

The perceptions of nurses and certified nursing assistants on care-related prevention concerning people with dementia: a mixed methods approach

Naam van de student:	A.M.T. Busink
Studentnummer:	3820629
Status van het werkstuk:	Onderzoeksverslag - Deeltoets 2
Datum:	3 juli 2014
Naam universiteit:	Universiteit Utrecht, masteropleiding Klinische Gezondheidswetenschappen, masterprogramma Verplegingswetenschap, UMC-Utrecht
Begeleiders NIVEL:	Prof. Dr. A. Francke (a.francke@nivel.nl) en Dr. R. Verkaik (r.verkaik@nivel.nl)
Cursusdocent:	Dr. C. Gamel (C.J.Gamel@umcutrecht.nl)
Naam en plaats stage-instelling:	NIVEL, Utrecht
Begoopte tijdschrift:	International Journal of Nursing Studies
Eisen tijdschrift wat betreft referentie stijl en aantal woorden:	APA, 2.000-7.000
Aantal woorden:	3478/5569
Criteria gebruikt t.b.v. transparante rapportage:	Strobe en CoreQ
Aantal woorden Nederlandse samenvatting:	310
Aantal woorden Engelstalig abstract:	315

DUTCH SUMMARY / NEDERLANDSE SAMENVATTING

Titel: De percepties van verpleegkundigen en verzorgenden over zorggerelateerde preventie in de zorg voor mensen met dementie: een mixed methods benadering.

Inleiding: Vanwege het groeiende aantal mensen met dementie zullen zorggerelateerde preventie activiteiten, uitgevoerd door verpleegkundigen en verzorgenden, steeds belangrijker worden om complicaties te voorkomen en een aanvaardbare kwaliteit van leven te handhaven. Op dit moment is het onbekend wat de percepties van verpleegkundigen en verzorgenden over zorggerelateerde preventie in de zorg voor mensen met dementie zijn.

Doel: Inzicht krijgen in de percepties van verpleegkundigen en verzorgenden over zorggerelateerde preventie zodat zorggerelateerde preventie voor mensen met dementie in de toekomst verder kan worden verbeterd. **Onderzoeksvraag:** Wat zijn de percepties van verpleegkundigen en verzorgenden, die werken in de thuiszorg, in het verzorgingshuis of verpleeghuis, met betrekking tot zorggerelateerde preventie bij mensen met dementie?

Methode: Een mixed methods benadering met vragenlijstonderzoek en individuele semigestructureerde interviews. Eerst werden secundaire analyses uitgevoerd op bestaande onderzoeksgegevens uit 2011, op een steekproef van 206 verpleegkundigen en verzorgenden. Daarna werden in maart-mei 2014 12 individuele semigestructureerde interviews gehouden om de kwantitatieve resultaten te verdiepen.

Resultaten: In deze studie zijn de volgende drie concepten naar voren gekomen die de percepties van verpleegkundigen en verzorgenden tegenover zorggerelateerde preventie indelen: houding, kennis en vaardigheden en toekomstvisie. Verpleegkundigen en verzorgenden vinden zorggerelateerde preventie een taak van hun beroepsgroep. Zij ervaren een tekort aan kennis en vaardigheden en willen in de toekomst meer tijd besteden aan zorggerelateerde preventie.

Conclusie: Verpleegkundigen en verzorgenden ervaren zorggerelateerde preventie hun taak. Ze hebben echter behoefte aan meer scholing over zorggerelateerde preventie, bij voorkeur in een klassikale vorm. In de toekomst willen verpleegkundigen en verzorgenden graag meer tijd aan zorggerelateerde preventie besteden en e-health kan hen hierbij ondersteunen.

Aanbevelingen: Bijscholing van verpleegkundigen en verzorgenden gericht op hun verschillende scholingsbehoeften en het gebruik van e-health.

Trefwoorden (max 5): percepties, zorggerelateerde preventie, dementie, verpleging

ENGLISH ABSTRACT

Title: The perceptions of nurses and certified nursing assistants on care-related prevention concerning people with dementia: a mixed methods approach.

