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Neutral to positive views on the consequences of nurse prescribing: Results of a national survey among registered nurses, nurse specialists and physicians.

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ABSTRACT

Background: Over the last two decades, the number of countries where nurses are legally permitted to prescribe medication has grown considerably. A lack of peer support and/or objections by physicians can act as factors hampering nurse prescribing. Earlier research suggests that physicians are generally less supportive and more concerned about nurse prescribing than nurses are. However, direct comparisons between doctors' and nurses' views are scarce and are often based on small sample sizes.

Objectives: To gain insight into the views of Dutch registered nurses (RNs), nurse specialists (with a master's in Advanced Nursing Practice) and physicians on the consequences of nurse prescribing.

Design: Survey study.

Participants: Survey questionnaires were sent to national samples of RNs, nurse specialists and physicians.

Methods: The questionnaire addressed, among others, respondents' general views on the consequences of nurse prescribing for the quality of care, the nursing and medical professions, and the relationship between the medical and nursing professions.

Results: The net response rate was 66.0% for RNs (n = 617), 28.3% for nurse specialists (n = 375) and 33.7% for physicians (n = 265). It was found that all

groups agreed that nurse prescribing benefits nurses' daily practice and the nursing profession. There were few concerns about negative consequences for physicians' practice and the medical profession. Nurse specialists gave significantly ($P < 0.05$) more positive scores on most items than RNs and physicians. We found relatively little difference in views between RNs and physicians. It was only on issues surrounding the quality of care and patient safety that doctors showed more concerns, albeit mild, than RNs and nurse specialists.

Conclusions: RNs, nurse specialists and physicians generally hold neutral to moderately positive views on nurse prescribing. This is beneficial for the implementation and potential success of nurse prescribing in practice, as a lack of peer support and/or objections from physicians can be a hampering factor. However, concerns about the consequences of nurse prescribing for the quality of care and patient safety remain a point for attention, especially among physicians.

WHAT IS ALREADY KNOWN ABOUT THE TOPIC?

- Over the last two decades, the number of countries in which nurses are legally permitted to prescribe medication has grown considerably.
- A lack of peer support and/or objections from physicians or other health care staff is a factor that hampers nurse prescribing. Research suggests that physicians are generally less supportive and more concerned about nurse prescribing than nurses are.
- Most studies of the views on nurse prescribing were conducted in the UK, had relatively small sample sizes and often did not directly compare nurses' and doctors' views.

WHAT THIS PAPER ADDS

- Our large-scale study among registered nurses, nurse specialists (with a master's in Advanced Nursing Practice) and physicians in the Netherlands found that RNs, nurse specialists and physicians generally held neutral to moderately positive views on nurse prescribing. This is beneficial for the implementation and potential success of nurse prescribing in practice.
- Nurse specialists were more positive about the consequences of nurse prescribing than RNs and physicians. Contrary to what might be expected, physicians and RNs held fairly similar views, especially concerning the consequences of nurse prescribing for their respective professions and the relationship between the two professions.
- Physicians' main concerns were related to the consequences of nurse prescribing for the quality of care and patient safety, issues about which RNs and nurse specialists had fewer concerns.

1. INTRODUCTION

1.1. Background

In the current climate of cost containment in health care, governments increasingly see the shifting of tasks from physicians to nurses as a suitable policy response. At the same time, the nursing profession is attempting to increase its professional status, using several strategies for occupational advancement (Gerrish et al., 2003). These developments have resulted in nurses taking up new positions – such as the role of the clinical nurse specialist in the UK (Courtenay and Carey, 2009) and the nurse specialist in the Netherlands (Van der Peet, 2010b; Van Meersbergen, 2011) – and new tasks, one of which is the prescription of medicines. Over the last two decades, the number of countries in which nurses are legally permitted to prescribe medication has grown considerably (Aarts and Koppel, 2009; Ball, 2009; Drennan et al., 2009; Kroezen et al., 2011, 2012a).

