

# **A qualitative study to nurse role differentiation in Dutch hospitals: an invitation for experimentation**

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## English abstract

A qualitative study to nurse role differentiation in Dutch hospitals: an invitation for experimentation

**Background:** Nurse role differentiation is associated with reduced patient mortality and complications. However, nurse role differentiation in the Netherlands has been discussed for decades and in 2017 it still has not been implemented. An announced law amendment and proposed healthcare reform to catalyse the implementation provoked nationwide resistance among nurses and resulted in an abolishment of this law. In the light of these developments a follow-up on earlier research is warranted to further investigate the current state-of-affairs concerning nurse role differentiation.

**Aim:** Gain insight into the reasons and motives of the chosen strategies to further develop and implement nurse role differentiation, according to project leaders responsible for the reform towards nurse role differentiation, in hospitals in the Netherlands.

**Method:** A generic qualitative study including ten semi-structured interviews with thirteen participants was conducted in February and March 2020. Interviews were voice recorded, transcribed, and thematically analysed according to Braun and Clarke.

**Results:** Four themes emerged: A change was seen *from extrinsic reasons to intrinsic motives* to further develop nurse role differentiation. The used strategy is known as *experimenting and developing*. *Leadership and management* played an important role in further developing nurse role differentiation, as well as listening to the *voices of nurses*.

**Conclusion:** The strategy of experimenting and developing seemed suitable for further developing nurse role differentiation wherein the unit manager's role was essential. Through this strategy, nurses were able to raise their voices and influence the development of differentiation.

**Recommendations:** Hospitals should consider the crucial role of the unit manager during the reform. Nurse role differentiation for specialised wards is underexposed. Further research is needed to explore how nurse role differentiation can improve nursing care on these wards.

**Keywords** Nursing, differentiation, hospitals, motives, strategy

## **Nederlandse samenvatting**

Een kwalitatief onderzoek naar functiedifferentiatie in Nederlandse ziekenhuizen: een uitnodiging om te experimenteren

**Achtergrond:** Functiedifferentiatie is geassocieerd met lagere sterftecijfers en complicaties. Echter functiedifferentiatie is in Nederland al decennia een heet hangijzer en onderwerp van discussie en was in 2017 nog steeds niet geïmplementeerd. De aangekondigde wetswijziging die dit zou regelen en de bijbehorende overgangsregeling veroorzaakte grote beroering onder de verpleegkundigen en resulteerde uiteindelijk in de afschaffing van de wettelijke verankering van functiedifferentiatie. In het licht van deze ontwikkelingen is vervolgonderzoek nodig naar de huidige stand van zaken rondom functiedifferentiatie.

**Doel:** Inzicht krijgen in de redenen en motivaties van de gekozen strategieën om functiedifferentiatie verder vorm te geven, volgens de projectleiders die verantwoordelijk zijn voor de hervorming naar functiedifferentiatie in Nederlandse ziekenhuizen.

**Methode:** Een kwalitatief onderzoek waarbij tien semi gestructureerde interviews werden gehouden in februari en maart 2020 in tien ziekenhuizen. Interviews werden opgenomen, getranscribeerd en thematisch geanalyseerd.

**Resultaten:** Er kwamen vier thema's naar voren: Een verschuiving *van extrinsieke redenen naar intrinsieke motivatie* om door te gaan met de ontwikkeling van functiedifferentiatie. Dit deden ziekenhuizen door te *experimenteren en ontwikkelen*. Bij de ontwikkeling van functiedifferentiatie bleken *Leiderschap en management* belangrijke elementen te zijn, evenals het luisteren naar *de stemmen van verpleegkundigen*.

**Conclusie:** De strategie van experimenteren en ontwikkelen bleek passend om functiedifferentiatie verder te ontwikkelen waarbij de unitmanager een essentiële rol had. Verpleegkundigen kregen door deze strategie een stem bij de ontwikkeling van functiedifferentiatie en konden invloed uitoefenen op de wijze waarop functiedifferentiatie vorm krijgt op de afdeling en in het ziekenhuis.

**Aanbevelingen:** Ziekenhuizen moeten aandacht hebben voor de cruciale rol die unitmanagers hebben bij de hervorming. Functiedifferentiatie op gespecialiseerde afdelingen is nog onderbelicht. Er is verder onderzoek nodig naar de toegevoegde waarde van functiedifferentiatie op deze afdelingen.