Background: Because of the growing number of people with dementia, care-related prevention activities done by nurses and certified nursing assistants will become increasingly important to prevent complications and maintain an acceptable quality of life. Currently it's unknown what the perceptions of nurses and certified nursing assistants towards care-related prevention in dementia care are.

Aim: To gain insight into the perceptions of nurses and certified nursing assistants towards care-related prevention so care-related prevention for people with dementia can be further improved in the future. **Research question:** How do nurses and certified nursing assistants working in home care, residential or nursing homes perceive care-related prevention concerning people with dementia?

Method: A mixed methods approach with survey research and individual semi-structured interviews. First, secondary analyses were done on existing survey data collected in 2011 on a sample of 206 nurses and certified nursing assistants. Second, in March-May 2014 12 individual semi-structured interviews were conducted to embellish the quantitative results.

Results: From this study three concepts related to the perceptions of nurses and CNAs towards care-related prevention activities emerged: attitude, knowledge and skills and the future. Nurses and certified nursing assistants think care-related prevention is a task of their profession. They experience insufficient knowledge and skills and they like to devote more time to care-related prevention in the future.

Conclusion: Nurses and certified nursing assistants perceive care-related prevention to be part of their profession. They however express the need for more education on care-related prevention, preferably in a classroom setting. In the future, nurses and certified nursing assistants like to devote more time to care-related prevention and e-health can support this.

Recommendations: Additional training of nurses and certified nursing assistants focused on their different needs and use of e-health.

Keywords (max 5): perceptions, care-related prevention, dementia, nursing

INTRODUCTION

Due to the growing number of elderly and chronically ill, preventive activities done by healthcare professionals become more important.(1) Prevention is therefore a key concept in the current healthcare policy of the Dutch government(2) and they aim at shifting from curative care to prevention.(3)

Consequently, the Dutch professional association nursing professionals(V&VN) has updated the professional profile in 2012. In this profile prevention is now described as an important aspect of nursing.(4)

This focus on prevention is also consistent with the needs of the current generation of elderly who want to keep living independently as long as possible and want to depend on healthcare professionals as little as possible. This is very important for their quality of life.(5)

This certainly also applies to the growing population of people with dementia(PwD). The total of PwD is expected to double almost every 20 years, to 65.7 million in 2030.(6) To protect PwD it's important to proceed according to the public health principles, as Gruenberg(1980) describes: prevent what can be prevented, terminate what can be terminated and ease what cannot be prevented and cannot be terminated.(7)

Care-related prevention focusses on Gruenberg's last point. It aims at preventing further deterioration, slowing progression and reducing complications.(8) Care-related prevention activities in dementia care intend to postpone disablement and dependency and maintain an acceptable quality of life.(9) These activities are important to prevent complications common for PwD such as pain, depression, ulcers, etcetera.(10)

These care-related prevention activities are done by nurses and certified nursing assistants (CNAs), also referred to as nursing professionals, who play a pivotal role in the daily care for PwD in home care as well as in residential or nursing home care. However, no existing literature can be found on the perceptions of these nursing professionals towards care-related prevention in dementia care. In fact, in general there is little understanding of the perceptions of healthcare professionals in the area of prevention.(1) Therefore, the Netherlands institute for health services research(NIVEL) Nursing Staff Panel was surveyed at the end of 2011 on care-related prevention for chronically ill people.(1)

Following these results(1), the focus of this study will be on nursing professionals in dementia care and their perceptions towards care-related prevention. An effort is made to describe their perceptions and in so doing contribute to further improve care-related prevention for PwD in the future.

PROBLEM STATEMENT, AIM AND RESEARCH QUESTION

The number of PwD will increase in the future. In daily care for PwD, care-related prevention activities will become increasingly important to prevent complications and maintain an acceptable quality of life. Nursing professionals play a pivotal role in this.

Currently it's unknown what the perceptions of nursing professionals towards care-related prevention in dementia care are and therefore the aim of this study is to research their perceptions. By gaining insight into these perceptions care-related prevention for PwD can be improved in future.