Internationally, much is expected of nurse prescribing and the related task substitution. In the UK, it has been claimed that many of the quality targets set by the Department of Health for the primary care setting will rely on nurses taking on new roles (Nolan and Bradley, 2007) and in the Netherlands, nurse prescribing is expected to contribute to efficient and effective patient care and to improve the quality and continuity of care (Ministry of Health, 2011; Dutch House of Representatives, 2011). One of the greatest obstacles to achieving these goals, however, and to task substitution and changes in skill mix in general, are the traditional roles occupied by health care professionals (Bradley and Nolan, 2007; Council for Public Health and Care, 2002). Because prescribing has traditionally been the sole domain of the medical profession (Buckley et al., 2006; Fisher, 2010; Goundrey-Smith, 2008), the expansion of prescriptive authority to include nurses touches on issues of professional boundaries.

Sociological research has shown that traditional roles and professional boundaries are highly important for professional groups, as these help define their professional identity and secure power (Allen, 1996; Bechky, 2003). So when professions take on new roles or when tasks are redistributed, professional boundaries are subject to renegotiation and professions compete with each other for jurisdiction over tasks (Abbott, 1988). This became visible in several countries around the time when nurse prescribing was introduced. Medical associations in Australia, Spain, Sweden and the USA, for example, strongly opposed the introduction of nurse prescribing (Ball, 2009; Jones, 1999; McCann and Baker, 2002; Nilsson, 1994; Plonczynski et al., 2003). Moreover, many incidents between nurses and doctors on the work floor involve professional boundaries (Walby et al., 1994). Nolan and Bradley (2007) showed that the support of other healthcare professionals is crucial to the success of nurse prescribing, and a lack of peer support and/or objections by physicians or other health care staff can hamper nurse prescribing (Courtenay and Carey, 2009). Given the important role played by prescribing and non-prescribing nurses and physicians in

supporting or impeding the development of nurse prescribing, it is important to consider their views on the subject so that potential obstacles can be addressed.

A considerable amount of research has been conducted into the views and attitudes of nurses and physicians towards nurse prescribing. These studies showed positive views among nurses and physicians on nurse prescribing, for example with regard to improvements in the efficiency and coordination of patient care (Courtenay and Carey, 2009; Stenner and Courtenay, 2008) and an increase in nurses' autonomy (Patel et al., 2009; Rodden, 2001). Less supportive attitudes, however, were also reported. A lack of support or even resistance from physicians to nurse prescribing was repeatedly mentioned (Courtenay and Carey, 2009; Patel et al., 2009; Rana et al., 2009), as were concerns about job roles (Earle et al., 2011b) and nurses' lack of confidence in their own competency to prescribe or in the adequacy of the training they received (Gumber et al., 2012; Lockwood and Fealy, 2008; Nolan et al., 2001).

The majority of these studies focused exclusively on either the views of prescribing and/or non-prescribing nurses (Lockwood and Fealy, 2008; Nolan et al., 2001; Nolan and Bradley, 2007; Rodden, 2001; Stenner and Courtenay, 2008; While and Biggs, 2004) or the views of physicians (Rana et al., 2009; Wilhelmsson and Foldevi, 2003), thus lacking a comparative design. Only a minority directly compared the views of physicians and nurses (Earle et al., 2011b; Patel et al., 2009). Yet doctors and nurses work closely together and share the task of prescribing medicines (Bradley and Nolan, 2007; Courtenay and Carey, 2009). It is therefore particularly important to know whether their views are aligned or not, especially in the context of the ongoing implementation of nurse prescribing.

The few studies in which physicians' and nurses' views were compared included those by Patel et al. (2009) and Earle et al. (2011b). These authors showed that both professional groups were in favour of nurse prescribing, although medical professionals expressed more concerns than nurses. While both believed that nurse prescribing would increase nurses' autonomy, workload and responsibility, physicians were more likely to believe it would make services more complex and decrease their own autonomy. In our study, we have elaborated on these results by asking medical and nursing professionals about their views on nurse prescribing and its influence on everyday practice. Additionally, we are not only comparing physicians' and nurses' views, but also distinguishing between the views of registered nurses and nurse specialists, as prescriptive authority is regulated by two different articles of law for these two groups in the Netherlands. Dutch nurse specialists have had prescriptive authority since January 2012, whereas registered nurses' prescriptive authority is expected to come into force later this year (see Box 1). Hence, our study incorporates three distinct professional groups, and multiple professional boundaries and jurisdictional negotiations. In line with the above-mentioned studies,