**Keywords** Verpleegkundigen, functiedifferentiatie, ziekenhuizen, motieven, strategie

## Introduction

The complexity of the healthcare system is rapidly increasing because of demographic changes, rising multimorbidity, and increasing healthcare costs<sup>1-4</sup>. Moreover, healthcare organisations are confronted with a shortage of nursing staff, job dissatisfaction and burn out among nurses<sup>5</sup>. In order to deal with these challenges, hospitals must adapt their nursing care organization models (NCOM's) to further improve nursing work environments, offer challenging careers and various differentiated nurse roles, leading to offering high-quality patient care<sup>6-8</sup>.

Dubois et al. identified four NCOM's; a basic professional model; an innovative professional model; a basic functional model and an adaptive functional model<sup>7</sup>. The two professional models catalyses professionalization through stipulating the importance of investing in development of higher educated nurses. The functional models are more bound by labour-marked restrictions and a focus on working with nurse assistants<sup>7</sup>. The innovative professional NCOM's include a nursing staff mix where a differentiation in nurse roles is defined. This implies a greater number of bachelor nurses, which is associated with lower hospital related infection rates, less falls, and a decrease of pressure ulcers<sup>9-14</sup>.

According to previous research, Dutch NCOM's in hospitals are characterized as a more basic, functional model, in which nurse role differentiation in clinical practice between bachelor educated nurse (BN) and vocationally educated nurses (VN) is absent<sup>3</sup>. In order to improve the quality of care, reform in the nursing care organization is recommended<sup>9,15</sup>. Such reform should include sufficient number of nurses, supporting learning climate, and a high level of capacity for innovation and nurse role differentiation<sup>6,7,9,14</sup>.

The issue of nurse role differentiation has been discussed for decennia, likewise in the Netherlands as in other countries e.g. the United States of America<sup>16</sup>. The first professional profile for nurses in the Netherlands, developed in 1988, consisted of two levels of nursing expertise; the bachelor level and the vocational level. The vocational level included the diploma nurses (DN) and DN with a registered specialisation<sup>17</sup>. The professional profile described the professionalization and responsibility of nurses that were similar to the professional NCOM's<sup>17</sup>. However, in 2017 formalization of nurse role differentiation was still not implemented due to a long-lasting political and professional power struggle. For this reason, the Ministry of Health Welfare and Sports (HWS) announced a law amendment of the Individual Healthcare Professional act (IHP act) that would ensure nurse role differentiation<sup>18</sup>. In anticipation to the new IHP act, some hospitals experimented with various models.

In June 2019, the ministry of HWS presented the law amendment of the IHP act and the corresponding transitional arrangement for nurses regarding various educational levels<sup>18</sup>. This caused great resistance and disappointment among mainly a large group of older vocationally DN, because they felt their seniority and experienced skillset were not recognized<sup>19</sup>. This led to a political crisis and the abolition of the law amendment<sup>20,21</sup>. The discussion and organisation of nurse role differentiation is, once again, the responsibility of hospitals and nurses<sup>22</sup>.

It can be expected that these uncertainties will affect the reform in the various hospitals that were already preparing for this major healthcare reform in the nursing workforce<sup>23</sup>. Moreover, the involved project leaders who thought that the declaration of the new IHP act could have been a breakthrough in the transition towards nurse role differentiation are now, again, in the dark<sup>23</sup>. It is unclear what steps hospitals have taken to transition towards nurse role differentiation and if, or how, the abolition of the law amendment has influenced the implementation of nurse role differentiation in Dutch hospitals. A new assessment is needed to explore the current state of affairs regarding the reasons and motives of the chosen strategies to further develop nurse role differentiation<sup>23</sup>.

## **Aim**

The aim of this study was to gain insight into the reasons and motives of the chosen strategies to further develop nurse role differentiation, according to project leaders responsible for the reform towards nurse role differentiation in Dutch hospitals.

## **Method**

### *Design*

A generic qualitative design approach with semi-structured interviews and thematic analyses was used. This study was conducted and reported according to the Consolidated Criteria for Reporting Qualitative Research checklist (COREQ)<sup>24</sup>.

### *Setting and participants*

A purposeful sampling strategy was conducted with a homogeneous sample as all participants were project leaders involved with nurse role differentiation<sup>25,26</sup>. Maximum variation was pursued by approaching project leaders of general-, teaching-, and academic hospitals<sup>25</sup>. This study is part of the RN2Blend study, which focuses on the effect of nurse role differentiation on patient, personnel and organisational outcomes in the Netherlands. Eighteen project leaders, who were involved in a previous RN2Blend study were approached by email by the first author (AZ). No response was received by four project leaders, two project leaders stated that they did not want to participate in the study due to a reflection period of the project's continuity and two project leaders cancelled their planned interviews due the COVID-19 virus. Participants had to be employed in Dutch hospitals, responsible for, and involved in the decision making process of the reform towards nurse role differentiation and not participated in the research of van Kraaij to elicit new information from participants in other hospitals<sup>23</sup>.