Research question:

How do nurses and certified nursing assistants working in home care, residential or nursing homes perceive care-related prevention concerning people with dementia?

METHOD

To study the perceptions of nursing professionals a mixed methods approach was used. This approach provides the opportunity to embellish the outcomes of the quantitative research with qualitative data and therefore study the perceptions in-depth.(11)

First secondary analyses were done on existing survey data. The outcomes of these analyses were further studied through individual semi-structured interviews.

No approval from the Medical Research Ethics Committee was required, because participants weren't subjected to actions and no rules of conduct were imposed.(12) The guidelines for good clinical practice were respected.(13)

Quantitative part

Secondary analyses were done on the data that were collected at the end of 2011 from the NIVEL Nursing Staff Panel.(1) Panel members are recruited by drawing random samples of professionals in healthcare, creating national coverage.(14) Of the 1148 Panel members approached, 753 people completed the questionnaire(response rate 66%).(1) The questionnaire used to collect the data was tested on fitting the new professional profile, completeness of the items and comprehensibility of the questions and answers.(1)

Participants

A sample of 206 nursing professionals was drawn from the 753 Panel members who completed the questionnaire. They had to meet the following inclusion criteria: be a nurse or CNA, work with PwD and work in home care, residential or nursing home care.

Analyses

Secondary analyses were performed using the statistical computer program SPSS(version 20). Background characteristics were identified through descriptive statistics. Next, frequencies were calculated and by using the chi-square test a statistically significant difference between the healthcare sectors and between the professions was tested.(15) The criterion for statistical significance was .01.

Qualitative part

Once the secondary analyses were done, individual semi-structured interviews were conducted from March-May 2014 at home or workplace of the interviewed. This type of interview gave the nursing professionals the opportunity to provide their in-depth perspective.(11)

There were two interviewers present, who both focused on their own component: 1.care-related prevention in dementia care and 2.self-management support in dementia care. For this study, the focus was solely on the first component.

The interview questions were refined through pilot testing. Four test interviews were conducted with acquaintances from the professional network of the research team. The interview guide included these topics: conceptual clarification and experiences, taskperception, knowledge and skills and the future.

Potential participants were contacted through telephone or e-mail and when they agreed to participate, an information letter was sent by e-mail and an appointment to conduct the interview was made. Preference for the interview setting was discussed. At the start of the interview, the interviewer introduced herself and explained the purpose and structure of the interview. Next, permission to use the data from the interview was asked and obtained. The interviewer then encouraged the interviewed to talk about issues pertinent to the research question by asking open-ended questions from the interview guide and using probing questions or prompts for clarification.(11)

The interview lasted approximately one hour, equally divided over both components and was audio-taped.

Participants

The principles of purposive sampling were used to recruit the potential participants.(11) They were intentionally selected according to the needs of this study from the professional network of the research team. The sample consisted of nursing professionals who work with PwD in home care and nursing home care in towns and cities throughout the Netherlands. They had

to work for different healthcare organizations and have different educational backgrounds. The ratio between profession(nurses versus CNAs) and healthcare sector(home care versus nursing home care) was equally divided beforehand. Six nurses and six CNAs were recruited, because it was presumed that 12 interviews would be enough to reach saturation.(16)

Nursing professionals working in residential homes were excluded due to the recent government plans to reorganize long-term care in the Netherlands.(17)

Analyses

The interviews were transcribed verbatim. Analyzing immediately started after the first three interviews and continued until consensus was achieved on data saturation.

After every three interviews, the research team discussed the transcripts and worked towards consensus on the clarification of possible meanings guided by constant comparative analysis.(11) After the discussion, the interview guide was modified for the next three interviews and so on.

The actual coding process was done by one researcher using the qualitative software program MAXQDA(version 11.0.8). During this process, important categories were determined in relation to the formulated research question and quantitative results.(11)

RESULTS

Demographics

A total of 206 nursing professionals from the Panel, 46 nurses and 160 CNAs, remained based on the inclusion criteria for secondary analysis. Their characteristics are described in Table 1.