prior to the study we expected nurse specialists and RNs to hold more positive views on nurse prescribing than doctors.
An additional limitation of the studies conducted so far is that many have small sample sizes (Courtenay and Carey, 2009; Earle et al., 2011a,b; Gumber et al., 2012; Stenner and Courtenay, 2008; Stenner et al., 2009; Wilhelmsson and Foldevi, 2003) and do not enable generalizations. Moreover, even though nurse prescribing has been introduced in ten Western countries (Kroezen et al., 2012a), the majority of studies into the views and attitudes towards nurse prescribing were conducted in the UK, with only a few exceptions (Lockwood and Fealy, 2008; Wilhelmsson and Foldevi, 2003). We therefore conducted a large scale survey study and studied the views of RNs, nurse specialists and physicians regarding the consequences of nurse prescribing for the quality of care, for their respective professions, and for the relationship between the nursing and medical professions. After all, the introduction of nurse prescribing touches strongly on the issues of professional roles and boundaries, and the biggest concerns about nurse prescribing relate to issues of the quality of care (Earle et al., 2011b; Patel et al., 2009).

[BOX 1]

1.2. Aim and research questions

The aim of our study was to examine the views of registered nurses, nurse specialists and physicians in the Netherlands with regard to nurse prescribing. The following research questions were addressed: What are the views of registered nurses, nurse specialists and physicians regarding:

a) the consequences of nurse prescribing for the quality of care?
b) the consequences of nurse prescribing for the nursing and medical professions?
c) the consequences of nurse prescribing for the relationship between the medical and nursing professions?

2. METHODS

2.1. Sample

To answer our research questions, we conducted a survey among three existing national samples: the Nursing Staff Panel (De Veer et al., 2013), members of the Nurse Specialists department of the Dutch Nurses' Association ('V&VN Verpleegkundig Specialisten') and members of the Royal Dutch Medical Association Panel ('KNMG LedenPanel').
The Nursing Staff Panel is a national sample that is representative of nursing staff in the largest health care sectors in the Netherlands, i.e. hospitals, psychiatry, care for disabled people, home care, nursing homes and homes for the elderly. Moreover, the age and gender distribution of the panel members corresponds to the age and gender distribution of the Dutch nursing staff population. Members for the Nursing Staff Panel are recruited via the Social Security Agency UWV.

The UWV draws a representative sample of RNs from their policy administration and delivers the digital addresses to the Dutch research agency Panteia for their nursing survey. Participants to the Panteia survey can then indicate whether they are interested to participate in the Nursing Staff Panel as well. If they are interested, they are subsequently invited for the next Nursing Staff Panel survey. However, RNs can also sign up for membership on their own initiative. Participation is entirely voluntary and anonymous. For this study, all Panel members who are RNs (n = 943) were invited to participate in the survey. Dutch RNs are educated at two different levels and comprise nurses educated to associate degree level (3–3.5 years of professional training, equivalent to a UK foundation qualification) and nurses educated to Bachelor's degree level (at least 4 years of professional training). Both levels are represented in the panel. It should be noted that when our study was conducted, none of the participating RNs had legal authority to prescribe medicines yet.

For the sample of nurse specialists, all 1396 members of the Nurse Specialists department of the Dutch Nurses' Association were contacted and asked to participate in this survey. These members comprise 78.5% of all registered nurse specialists in the Netherlands (as at 15 September 2012; personal communication, Verpleegkundig Specialisten Register, 2012) and can be considered nationally representative. In this paper, they will be further referred to as the Nurse Specialists Panel. Participation was entirely voluntary and anonymous. When we conducted our study, all registered nurse specialists (with a master's in Advanced Nursing Practice) in the Netherlands were legally allowed to prescribe medicines.