### *Data collection*

Semi-structured face-to-face interviews were conducted in February and March 2020 with nine participants in the hospital the participants worked. One telephone interview was conducted because of COVID-19 restrictions. All participants received an information sheet and signed a consent form. Participants were interviewed once by AZ. A topic list, based on relevant literature, with open-ended questions was used during the interviews (Appendix 1)<sup>15,23</sup>. All interviews were voice recorded after participants permission, and transcribed by AZ. As applicable, field notes were written<sup>26</sup>. Interviews lasted approximately 45 minutes. Data saturation was received and discussed after nine interviews between AZ and PL. Participants received the interview text by email for verification<sup>25,26</sup>.

### *Role of researchers*

The first author (AZ) is a female registered nurse and MSc candidate in Nursing Science. AZ furthermore, is, as a project leader, involved with nurse role differentiation in a general hospital in the Netherlands. There was no other relationship between the participants and AZ other

than the current research. The principle investigator (PL) is senior researcher and trained in Nursing Science and experienced in qualitative research. The researcher from the research group (LA) is a registered BN and MSc candidate in Nursing Science.

### *Data analysis*

Data collection and data analysis was an iterative process whereby data collection and analysis alternated back and forth<sup>26</sup>. Thematic analysis by Braun and Clarke was used (see Appendix II)<sup>27</sup>. Data analysis was conducted in Dutch, using NVIVO 12® software of QSR international®<sup>28</sup>. To ensure the quality of the data collection, the first interview was analysed and discussed with LA. The other interviews were analysed by AZ and uncertainties concerning interpretation were discussed with PL. During phase one the researcher (AZ) was getting familiarized with the data by transcribing each interview short and reading it thoroughly. In phase two initial codes were identified. The entire data set was examined, and all interesting aspects were determined. During phase three the initial identified codes were sorted in potential themes and relationships between codes and themes were thought over. In phase four themes were reviewed. Phase five existed of defining and naming themes. During phase three, four and five the codes, themes and relationships were discussed between AZ and PL. The essence of each theme was defined. The report was produced during phase six by AZ<sup>27</sup>. Translation of the Dutch quotes was conducted by back and forward translation by AZ and LA.

### *Ethical approval*

This study was conducted according to the principles of the Declaration of Helsinki (version 7, 2013)<sup>29</sup>. The Medical Ethics Review Board (METC) of the Radboud University in the Netherlands obtained a waiver of consent since the study had no effect on participants' wellbeing. File number: 2019-5992.

## Results

A total of ten interviews with thirteen participants from ten hospitals in the Netherlands were conducted, three participants preferred being interviewed in pairs. Twelve participants were female, five were employed in teaching hospitals and five in general hospitals. Participants had different positions in their organisation: Project leader, chair Nursing Advisory Board, policy officer, manager educational department, advisor educational department, advisor human resources, implementation coach. All participants, except one, had a nursing background. Aliases were used for readability. See Table 1 for characteristics of hospitals and participants.

The data analysis resulted in four distinct themes with several subthemes emerging from our empirical data: 1) from extrinsic reasons to intrinsic motives 2) experimenting and developing 3) leadership and management 4) voices of nurses.

### ***From Extrinsic reasons to intrinsic motives***

#### *Feel the urgency to change*

For most hospitals, the announced legislative change and the many developments in patientcare e.g. the demographic and technological changes were reasons to start thinking about nurse role differentiation in the first place.

*It was a very nice catalyst that the law was coming. Because you had to talk to each other, you had to start thinking about it.-Sarah*

As Sarah explained, this extrinsic reason created urgency. Nurse role differentiation was a highly contested and continuing dilemma in the Netherlands for a long time. The announced legislative change supported hospitals' justification to start nurse role differentiation.

#### *Vision*

After the abolishment of the law amendment the urgency of the legislative change was no longer in place, leading to various reactions as shown in the next fragment.

*What we said straight away, is the fact that the law amendment was cancelled, has no influence on our thoughts regarding nurse role differentiation.-Britt*

Britt referred to a discussion with the council of the hospital after the abrogation of the law. Hospitals no longer could use the legislative change as driver for implementation. They had to come with a good explanation to the critical nurses for continuing the reform towards nurse role differentiation. Positive results, e.g. increased focus on quality improvement, collaboration



and respect between the different educated nurses on the wards that first started nurse role differentiation, were the intrinsic motives to continue. As Jamie expressed:

*This pilot ward is really enthusiastic, and we have seen satisfying results there. They are doing really well. That's so nice to see, that they get positive energy and go for it. - Jamie*

Few hospitals started the reform towards differentiation at the same time as developing a vision on nurse role differentiation. On one hand the two projects positively influenced one another. On the other hand, participants mentioned the missing guidance of a vision during the project. In the end, all hospitals decided to further develop nurse role differentiation.