In total 12 nursing professionals were interviewed. The interviewed nurses at associate degree level(n=4), nurses at bachelor degree level(n=4) and CNAs(n=4) were both male(n=1) and female(n=11), between 21-53 years of age and currently working in home care and nursing home care.(Table 2)

The results are described in three concepts that emerged: attitude, knowledge and skills and the future. Per concept first the quantitative and then the qualitative results are presented.

Attitude

The majority of nursing professionals from the Panel think care-related prevention is a task of their profession (71.4%). No significant differences ($p > .01$) were found between healthcare sectors or between professions. (Table 3)

Interviewed nursing professionals also consider care-related prevention as an important task of their own profession. They feel care-related prevention reduces the number of complications of PwD significantly.

Nursing professionals feel the healthcare organizations they work for find care-related prevention an important part of their profession as well. This is supported by facilitating required courses and materials. A goal of home care organizations is to accommodate PwD to live at home for as long as possible and this goal contributes to their focus on care-related prevention. A goal of nursing home organizations is an high score on the national prevalence survey of care problems. This goal governs the continuous focus on care-related prevention.

Daily care

Care-related prevention starts when PwD become in need of care. It focuses on fall prevention, hydration and nutrition, medication safety and ulcer prevention. Also care-related prevention activities are done to slow the dementia, such as memory training, keeping the PwD active and maintaining fixed patterns.

Nurses say they initiate these activities and have a coordinating role in care-related prevention. In their opinion they often guide and instruct CNAs accordingly. (Textbox 1)

Interviewed working in nursing home care mention creating a safe living environment by closing the doors and continuous supervision, as care-related prevention. Nursing professionals working in home care find exactly this difficult in their daily work. PwD living at home often need more supervision than the nursing professionals can offer and the danger of PwD wondering off is high.

Most interviewed find the perceptions of the PwD the basis for whether or not doing care-related prevention activities. PwD often resist care-related prevention activities, even when this is required from a medical viewpoint. Result of this paradox is that care-related prevention activities are sometimes insufficient from a medical viewpoint. It's perceived to be important to report thoroughly to show that the nursing professionals acted according to the

wishes of the PwD, rather than according what's required from a medical viewpoint.(Textbox 2)

Risk identification

Identifying possible risks for PwD is done via predetermined lists in home care and in nursing home care. Nursing professionals feel these lists provide the opportunity to reflect on prevention at a preset point in time, rather than during daily care. Care-related prevention activities resulting from this are incorporated into the care plan. However, according to the nursing professionals their clinical judgment remains fundamental in addition to the lists when identifying risks.

Collaboration

In home care, the collaboration with the informal caregivers remains important. Nursing professionals simply cannot provide the necessary care to PwD without their help. Additional care by the informal caregivers, such as assisting PwD with their grocery's or supervising daily activities, is important. A system can be built around PwD in which everyone fulfills their own tasks. Consequently, lack of informal caregivers is perceived as major disadvantage. Nursing home care nursing professionals also try to collaborate with informal caregivers in daily care, for example by letting them help during mealtimes. They however feel informal caregivers have insufficient time, due to their busy personal lives.

The ability to turn to other healthcare professionals, such as psychologists and dieticians, for help with care-related prevention activities is appreciated. In working multidisciplinary the best care-related prevention activities are done.

In nursing home care there are many opportunities to collaborate, because the lines between all healthcare professionals in the same organization are short. Contrary, in home care this collaboration is less practical because PwD are allowed to choose other healthcare professionals who aren't necessarily employed by the same healthcare organization that provides the home care.

Knowledge and skills

Almost half of the nursing professionals from the Panel(56.4%) think their knowledge and skills are insufficient to do care-related prevention activities. No significant differences($p >.01$) were found between healthcare sectors or between professions.(Table 4)

Nursing professionals from the Panel were asked to describe examples of missing knowledge and skills. This demonstrates that their needs for education vary and differ per healthcare sector. For example, in home care is described a lack of education on legislation and conversation techniques. Recognizing complications and new developments are described by nursing professionals in residential care and nursing professionals in nursing home care described they want to keep their knowledge up-to-date in general.