For the sample of Dutch physicians, the Royal Dutch Medical Association Panel was used. Membership of this Panel is invitational. The Royal Dutch Medical Association makes a representative selection of physicians – taking into account the variables gender, age and specialism – and invites them to participate in the Panel. Participation is entirely voluntary and anonymous. The total Royal Dutch Medical Association Panel consists of about 4000 members and is representative for all 35,687 members (January 2012) of the Royal Dutch Medical Association (KNMG), who make up 48.6% of all physicians in the Netherlands. To keep the burden for members as low as possible, the total Panel is divided into several subpanels (all representative for gender, age and specialism). For this study, one of these representative subpanels, containing 915 members, was used.

2.2. Questionnaires

The survey questionnaires were based on an existing instrument that was developed by De Veer et al. in 2006 to measure, among others, whether nurses felt adequately equipped to prescribe medicines and what their views were on the consequences of nurse prescribing for the quality of care, for the nursing and medical professions, and for the relationship between the medical and nursing professions. The questionnaire was developed based on the literature on nurse

prescribing. To enhance content validity, the original questionnaire was reviewed by experts on nurse prescribing, and adjustments were made on the basis of their feedback (De Veer et al., 2007a,b). For the current study, the questionnaire was reviewed by experts of the Royal Dutch Medical Association and the Dutch Nurses' Association to check whether questions were (still) understandable for RNs, nurse specialists and physicians. No adjustments were made with respect to the original instrument. The questions were designed to be generic in order to cover both prescribing by categories of RNs (who will get limited prescriptive authority) and prescribing by nurse specialists (who can prescribe any medicine within their competence and scope of practice). In order to enable comparison between the three groups of health care professionals surveyed – RNs, nurse specialists and physicians – questions were posed in the same way and had the same answer categories in all three surveys.

The questions addressed, among others, the preconditions for nurse prescribing and respondents' general views on the consequences of nurse prescribing for the quality of care, for the nursing and medical professions and for the relationship between the medical and nursing professions. Because of the focus of this paper, only findings concerning the perceived consequences of nurse prescribing will be reported. Perceived consequences of nurse prescribing for the quality of care were measured with questions relating to complexity of care, quality improvements and patient safety. The perceived consequences of nurse prescribing for the medical and nursing professions were measured with questions about workload, professional autonomy, job diversity, professional status and professional practice. Finally, perceived consequences of nurse prescribing for the relationship between the medical and nursing profession were assessed with questions relating to interprofessional consultation, conflict and professional threat. The questions were predominantly multiple-choice although there were also some open questions. Statements were positively and negatively worded to avoid response set bias. To prevent confusion, any potentially unknown terms were explained briefly in the questionnaire. Copies of the final questionnaires are provided as supplementary material.

2.3. Ethical considerations

The content of the questionnaire raised no substantial ethical issues. Study participation was voluntary and responses were anonymous and non-traceable to individual health care professionals, as was explained to participants in the cover letter that accompanied the questionnaire. Participant consent was assumed upon return of a completed questionnaire. In the Netherlands, the Medical Research Involving Human Subjects Act (Dutch: WMO – Wet medisch-wetenschappelijk onderzoek met mensen) regulates the protection of sick and healthy subjects in medical research. Any medical research that compromises the physical or psychological integrity of a person or persons is subject to the Act. A study that involves the completion of a questionnaire or questionnaires does not in principle fall within the scope of the Act, unless either the frequency with which a subject is asked to complete a questionnaire is sufficient to bring about a temporary change in the

subject's lifestyle or the (psychologically probing) nature of the questions is such that the subject could be regarded as receiving a particular treatment or being asked to behave in a particular way (Central Committee on Research Involving Human Sub jects, 2002). According to the provisions of the Medical Research Involving Human Subjects Act (WMO), our study did not need to undergo a medical ethics review. Personal data were handled confidentially and processed anonymously as required by the rules of the Dutch Data Protection Act (Dutch: Wbp – Wet bescherming persoonsgegevens) and the applicable codes of conduct for scientific researchers.