### ***Experimenting and developing***

#### *Learning and developing by doing*

Although hospitals formed action plans, they were still exploring how to implement nurse role differentiation. It became clear that it was not “just” an implementation of a new system. Moreover, hospitals acknowledged it was a process of change and reform, as illustrated by June:

*Our starting point was that the implementation of nursing role differentiation is a change process, where all wards must go through a development phase to experience what the implementation of nurse role differentiation means and how it works side by side. - June*

This called for a development plan for all nurses, besides the action and education plan. Part of most development plans was the use of the so called core teams at the wards.

*We started a core team in which there was a representation of the entire department. So VN, BN and DN, short and long working experiences, quite a broad group. And we actually developed from there. - Jamie*

Within the core teams, nurses experimented with tasks and responsibilities for the different educated nurses. This way nurses were able to experience and influence the way nurse role differentiation was formed in that ward. Frequently, the core teams were advised by a mentor from human resources or the education department.

#### *Patient outcomes and complexity*

In some hospitals core teams experimented with differentiation in complexity of patient care, whereby the complex care was delivered by the BN nurse and the less complex and more

predictable care by the VN. Participants noticed this was a difficult process as was stated by Kelly:

*A patient's complexity can change during the shift and you actually want everyone to be able to continue to provide care, otherwise you would have to change nurses during your shift, you don't want that in terms of organization, but neither for your patient.-Kelly*

In the end most hospitals decided not to distinguish in complex care. The differentiation took place at another level, e.g. the use of evidence-based practice, quality improvement work and the more process and project-based approach of the BN nurses.

Hospitals were convinced of the influence of nurse role differentiation on the quality of patient care. However, they experienced difficulties in demonstrating the effect of the differentiation on patient outcomes. Kelly explained:

*How do we now make clear what the effect of differentiation really is? You can hardly do that because, of course, more changes are taking place, we are busy with more things. When you see a change, the question is to what extent that relates to nurse role differentiation.-Kelly*

One of the reasons hospitals tried to demonstrate an effect on patient outcomes, was the discussion in the Netherlands concerning nurse role differentiation. The emotions ran high during that discussion and hospitals wanted to be able to substantiate nurse role differentiation by showing the effect. Likewise, emotions played a role in specialist wards as expressed by Doris:

*We have now focused solely on the general nursing wards. I do think that is indeed the choice, we haven't crossed that bridge yet. Specialised wards are really very different and more complex.-Doris*

Nurses in the specialised wards are, in many cases, DN and VN with a specialisation. The discussion regarding nurse role differentiation among these nurses was edgy sometimes. This was one of the reasons hospitals were reservedly to kick off with these wards. Participants mentioned the need to explore in what way nurse role differentiation can contribute in the specialised wards.

## **Leadership and management**

### *Management*

According to most participants the role of the unit manager was crucial. As Lizz illustrates:

*What is striking is the essential role of the unit manager. A unit manager that is not as visionary when it comes to role differentiation, or who doesn't support it, or on the other hand, a manager that is extremely coaching and facilitating, that makes such a difference.-Lizz*

A manager with a clear vision, ambition and the ability to empower nurses was considered to be an important factor of success during the implementation. In contrast, a participant mentioned a ward where the manager was not supportive, missed out a vision and where the project was ended prematurely.

Another important issue, in addition to the role of the unit manager, is the work environment.

*We have decided to quit because there was no longer a safe environment in which you can do an experiment, where you are allowed to make mistakes. That is explicitly the intention of a pilot ward, to have the opportunity to take a step back.-Sarah*

### *Leadership*

The role of the unit manager was reflected in the working environment at the wards. Nurses' ability to develop was the result of a safe culture of change at a ward. As Sarah mentioned:

*I think it's also a team which has shown progress in its development. They have implemented a different nursing model, they have positioned those seniors very well, very strongly. So there really is a better culture of change and more willingness to change, too.-Sarah*

Participants named different experiences of nurses showing leadership. It occurred that in one hospital in a ward nurses demonstrated outstanding leadership skills, took advantage of the opportunities and showed tremendous growth, compared to a different ward in the same hospital, where nurses were unable to take the opportunity to be in charge.

The nursing education programs developed by all hospitals, along with the development program were supportive according to the participants.

