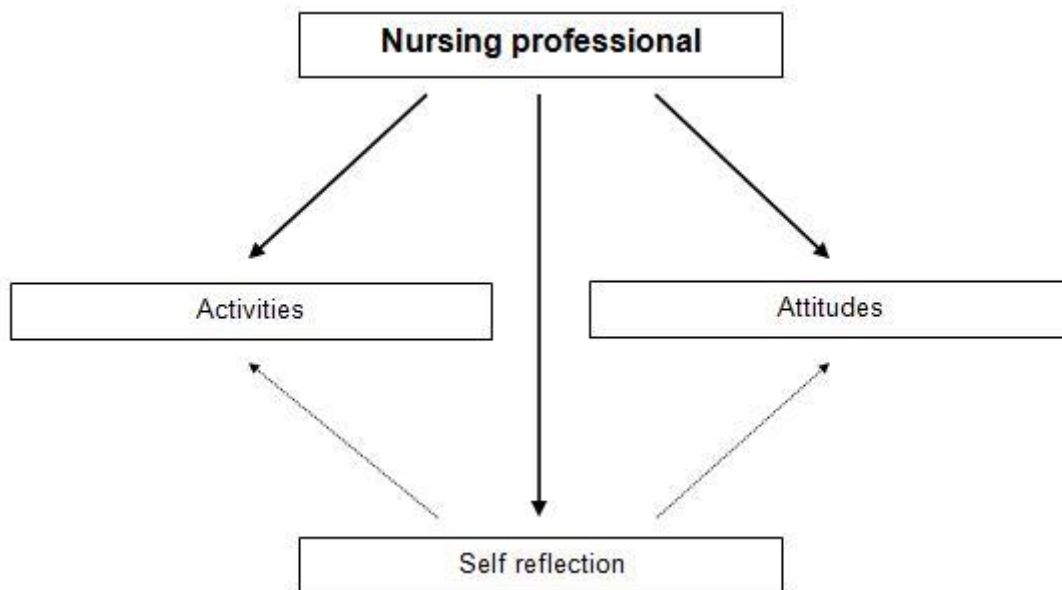
Table 4. Citations belonging to main theme activities

Activities	Citations
Point out deficiencies	"If there are deficiencies in the quality of care, they are often pointed out. Often, these are first discussed in the coffee break. This happened with minor deficiencies. The team meeting is also often used to discuss these deficiencies and make agreements to improve quality." (observation case 1)
Participate in consultations	"Look, last week we went with a number of organizations together with eh, what questions we actually have and what we would like to improve." (interview case 1)
Share knowledge	"And eh, together (with occupational therapist) we give an afternoon (meeting) once a year to all my colleagues, then we give an in-service-training." (interview case 2)
Call on the expertise of others	"Difference disciplines are enabled when it is necessary, OT, physio, doctor, social work." (interview case 3)
Keep in shape knowledge	"Each year, every employee has a performance review with the manager. On this basis, the employee should create a personal development plan". (observation case 1)
Division of tasks	"Yes, in fact everyone has his task" (interview case 2)
Giving each other feedback	"She has tackled her colleague about…" (observation case 4)
Personal development	"Well, I've just on myself a lot of interest" (interview case 3)
Perform research and implement results by students	"It happens, but it are often the students and trainees who are engaged in a task, and then run into things" (interview case 1)

Table 5. Citations belonging to main theme attitudes

Attitudes	Citations
Resistance and habituation	"By working often with the innovation, it drills in and after a while people see the positive aspects of the innovation" (observation case 1)
Expire in old work method	"Well, you will see that it decrease something, that people become easier" (interview case 2)
Decrease in critical view	"I think I see that the young colleagues within my department have a positive view on innovations and they operate in a more open view than the older colleagues, who work with for several years" (observation case1)
Personal characteristics	"Because you often see the same [people] doing it, which are always in the office" (interview case 2)
Receptive to new ideas	Yes, I'm always in for change. I think it's always good to see things again and indeed if necessary, to modify or eh to improve" (interview case 1)
Obedience after decisions of the authorities	"Eh yes, no, that's really just decided by the authorities that we are going to do that (…) it is not that the team decide that" (interview case 3)
Disappointment after decisions of the authorities	"And yes, we are very fed up with this, because of, yes, everything we've actually put in and what we want is…" (interview case 1)