2.4. Data collection

First copies of the questionnaires, accompanied by a cover letter, were sent to panel members in September 2012. Members of the Nurse Specialists Panel and the Royal Dutch Medical Association Panel were contacted by email and asked to complete the questionnaire online. Non-respondents in these panels were sent up to two reminders at weekly intervals. From previous experience, it was known that the response rate from Nursing Staff Panel members to email questionnaires is generally low. Therefore, we used a mixed-mode survey approach for this panel. Members of the Nursing Staff Panel with a registered were initially contacted by e-mail, but those who failed to respond within one week and those without a registered were subsequently sent a copy of the questionnaire, including a prepaid envelope for reply, by post. Afterwards, non-respondents received up to two reminders by post.

2.5. Data analysis

Descriptive analyses were used to compare the background characteristics of the three groups of professionals, i.e. RNs, nurse specialists and physicians. Their general vision on nurse prescribing was assessed using fourteen items on a five-point Likert scale ranging from (1) ''completely disagree'' to (5) ''completely agree''. These items were divided into three subscales: the consequences of nurse prescribing for the quality of care, the consequences for the nursing and medical professions and consequences for the relationship between the two professions. The mean scores on items were calculated for each group and differences between groups were tested for significance ($P \leq 0.05$) using the one-way ANOVA test for heterogeneity and further analyzed by Sidek post hoc analyses to compare between groups. The data was analyzed using STATA version 12.1 (Statacorp, 2011).

3. Results

3.1. Demographics

3.1.1. Nursing Staff Panel

Of the 943 questionnaires that were sent out, 8 were sent to people who did not belong to the target group, i.e. people who had stopped working in health care (n = 3) and people who exclusively held management positions (n = 5).
677 questionnaires were returned, giving a gross response of 71.6%. Seven duplicate questionnaires were eliminated from further analysis. Respondents who indicated that they were a nurse as well as being either nurse practitioner, nurse specialist or nurse assistant were also excluded from further analyses (n = 17), as was one respondent who indicated that she did not feel capable of answering the questionnaire. Finally, respondents who did not answer our key question concerning their general vision on nurse prescribing were excluded from the analyses (n = 27).

In total, analyses were performed on 617 cases (net response: 66.0%). 84 per cent of the respondents were female, 16 per cent were male. Respondents were on average 47 years old and had 21 years' experience working as a nurse. Most respondents were employed in hospitals (41.2%), in mental health care (20.1%) and home care (18%) (Table 1).

3.1.2. Nurse Specialists Panel

Of the 1396 questionnaires that were e-mailed, 69 were sent to people who did not belong to the target group, i.e. registered nurses (n = 11), nurse practitioners who were not registered as 'nurse specialists' (n = 13) and nurse specialists still in training and/or who had not completed registration (n = 45). 582 questionnaires were returned, giving a gross response of 38.7%. Questionnaires were excluded from further analysis if they only provided demographic background information (n = 44) or had missing answers on date of birth (n = 42). Moreover, duplicate questionnaires were eliminated from further analysis (n = 15). In addition, respondents who did not answer the question concerning their general vision on nurse prescribing were excluded from the analyses (n = 37).
In total, analyses were performed on 375 cases (net response: 28.3%). 79 per cent of the respondents were female, 21 per cent were male. Respondents were on average 46 years old and had 22 years' work experience as a nurse. The majority of nurse specialists worked in the specialist field of intensive care for somatic disorders (55.5%), almost one fifth worked within the field of mental health care (18.9%) and another fifth in chronic care for somatic disorders (17.3%). A minority worked as nurse specialists in acute care for somatic disorders (6.9%). Only a handful of nurse specialists worked in preventive care for somatic disorders (1.3%).

[TABLE 1]

3.1.3. Royal Dutch Medical Association Panel

Of the 915 questionnaires that were sent out, 26 were sent to people who did not belong to the target group, i.e. people who were still in training (n = 23), who were retired (n = 2), who exclusively held advisory positions (n = 1) and who indicated that they never work/cooperate with nurses in their daily practice (n = 102). 393 questionnaires were returned, giving a gross response rate of 33.7%.
In total, analyses were performed on 265 cases (net response: 33.7%). 54 per cent of the respondents were male, 46 per cent were female. Respondents were on average 50 years old and had been registered for 17 years as a specialist or physician specialized in the area of preventive and social medicine. The majority of respondents were medical specialists (37.7%), general practitioners (31.3%) and geriatric specialists (13.6%). Respondents were employed in a variety of institutions. However, most of them worked in hospitals (34.7%), general practices (26.0%), and nursing homes (12.5%). All respondents

worked with (specialized) RNs and/or nurse specialists in their daily practice.