*The KIPZ compensation made it possible to invest in time and education. I've seen nurses bloom by the given opportunities. Not only the young nurses, even the nurses with a long work experience in this hospital, who finally felt recognized and able to show leadership.-Britt*

The personnel development grant (KIPZ), issued by the ministry of HWS, mainly was the reason hospitals were able to afford those programs.

## **Voices of nurses**

The importance of the involvement of the nurses was brought up during all interviews. Fay stated:

*The crucial factor is connecting with the nurses. Willingness to learn by the nurses-Fay*

The aim of the core teams was to connect with the nurses, to create support, as well as to promote and support nurses' leadership.

*Within the hospital, this is really something we like to develop bottom-up. I notice that it brings very nice things and that nurses really get the feeling that they can show leadership and that it is up to them.-Lizz*

The findings of the core teams were shared within the team of nurses and they could give feedback on the findings. This ensured the nurses involvement and influenced the reform by nurses.

During and after the summer of 2019, hospitals struggled with how to deal with rebellion among nurses regarding the IHP act and transitional arrangement. During, sometimes intense, meetings nurses could express their feelings and ask their questions. Most participants mentioned it as a tough period.

*I really experienced that as a very tough period. I was employed here in April, and during that summer my head was on a chopping block. So, yes, everybody: unit manager, teams, individually nurses. During meetings 20 nurses looked at me and one looked even more angry than the other so that was tough. Yet, no matter how hard it sometimes felt, every time I left, I noticed "Okay, the door has opened slightly again." Instead of being completely closed.-Lizz*

## Discussion

Results of this study provide insight in the reasons and motives for the chosen strategies to the further development of nurse role differentiation. Furthermore, it presents insight into the current situation regarding nurse role differentiation after the abolishment of the law amendment. The results consist of four distinct themes: 1) from extrinsic reasons to intrinsic motives, 2) experimenting and developing, 3) leadership and management, 4) voices of nurses.

First, the findings in this study confirm the findings in two previous studies that it was mainly the extrinsic reasons that moved hospitals to start with nurse role differentiation<sup>15,23</sup>. However, after the abolishment of the law, all participating hospitals in this study decided to continue the reform, based on the vision of providing nursing care and the experiences at the wards that had already started. It implies that during the reform, hospitals gained insight and became more aware of the added value.

Second, the strategy of experimenting and developing emerged from the recognition that nurse role differentiation was a process of change and reform. Hospitals and wards experienced how the reform should take shape by experimenting for example, with several forms of differentiation. The process of continuing experimenting as a strategy is discussed by Nicolini et al.<sup>30</sup>. They argue that this strategy of experimenting can contribute to the developing of a uniquely process based organizational framework as open ended, which takes into consideration new forms of organizations, as NCOM's, and freedom of choice. Another study endorsed these findings. Moreover, they concluded that sharing the experiences can contribute to an understanding of the change<sup>31</sup>. Therefore, the reform towards nurse role differentiation can be considered as an invitation to experimentation.

Third, the supportive and coaching leadership style which was described by the participants can be characterized as a relational leadership style<sup>32</sup>. Previous research supports the link between relationship-focused leadership styles and better outcomes for nurses in relation to their work environments, their perception and achievement in their workplace, and their personal health and well-being<sup>32</sup>. Thereby, a relational leadership style is associated with an increased nurses' job satisfaction and decreased frequency of adverse patient outcomes<sup>32,33</sup>.

Fourth, the engagement of nurses as described in the theme voices of nurses, led to influence of nurses on the changes, and gave them the opportunity to adapt the changes to the context of the ward. Earlier research identified principles e.g. promote staff engagement, collaborative relationships, and learn from change, which in interaction with contextual elements such as pre-existing values and beliefs, contributes to sustainability of change<sup>34</sup>.

### *Strengths and Limitations*

Some limitations must be noted. The maximum variation that was aimed for, may have been influenced since no academic hospitals were included in the study<sup>26</sup>. Another limitation was that one telephone interview was conducted in contrast to nine face-to-face interviews. However, research showed there is no difference in quality between both interview forms<sup>35</sup>. Three interviews were with two participants. The experience was that the interaction between the two participants added valuable information. Literature to focus groups confirm this benefit<sup>26</sup>. A risk of interviewer bias could occur as AZ is a project leader who is involved with nurse role differentiation. The transcription of the first interview was read by PL and LA to prevent this interviewer bias. Nevertheless, the strength of this study was that participants spoke easily when they knew that the interviewer was a project leader of nurse role differentiation, and can be described as a relationship of equality, which we attempted to achieve during interviewing<sup>26</sup>. Another strength was the data saturation that was received after nine interviews.