Interviewed nursing professionals say knowledge and skills are acquired through education, internships and work experience. They feel they can always continue learning in care-related prevention and want to be kept up-to-date on new developments. Nursing professionals want to be taught via practical examples in a classroom setting to share experiences and discuss real-life cases. This cannot be accomplished by e-learning, because then they miss interaction with and stimulation by colleagues next to their experienced lack of computer skills. (Textbox 3)

In addition to learning in a classroom setting, nursing professionals try to obtain knowledge and skills by consulting other healthcare professionals.

In home care, nursing professionals exchange a lot of knowledge within their own team. They miss contact with healthcare professionals outside their own team, whom in their opinion know a lot on care-related prevention and could provide education opportunities. In nursing home care it's perceived easy to contact other healthcare professional for education purposes as there is always someone around to explain.

The future

57.9% of the nursing professionals from the Panel find it attractive to devote more time on care-related prevention in future. A significant difference ($p = 0.001$) was found between healthcare sectors, nursing professionals working in home care find it most attractive (75,3%). No significant difference ($p > 0.01$) between the professions was found. (Table 5)

Interviewed working in home care also find this attractive and say care-related prevention will become more important in future, because PwD continue to live longer at home. They find this positive, as in their opinion PwD function best in their own environment. However, in this situation, nursing professionals need more help from PwD and their informal caregivers. (Textbox 4)

The overall feeling of the interviewed working in nursing home care is they will need more time and colleagues in the future, rather than help from the PwD or their informal caregivers, to do care-related prevention activities well.

E-health

Most interviewed feel e-health can support them in the future in doing care-related prevention activities. For example, supporting applications on mobile devices are mentioned. E-health may help to work more efficient, but for now a lack of knowledge on e-health complicates this.

Nursing professionals feel the use of e-health can also be helpful for informal caregivers as this may allow them to communicate faster. The interviewed indicate that e-health is not beneficial for the PwD themselves due to their often high age and cognitive incapacity.

VideoTelephony is already used as part of e-health in home care. Nursing professionals in home care consider the use of VideoTelephony no added value to daily care. They indicate it's still required to visit the homes of PwD to inspect their living environment. It's perceived that the use of VideoTelephony only increases their workload.

In nursing home care the interviewed already work with desktops, laptops and iPads as part of e-health. Laptops and iPads are preferred by nursing professionals, because you can take these wherever you go. Patient related information, such as wound care and medication protocols, is immediately at hand. This enables to focus more on nursing rather than spending time behind a desktop.(Textbox 5)

DISCUSSION

This study adds knowledge on the perceptions of nursing professionals working with PwD in home care, residential and nursing home care in the Netherlands towards care-related prevention.

From this study three concepts related to these perceptions emerged: attitude, knowledge and skills and the future.

Most nursing professionals experience care-related prevention as a task of their profession, as also found in previous related research.(1)

The interviewed nursing professionals endorse this by mentioning that care-related prevention is an important part of nursing, in line with the updated professional profile(4), to

prevent complications. When these complications, also described by van den Heuvel(10), are prevented they have positive experiences with doing care-related prevention activities. Interestingly, nurses feel they are the ones to initiate these activities and have a coordinating role in care-related prevention activities. Interviewed CNAs didn't mention this segregation of duties. Also no significant difference was found between professions when asked if care-related preventions is their task.

Important in identifying risks are risk identification lists and clinical judgment. After identifying risks care-related prevention activities are done, but only if the PwD also want this. Most elderly want to stay independent as long as possible(5) and therefore PwD can resist care-related prevention activities.

In home care nursing professionals want to collaborate with informal caregivers. They feel this collaboration becomes increasingly important in the future and can delay admittance to a nursing home.(10) Home care organizations also want PwD to live at home as long as possible. This corresponds with the needs of this generation of elderly(5) and makes care-related prevention in home care considered to be important.

In accordance to the study of de Veer and Francke (2013)(1) researched nursing professionals sometimes experience a lack of knowledge and skills with care-related prevention.