3.2. Views on the consequences of nurse prescribing for the quality of care

Nurse specialists were generally more positive about the consequences of nurse prescribing on the quality of care than RNs and – particularly – physicians. Nevertheless, RNs and physicians still showed neutral or (moderately) positive views in their mean scores (see Table 2).
Nurse specialists were more convinced that nurse prescribing gives quality improvement than physicians and RNs were (Sidak post hoc; $P < 0.001$), and they had fewer concerns about nurse prescribing endangering patient safety (Sidak post hoc; $P < 0.001$). RNs, in turn, held more positive attitudes towards these issues than physicians (Sidak post hoc; $P < 0.001$ and $P < 0.045$ respectively). It was only when considering a possible increase in the complexity of care that physicians perceived (Sidak post hoc; $P < 0.001$) fewer problems than RNs (the mean scores of physicians and nurse specialists did not differ on this item; $P = 0.38$).

3.3. Views on the consequences of nurse prescribing for the nursing and medical professions

[TABLE 2] [TABLE 3]

Nurse specialists were more positive about the consequences that nurse prescribing has for the nursing and medical professions than physicians and RNs. However, even though nurse specialists were the most positive, physicians and RNs also held predominantly positive views towards nurse prescribing and its consequences for their respective professions (see Table 3).

[TABLE 4]

Nurse specialists had more positive scores on all items than physicians and RNs (Sidak post hoc; $P \leq 0.009$), except for the item 'increases nurses' workload' (where there was no significant difference with physicians' mean score). Especially when it comes to the item 'nurse prescribing increases nurses' autonomy', the difference in mean scores between nurse specialists (μ: 4.2) on the one hand and physicians (μ: 3.7) and RNs (μ: 3.6) on the other is particularly high; more than half a point. The same applies to the item 'nurse prescribing makes nurses' professional practice more interesting', for which the differences between nurse specialists (μ: 4.1), physicians (μ: 3.8) and RNs (μ: 3.6) are also considerable.
RNs and physicians were unanimously more reserved about the positive consequences of nurse prescribing for their professions than nurse specialists, even though they were still predominantly positive. Except for the significant differences between the items 'nurse prescribing increases nurses' workload' (physicians: 3.4 ± 0.8 versus nurses 3.7 ± 0.9) and 'nurse prescribing makes nurses' professional practice

more interesting' (physicians: 3.8 ± 0.7 versus nurses: 3.6 ± 0.8), there were no significant differences between physicians and RNs when it came to their views on the consequences of nurse prescribing for the nursing and medical professions.

3.4. Views on the consequences of nurse prescribing for the relationship between the medical and nursing professions

When looking at the consequences of nurse prescribing for the relationship between the medical and nursing professions (Table 4), all three professional groups agreed that nurse prescribing increases the need for consultation between a physician and a nurse. When it came to nurse prescribing and its potential to create conflicts within care teams and its potential to cause physicians to feel threatened, views were less explicit and centred around the score 'neither agree nor disagree'.

The mean scores between physicians and RNs did not differ significantly for any of the items studied. Nurse specialists, however, believed less often that nurse prescribing will lead to conflict within care teams (Sidak post hoc; $P < 0.001$), but believed more often that nurse prescribing may cause physicians to feel threatened, in comparison with physicians and nurses (Sidak post hoc; $P < 0.004$). Moreover, nurse specialists scored significantly higher on the item 'nurse prescribing increases the need for consultation between physician and nurse' than physicians (4.0 ± 0.7 and 4.2 ± 0.7 respectively). There is no significant difference between nurse specialists and RNs on this item (Sidak post hoc; $P = 0.056$).