### *Implications for clinical practice*

Findings of this study contribute to the knowledge regarding the reasons and motives of the used strategies to further develop nurse role differentiation and the current status after the abrogation of the law. The results of this study can be useful for hospitals which are in a reflection period or starting nurse role differentiation.

### *Conclusion*

The intrinsic motivations that inspired hospitals to further develop nurse role differentiation, derived mainly from the positive experiences of wards that had already started differentiation. The strategy of experimenting and developing can be considered a fitting strategy whereby leadership and management played an important role in the success or failure of the reform. Hospitals acknowledged the value of the voices of the nurses by involving nurses in the reform at the wards and listening to the nurses who expressed their feelings regarding nurse role differentiation.

### *Recommendations*

Hospitals should consider the important role of the unit manager in further developing nurse role differentiation. Nurse role differentiation in specialist wards like ICU is an underexposed topic. Further research is needed to explore what the added value of nurse role differentiation can be on those wards.

## Reference list

1. Chau JPC, Lo SHS, Choi KC, Chan ELS, McHugh MD, Tong DWK, et al. A longitudinal examination of the association between nurse staffing levels, the practice environment and nurse-sensitive patient outcomes in hospitals. *BMC Health Serv Res*. 2015 Dec 4;15(1).
2. Aiken LH, Sermeus W, Van Den Heede K, Sloane DM, Busse R, McKee M, et al. Patient safety, satisfaction, and quality of hospital care: Cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ*. 2012 Apr 7;344(7851).
3. Oostveen C van, E. Mathijssen, Vermeulen H. Nurse staffing issues are just the tip of the iceberg: A qualitative study about nurses' perceptions of nurse staffing. *Int J Nurs Stud* [Internet]. 2015 Aug 1 [cited 2019 Oct 2];52(8):1300–9. Available from: <https://www-sciencedirect-com.proxy.library.uu.nl/science/article/pii/S0020748915001030>
4. Rumbold BE, Smith JA, Hurst J, Charlesworth A, Clarke A. Improving productive efficiency in hospitals: Findings from a review of the international evidence. Vol. 10, *Health Economics, Policy and Law*. Cambridge University Press; 2015. p. 21–43.
5. Aiken L, Clarke S, Sloane D, Sochalski J, Silber J. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *J Am Med Assoc*. 2002 Oct 23;288(16):1987–93.
6. Oostveen CJ. Modeling and managing the patients' need for clinical care [Internet]. University of Amsterdam [Internet]. 2017 [cited 2019 Oct 17]. Available from: [https://www.proefschriftenverpleegkunde.nl/wp-content/uploads/gravity\\_forms/6-e9dc63308c2d8e347e8c9e1a28bb67ce/2015/12/Modeling-managing-the-patients.pdf?TB\\_iframe=true](https://www.proefschriftenverpleegkunde.nl/wp-content/uploads/gravity_forms/6-e9dc63308c2d8e347e8c9e1a28bb67ce/2015/12/Modeling-managing-the-patients.pdf?TB_iframe=true)
7. Dubois C-A, D'Amour D, Tchouaket E, Rivard M, Clarke S, Blais R. A taxonomy of nursing care organization models in hospitals. *BMC Health Serv Res* [Internet]. 2012 Dec 28 [cited 2019 Sep 27];12(1):286. Available from: <https://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-12-286>
8. NPSF. Through The eyes of The Workforce creating Joy, Meaning, and safer health care Lucian Leape Institute report of the roundtable on Joy and Meaning in Work and Workforce safety [Internet]. 2013. Available from: [www.npsf.org](http://www.npsf.org).