They feel they can keep learning and want to stay up-to-date on new developments in care-related prevention. The general need for education by nursing professionals is also described in a previous study.(18) In addition, nursing professionals express different education needs depending on their healthcare sector which is also found in this previous study from 2010.(18)

Most nursing professionals want to be educated in a classroom setting to share experiences and discuss real-life cases. This in contrast to a report on the increase of e-learning by nurses.(19) This report also describes the preference for a combination of e-learning and practical education(19) which is not mentioned as a result of this study. Younger and older nursing professionals, and not just the older nursing professionals(19), in this study prefer a face-to-face approach.

In future, care-related prevention will become even more important, especially in home care.(17) Fortunately, nursing professionals find it attractive to devote more time to care-related prevention in future, especially in home care. They feel PwD function best in their own environment.

E-health plays a key role in care-related prevention(20) and the nursing professionals feel e-health can help in doing care-prevention activities. E-health is also important to support PwD and informal caregivers.(10) Nursing professionals however indicated e-health not be useful for PwD.

Their positive attitude toward using e-health differs from van de Heuvel (2012) who described the potential of e-health is not fully exploited because of the negative attitude of healthcare professionals.(10) Despite positive attitude of the researched nursing professionals, they need to increase their skills enabling them to use e-health's potential.

Methodological considerations

A mixed methods approach provided the opportunity to study the perceptions extensively. Qualitative data embellished the quantitative data and helped to gain more insight into perceptions.

Strengths of the quantitative part were that nursing professionals from the Panel were employed in various healthcare sectors with different educational backgrounds. Panel members are recruited by random sampling, which creates national coverage.(1)

Limitation was that the nursing professionals who indicated to work with PwD had the option to tick a maximum of two more disorders. This means their answers might have been given with different patient populations in mind. Second, the given answers could be socially desirable as this can be in survey research and because the nursing professionals realize that the emphasis of healthcare policy is increasingly shifting to prevention.(1)

Strengths of the qualitative part were use of the principles of purposive sampling which created a wide variation in perceptions.(11) Researcher triangulation, constant comparison and the use of MAXQDA-software were used to ensure reliability and validity to strengthen the qualitative analyses.(11)

A limitation was that the interview consisted of two components which followed one another in the same interview. Although this was explained beforehand this may have caused confusion, reflected in the answers.

CONCLUSION

Nursing professionals think care-related prevention is a task of their profession, they want to prevent complications for PwD. It's considered to be beneficial for PwD to live at home as long as possible, well done care-related prevention activities enables this.

Nursing professionals express the need for more education on care-related prevention, these needs however differ per healthcare sector. There is a preference for education in a classroom setting instead of e-learning.

In the future nursing professionals want to devote more time to care-related prevention, especially the ones working in home care. E-health is considered to be helpful in doing these care-related prevention activities, but a lack of skills should be overcome to deploy e-health effectively.

RECOMMENDATIONS

To meet the growing need for care-related prevention additional training of nursing professionals would be needed. This training should focus on the different needs of nursing professionals working in home care, residential and nursing home care.

In addition, nursing professionals from all healthcare sectors need to be trained in using e-health for care-related prevention activities.

REFERENCE LIST

- (1) de Veer AJE, Francke AL. Preventie en het bevorderen van zelfmanagement. Ervaringen en visies van zorgprofessionals. 2013.
- (2) VWS. Brief aan de Voorzitter van de Tweede Kamer der Staten-Generaal. Gezamenlijke agenda VWS 'Van systemen naar mensen'. 2013.
- (3) VWS. Landelijke nota gezondheidsbeleid 'Gezondheid dichtbij'. 2011.
- (4) V&VN. Verpleegkundigen & Verzorgenden 2020. Deel 2 Beroepsprofiel zorgkundige. 2012.
- (5) van Campen C. Kwetsbare ouderen. 2011.
- (6) World Health Organization. Dementia: a public health priority. 2012.
- (7) Gruenberg EM. Mental disorders. Maxcy-Rosenau Public Health and Preventive Medicine 1980:1303.
- (8) Wright CF, Hall A, Matthews FE, Brayne C. Biomarkers, dementia, and public health. Ann N Y Acad Sci 2009 Oct;1180:11-19.
- (9) Cooper B. Thinking preventively about dementia: a review. Int J Geriatr Psychiatry 2002 Oct;17(10):895-906.
- (10) van den Heuvel WJA. Kennissynthese dementie. Behandeling van en zorg voor mensen met een dementiëel syndroom. 2012.
- (11) Boeije H. Analysis in Qualitative Research. : SAGE; 2010.
- (12) Centrale Commissie Mensgebonden Onderzoek. Moet uw onderzoek getoetst? Available at: <http://www.ccmo-online.nl/main.asp?pid=10&sid=30&ssid=51>. Accessed November/10, 2013.
- (13) ICH Expert Working Group. Guideline for good clinical practice. 1996.
- (14) Stichting NIVEL. 2013; Available at: <http://www.nivel.nl/panel-verpleging-verzorging-0>. Accessed October, 2013.