4. Discussion

In general, registered nurses, nurse specialists and physicians held neutral to moderately positive views on nurse prescribing. All groups agreed that nurse prescribing benefits nurses' daily practice and the nursing profession as a whole. Moreover, there were few concerns about possible negative consequences for physicians' practice and the medical profession. Nonetheless, all professional groups agreed that nurse prescribing makes care slightly more complex, and they were also conscious of the fact that this increases the need for consultation between physicians and nurses. Most concerns were reported on the issues of quality of care and patient safety, especially among doctors. These were mostly mild concerns, however, as the general score for physicians on the item 'endangers patient safety' lay somewhere between 'disagree' and 'neither agree nor disagree'.

This study is the first to directly compare the views of registered nurses, nurse specialists and physicians on nurse prescribing using a large scale survey design. Considering that task substitution is increasingly seen as a strategy for reducing current problems in health care (Buchan and Dal Poz, 2002; Lewis, 2001; Sanders and Harrison, 2008), and traditional roles are generally considered the most persistent problem to achieving these goals, it is promising that the views of RNs, nurse

specialists and doctors in our study were generally neutral to positive about nurse prescribing. RNs, nurse specialists and doctors showed few concerns over the consequences of nurse prescribing for their respective professions and the relationship between both professions. Given that many incidents between nurses and physicians are in practice about the limits of their professional scope (Walby et al., 1994), these views are encouraging for the practice of nurse prescribing on the work floor, although it cannot automatically be assumed that views correspond with actual or future behaviour (Allen, 1996). Both nurses and doctors felt that nurse prescribing increased the need for consultation between professionals, and this needs to be facilitated in practice. In the Netherlands, the Royal Dutch Medical Association and Dutch Nurses' Association jointly wrote the 'Guideline for implementing task reallocations' (Koninklijke Nederlandsche Maatschappij tot bevordering der Geneeskunde et al., 2012), which can play an important role in this.

Even though RNs, nurse specialists and physicians generally held neutral to moderately positive views on nurse prescribing, there were significant differences between the groups. Nurse specialists scored significantly more positively on 10 of the 14 items on the consequences of nurse prescribing compared to nurses and doctors. This is not surprising, as nurse specialists are known for their commitment to the professionalization of the nursing profession (Carryer et al., 2007). Having started as RNs themselves, they decided to follow the Master's in Advanced Nursing Practice to expand their role and task area. Considering this professional experience, the expansion of their role with yet another task, i.e. the prescribing of medicines, may be looked upon more positive. Moreover, they already have prescriptive authority in the Netherlands. Contrary to our expectations, we found fairly little difference in views between RNs and physicians. Their scores only differed significantly on a mere 5 out of the 14 items, mostly when it came to issues concerning quality of care, on which RNs had more positive opinions than physicians. When it came to the consequences of nurse prescribing for the complexity of care and nurses' workload, however, physicians proved to be less concerned than RNs.

The high degree of agreement between RNs and physicians concerning nurse prescribing is striking. After all, where tasks are redistributed, professional boundaries are disputed and professions usually compete with one another for jurisdiction over tasks (Abbott, 1988). Moreover, a lack of support or even resistance among physicians to nurse prescribing has frequently been found in earlier research (Courtenay and Carey, 2009; Earle et al., 2011b; Patel et al., 2009; Rana et al., 2009). In the Netherlands, medical associations initially also showed reservations or even reluctance towards the introduction of nurse prescribing (Kroezen et al., 2012b). Previously, representatives of the Royal Dutch Medical Association even stated that, although many physicians are

neutral to positive about task substitution, there are also some fervent opponents (Kroezen et al., 2012b).

One possible explanation for our findings can be sought in the fact that the Netherlands has a long tradition of prescribing by nurses. Even though nurse prescribing was officially prohibited until the beginning of 2012 for nurse specialists and up to now is prohibited for RNs, the fact that some individual nurses were already prescribing some medicines (Dutch: 'gedoogsituatie') was nevertheless openly discussed and tolerated. Therefore, the introduction of legal prescriptive authority for nurses may not have been such a large transition and the 'professional threat' caused by nurse prescribing may have seemed less for the medical profession here. This would be in line with findings from the UK, where it was shown that once health care professionals, including physicians, had experience with nurse prescribing, their views became more positive than when they lacked this hands-on experience (Latter et al., 2011). Moreover, the Royal Dutch Medical Association and the Dutch Nurses' Association were both involved in the legislative process regarding nurse prescribing in the Netherlands (Kroezen et al., 2012b). Constant communication between the two associations and from each of them to their own members may have helped the acceptance of nurse prescribing. Besides, the introduction of nurse prescribing in the Netherlands has been a process that took many years, and health care professionals may gradually have become accustomed to the idea.