9. Dubois C-A, D'amour D, Tchouaket E, Clarke S, Rivard M, Blais R. Associations of patient safety outcomes with models of nursing care organization at unit level in hospitals. *Int J Qual Heal Care* [Internet]. 2013 Apr 1 [cited 2019 Sep 27];25(2):110–7. Available from: <https://academic.oup.com/intqhc/article-lookup/doi/10.1093/intqhc/mzt019>
10. Aiken L et al. Nurse staffing and education and hospital mortality in nine European countries: a retrospective observational study. *Lancet* [Internet]. 2014 May 24 [cited 2019 Oct 2];383(9931):1824–30. Available from: <https://www.sciencedirect.com.proxy.library.uu.nl/science/article/pii/S0140673613626318>
11. Robert L. Kane, MD,\* Tatyana A. Shamliyan, MD, MS,\* Christine Mueller, PhD, RN f, Sue Duval, PhD\* and Timothy J. Wilt, MD M. The Association of Registered Nurse Staffing Levels and Patient Outcomes. *Med Care*, Vol 45, No 12 (Dec, 2007), pp 1195-1204 [Internet]. 2007 [cited 2019 Sep 30];Vol. 45(12):1195–204. Available from: <https://www-jstor-org.proxy.library.uu.nl/stable/pdf/40221602.pdf?refreqid=excelsior%3A20c40aa7e4ba744951e3593cb80977da>
12. Aiken LH, Sloane D, Griffiths P, Rafferty AM, Bruyneel L, McHugh M, et al. Nursing skill mix in European hospitals: Cross-sectional study of the association with mortality, patient ratings, and quality of care. *BMJ Qual Saf*. 2017;26(7):559–68.
13. Griffiths P, Ball J, Drennan J, Dall'Ora C, Jones J, Maruotti A, et al. Nurse staffing and patient outcomes: Strengths and limitations of the evidence to inform policy and practice. A review and discussion paper based on evidence reviewed for the National Institute for Health and Care Excellence Safe Staffing guideline develo. *Int J Nurs Stud* [Internet]. 2016 Nov 1 [cited 2019 Oct 2];63:213–25. Available from: <https://www.sciencedirect.com/science/article/pii/S0020748916300049#bib0415>
14. Haegdorens F, Van Bogaert P, De Meester K, Monsieurs KG. The impact of nurse staffing levels and nurse's education on patient mortality in medical and surgical wards: an observational multicentre study. *BMC Health Serv Res* [Internet]. 2019 Dec 21 [cited 2019 Nov 23];19(1):864. Available from: <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-019-4688-7>
15. Oostveen, Verhoeven, Schouten V. Transforming nursing care to achieve high quality patient outcomes. 2017.
16. Matthias AD. *Journal of Nursing Education and Practice* [Internet]. Making the case for differentiation of registered nurse practice: Historical perspectives meet contemporary A.H. van der Zwan| Nurse role differentiation| Final thesis | 17-06-2020



- efforts. Vol. 5, Journal of Nursing Education and Practice. Sciedu Press; 2011 [cited 2019 Oct 2]. 108 p. DOI: 10.5430/jnep.v5n4p108
17. Canon van de Verpleegkunde – 1988 – Beroepsprofiel verpleegkundige [Internet]. [cited 2019 Nov 27]. Available from: <https://www.canonverpleegkunde.nl/canon/beroepsprofiel-verpleegkundige-1988/>
  18. Nursing. Minister stelt overgangsregeling verpleegkundigen vast - Nursing [Internet]. 05-06. 2019 [cited 2019 Oct 21]. Available from: <https://www.nursing.nl/minister-stelt-overgangsregeling-verpleegkundigen-vast-niet-alle-hboers-automatisch-regieverpleegkundige/>
  19. Nursing. Wet Big II: het gaat los op Twitter - Nursing [Internet]. 17 -06. 2019 [cited 2019 Oct 21]. Available from: <https://www.nursing.nl/wet-big-ii-het-gaat-los-op-twitter/>
  20. Tijdelijk functiedifferentiatie: waar komen we vandaan (en waar gaan we heen)? - Nursing [Internet]. [cited 2019 Nov 27]. Available from: <https://www.nursing.nl/magazine-artikelen/functiedifferentiatie-hoe-is-het-zo-vergekomen/>
  21. NU91 [Internet]. Nu '91. 2019 [cited 2019 Nov 1]. Available from: [https://www.nu91-leden.nl/news/NU'91\\_spreekt\\_verkenner\\_BIG-2&id=1973](https://www.nu91-leden.nl/news/NU'91_spreekt_verkenner_BIG-2&id=1973)
  22. Nursing. Rinnooy Kan: onvrede verpleegkundigen gaat verder dan BIG II - Nursing [Internet]. 09-10. 2019 [cited 2019 Oct 21]. Available from: <https://www.nursing.nl/rinnooy-kan-onvrede-verpleegkundigen-gaat-verder-dan-big-ii/>
  23. Kraaij J. THE TRANSFORMATION OF THE NURSING CARE The transformation of the nursing care model Implementation of skill level differentiation in Dutch hospitals. 2019;
  24. Tong A, Sainsbury P CJ. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups | The EQUATOR Network [Internet]. International Journal for Quality in Health Care, Volume 19, Issue 6, December 2007, Pages 349–357. 2007 [cited 2019 Oct 13]. p. 19(6):349-357. Available from: <http://www.equator-network.org/reporting-guidelines/coreq/>
  25. Creswell J, Poth C. Qualitative Inquiry and Research Design: Choosing Among Five Approaches. Vol. 16, Health Promotion Practice. 2015. 473–475 p.
  26. Holloway I, Galvin K. Qualitative Research of Nursing and Healthcare. 2017. 311–313 p.

27. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006;3(2):77–101.
28. Nvivo-qualitative-data-analysis-software, Qsr internationa [Internet]. Available from: <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/about/nvivo>
29. Kong H, West S, States U. THE WORLD MEDICAL ASSOCIATION, INC. DECLARATION OF HELSINKI Ethical Principles for Medical Research Involving Human Subjects. 2008.
30. Langley, Ann & Lindberg, Kajsa & Mørk, Bjørn & Nicolini, Davide & Raviola, Elena & Walter, Lars. (2019). Boundary Work among Groups, Occupations and Organizations: From Cartography to Process. *Academy of Management Annals.* 10.5465/annals.2017.0089.
31. Willis CD, Saul J, Bevan H, Scheirer MA, Best A, Greenhalgh T, et al. Sustaining organizational culture change in health systems. Vol. 30, *Journal of Health, Organisation and Management.* Emerald Group Publishing Ltd.; 2016. p. 2–30.
32. Cummings GG, Tate K, Lee S, Wong CA, Paananen T, Micaroni SPM, et al. Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. *Int J Nurs Stud* [Internet]. 2018 [cited 2020 May 11];85:19–60. Available from: <https://doi.org/10.1016/j.ijnurstu.2018.04.016>
33. Boamah SA, Spence Laschinger HK, Wong C, Clarke S. Effect of transformational leadership on job satisfaction and patient safety outcomes. *Nurs Outlook.* 2018;66(2):180-189. doi:10.1016/j.outlook.2017.10.004
34. Kutney-Lee A, Stimpfel AW, Sloane DM, Cimiotti JP, Quinn LW, Aiken LH. Changes in patient and nurse outcomes associated with magnet hospital recognition. *Med Care.* 2015 May 26;53(6):550–7.
35. Da Silva GF, Tereza M, Morano A, Penha M, Sales U, Olegário NB, et al. Comparison of face-to-face interview and telephone interview administration of COPD assessment test: a randomized study. [cited 2020 May 12]; Available from: [www.catestonline.org](http://www.catestonline.org).

## Tables

*Table 1 Characteristics of the hospitals and participants*

Categories	Range	n	%
<b>Hospital Characteristics</b>			
Type of hospital			
	Teaching	5	50
	General	5	50
<b>Participant characteristics</b>			
Gender	Male	1	7.7
	Female	12	92.3
Age (years)	25 to 35	3	23.1
	35 to 45	2	15.4
	45 to 55	3	23.1
	>55	5	38.5
Education level	Bachelor	5	38.5
	Master	8	61.5
Nursing background	Yes	12	92.3
	No	1	7.7
Function	Project leader	6	46.2
	Chair nursing advisory board	1	7.7
	Policy officer	1	7.7
	Manager educational department	1	7.7
	Advisor educational department	2	15.4
	Advisor human resources	1	7.7
	Implementation coach	1	7.7

## Appendix I

### Topic list

Thank you for accepting my invitation for an interview. My name is Anoesjka van der Zwan. The aim of this study is to gain inside into the reasons and motives of the approaches taken to pursue nurse role differentiation. Before we start I would like to check a few baseline characteristics.

Gender, age, educational level, nursing background and position.

#### Questions and Topics

##### Main question

Which activities have already been performed in order to start/support the program of nurse role differentiation?

*Organisational structures and characteristics, communication, nurse staffing, role differentiation, available resources, strategy, evidence based management, phase of implementation, pilot phase*

##### Vision

Can you explain the vision behind the nurse role differentiation in your hospital?

*Nursing care organizational model, key values, knowledge, patient outcomes, multidisciplinary collaboration, autonomy, work environment, innovation, motivation, current situation, culture.*

What do you hope the outcome of nurse role differentiation will be?

*Key values, knowledge, multidisciplinary collaboration, autonomy, work environment, nurse care organizational model, innovation, motivation, job satisfaction, absenteeism, burn out, quality of care, patient outcomes, impact on nursing practice, learning climate.*

##### Skills/resources

Which skill, knowledge and resources were required to achieve nurse role differentiation?

*Hospital culture (educational, collaborative, innovative), barriers and facilitators, learning climate, implementation levels, feasibility, control, recommendations, organisational levels, organisational representatives, finance, work environment*

##### Action plan

How is nurse role differentiation implemented in your hospital? What went well, what could have been improved?

*Strategy, communication, reality vs expectations, changes, perspectives, reporting, organisational representatives, pilot*

What is the meaning of the abolishment of the law amendment in this hospital?

*Impact on nursing care practice, hospital culture, organization, collaboration, autonomy, resistance*

##### Final question

Did we forget to ask anything important?

## Appendix II

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

*Figure 1, Six step approach according to Braun and Clarke*