- (15) de Vocht A. Basishandboek SPSS. Utrecht: Bijleveld press; 2010.
- (16) Guest G, Bunce A, Johnson L. How Many Interviews are Enough? An Experiment with Data Saturation and Variability. *Field Methods* 2006;18:59.
- (17) Ministerie van Volksgezondheid, Welzijn en Sport. Hervorming langdurige zorg: naar een waardevolle toekomst. 2013.
- (18) Verkaik R, de Veer A, Francke AL. Veel bij- en nascholing in de verpleging en verzorging. *Tijdschrift voor Verpleegkundigen* 2010(4):24.
- (19) Oelen M. Verpleegkundigen volgen steeds vaker e-learning. *Nursing* 2014 11-03:03-07-2014.
- (20) Smith GE. Everyday technologies across the continuum of dementia care. *Engineering in Medicine and Biology Society (EMBC), 2013 35th Annual International Conference of the IEEE* 2013.

TABLES AND TEXTBOXES

Table 1 Demographic characteristics of participants from the Nursing Staff Panel (n=206)

Mean Age (\pm SD)	49,30 \pm 8,99	
Range	25-63	
	n	%
Gender		
Female	198	96,1
Male	8	3,9
Healthcare sector		
Nursing home	79	26,7
Residential home	72	35,0
Home care	55	38,3
Profession		
Nurse bachelor degree	17	8,3
Nurse associate degree	29	14,1
CNA	160	77,7

Table 2 Demographics characteristics of the interviewed (n=12)

	Gender	Age	Healthcare sector	Profession	City/Town
Participant #1	female	26	nursing home	nurse bachelor degree	a city in the western part of the Netherlands
Participant #2	female	47	nursing home	CNA	city in the southern part of the Netherlands
Participant #3	female	31	home care	CNA	town in the northern part of the Netherlands
Participant #4	male	28	home care	CNA	a city in the western part of the Netherlands
Participant #5	female	40	home care	nurse associate degree	town in the western part of the Netherlands
Participant #6	female	29	nursing home	nurse bachelor degree	city in the southern part of the Netherlands
Participant #7	female	53	nursing home	CNA	city in the western part of the Netherlands
Participant #8	female	21	home care	nurse associate degree	city in eastern part of the Netherlands
Participant #9	female	25	home care	nurse bachelor degree	city in the southern part of the Netherlands
Participant #10	female	26	home care	nurse associate degree	town in the eastern part of the Netherlands
Participant #11	female	32	nursing home	nurse associate degree	town in the western part of the Netherlands
Participant #12	female	25	home care	nurse bachelor degree	town in the eastern part of the Netherlands

Table 3 Prevention for people who are sick is a task for my profession, divided by healthcare sector and by profession