Our study also showed that physicians still have some reservations, especially about issues surrounding quality of care and patient safety. This is in line with earlier research, in which the medical profession expressed concerns about the safety of nurse prescribing (Avery and Pringle, 2005; Patel et al., 2009). As yet, however, little evidence is available about the quality and safety of nurse prescribing (Latter et al., 2007; Van Ruth et al., 2008). Even though developments are being made in this area (see for example the studies of Latter et al. (2007, 2012), these issues merit further investigation in order to address the concerns thoroughly.

The results of our study are promising for the implementation, expansion and acceptance of nurse prescribing in practice. While it has been repeatedly mentioned that traditional roles and professional turf battles can be barriers for task substitution, our study shows that in general, RNs, nurse specialists and physicians hold neutral to moderately positive views on nurse prescribing. To foster successful implementation of nurse prescribing in practice, and possibly alleviate some of the concerns expressed by physicians concerning quality of care and patient safety, it may be beneficial to apply a stepwise implementation of nurse prescribing. Especially considering the fact that our results are in line with Latter et al. (2011) in suggesting that the more experience people have with nurse prescribing, the more positive their views become. Hospitals could, for example, start with a nurse prescribing pilot. In this way, experience can be gained with nurse

prescribing, and a workable mode can be found by all health care professionals involved, prior to the final introduction of nurses' prescriptive authority 4.1. Limitations Several limitations of the study bear mentioning. Although our study provides insights into the views of RNs, nurse specialists and doctors in the Netherlands on nurse prescribing, it should be noted that the response rates for nurse specialists (28.3%) and doctors (33.7%) were fairly low. Nurse specialists, because of the novelty of their role, are currently the subject of several studies in the Netherlands and this may have led to survey fatigue. Response rates for doctors in the Royal Dutch Medical Association Panel are generally relatively low, possibly because a large proportion of the panel members have been participating for years already. However, this may have resulted in non-response bias, mostly due to selective participation by respondents who are interested and/or more positive about the subjects of task substitution and nurse prescribing. Also, we asked for views on the broad category of 'nurse prescribing' and did not specify our questions for nurse specialists and RNs, who will have different sorts of prescriptive authority (see Box 1). Finally, it should be noted that our survey was performed at a time when nurse specialists already had prescriptive authority and various categories of RNs (who are not nurse specialists) did not. This may have influenced respondents' answers, even though legal and organizational details of registered nurses' prescriptive authority were known by that time. Most importantly, it is likely that nurse specialists had more personal experience with prescribing in practice than RNs. Because it is known that views on nurse prescribing based upon experience may differ from views of those without hands-on experience with nurse prescribing (Latter et al., 2011), this may partly explain the more positive views found among nurse specialists in comparison with RNs. Nonetheless, it is unlikely that variances in amount of personal prescribing experience between nurse specialists and RNs fully account for the substantial differences in views that we found between the two groups.

5. Conclusion

Our large-scale survey study among RNs, nurse specialists and physicians in the Netherlands showed that all three professional groups hold neutral to moderately positive views on nurse prescribing. Whereas nurse specialists are more positive about the consequences of nurse prescribing than RNs and physicians, we found fairly little difference in views between RNs and physicians. It was only on issues surrounding the quality of care and patient safety that physicians showed more – albeit mild – concern than RNs and nurse specialists. To address these concerns, further investigations into the quality and safety of nurse prescribing are required.

To a greater or lesser extent, all groups agreed that nurse prescribing benefits nurses' daily practice and the nursing profession. Moreover, there were few concerns about negative consequences for physicians' practice and the medical profession. This is beneficial for the

implementation and potential success of nurse prescribing in practice, and for the relationships between the professions, given that it is known that a lack of peer support and/or objections from physicians can hamper nurse prescribing.

Conflicts of interest

No conflicts of interest have been reported.

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Ethical approval

Not required.

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