It belongs to the tasks of the group healthcare professionals I belong to, to do unsolicited prevention activities aimed at preventing further problems and complications in people who are already (chronically) ill.				
	Nursing home	Residential home	Home care	Total
(Totally) agree	66,0	70,0	76,3	71,4
Neither agree nor disagree	24,0	22,9	15,8	20,4
(Totally) disagree	10,0	7,1	7,9	8,2
Total	100,0	100,0	100,0	100,0
Pearson chi2 (4) = 2.009, p = 0.718				
It belongs to the tasks of the group healthcare professionals I belong to, to do unsolicited prevention activities aimed at preventing further problems and complications in people who are already (chronically) ill.				
	Nurse bachelor degree	Nurse associate degree	CNA	Total
(Totally) agree	100,0	75,9	67,3	71,4
Neither agree nor disagree	0,0	10,3	24,7	20,4
(Totally) disagree	0,0	13,8	8,0	8,2
Total	100,0	100,0	100,0	100,0
Pearson chi2 (4) = 11.135, p = 0.025				

Table 4 Perceived knowledge and skills related to care-related prevention, divided by healthcare sector and by profession

Do you think you have enough knowledge and skills at this time to do prevention activities aimed at preventing further problems and complications in people who already (chronically) ill?				
	Nursing home	Residential home	Home care	Total
Yes	40,8	47,1	42,1	43,6
Enough knowledge, but not enough skills	13,4	11,4	10,5	11,8
Enough skills, but not enough knowledge	18,4	15,7	17,1	16,9
No, both my knowledge and skills should be further trained	26,5	25,7	30,3	27,7
Total	100,0	100,0	100,0	100,0
Pearsons chi2 (6) = 1.124, p = 0.980				

Do you think you have enough knowledge and skills at this time to do prevention activities aimed at preventing further problems and complications in people who already (chronically) ill?				
	Nurse bachelor degree	Nurse associate degree	CNA	Total
Yes	58,8	39,3	42,7	43,6
Enough knowledge, but not enough skills	17,6	3,6	12,7	11,8
Enough skills, but not enough knowledge	11,8	21,4	16,7	16,9
No, both my knowledge and skills should be further trained	11,8	35,7	28,0	27,7
Total	100,0	100,0	100,0	100,0
Pearsons chi2 (6) = 6.071, p = 0.415				

Table 5 Attractiveness of increase in time for the use of care-related prevention, divided by healthcare sector and by profession

How attractive do you find it if you have to spend more time in the future to prevent additional problems and complications in people who already (chronically) ill?				
	Nursing home	Residential home	Home care	Total
I don't find this a pleasant prospect	14,0	12,9	1,3	8,6
I don't care	40,0	40,0	23,4	33,5
I would like this	46,0	47,1	75,3	57,9
Total	100,0	100,0	100,0	100,0
Pearsons chi2 (4) = 18.448, p = 0.001				
How attractive do you find it if you have to spend more time in the future to prevent additional problems and complications in people who already (chronically) ill?				
	Nurse bachelor degree	Nurse associate degree	CNA	Total
I don't find this a pleasant prospect	0,0	10,3	9,3	8,6
I don't care	11,8	34,5	35,8	33,5
I would like this	88,2	55,2	55,0	57,9
Total	100,0	100,0	100,0	100,0
Pearsons chi2 (4) = 7.239, p = 0.124				

Textbox 1

"We call this functional management. One morning a week I drive around, the sometimes route 1 and another time route 2 etcetera. This way I can see all the PwD and inspect the CNAs. Do they execute all the activities well and is the risk identification correct? This way I can keep an eye on their work." Participant #9

Textbox 2

"These days you look more and more at the perception of the resident. This means that if someone has a reduced nutritional status, it does not directly mean that additional food is given. That is really up to the resident. After all, not residents don't want this anymore." Participant #8

Textbox 3

"Coincidentally, I participated in a pilot to do a training via computer. Well, I don't like this at all. It is so childish and complicated. I kept thinking, "what's this about?", I don't understand. And then I realized, in a classroom is simply more pleasant." Participant #7

Textbox 4

"Perhaps a very practical example, but for example, certain devices must be requested by a lending service. That's something where you're tempted to grab the phone and arrange it. Now we try, as much as possible, to have the client or informal caregiver do this themselves." Participant #12

Textbox 5

"For example, family comes into the mutual living room and you're at the computer. I can quite imagine that family thinks they are sitting at that computer again, because you cannot leave the computer to chat a minute because you have a patient file open." Participant #2