

Implementation of the quality standard Pressure Ulcer in primary care: a quantitative study of determinants influencing actual use

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ENGLISH ABSTRACT

Implementation of the quality standard Pressure Ulcer in primary care: a quantitative study of determinants influencing actual use

Background: Pressure Ulcers affect health-related quality of life in patients. In 56.6% of cases, no preventive measures were taken in risk patients in primary care. To support healthcare professionals in providing the best possible care to patients in Pressure Ulcers, professionals developed the quality standard Pressure Ulcer, which will be implemented in the Netherlands.

Aim: This study identified determinants that influence healthcare professionals in the actual use of the quality standard Pressure Ulcer in Dutch primary care.

Method: This cross-sectional study used a survey of determinants of the quality standard and applicability of recommendations, which were then measured with Likert-scales. Healthcare professionals were invited through snowball sampling. Descriptive statistics were used.

Results: Answers of 98 participants were analysed. Healthcare professionals identified 12 barriers. The most-often identified barriers were a lack of formal agreement about use of the quality standard and that not all organizations appointed someone to coordinate the implementation. Healthcare professionals identified 15 facilitators. The most identified facilitators were that healthcare professionals stated the use of the quality standard is part of their job, and the motivation to comply the colleagues and patients in using the quality standard.

Three recommendations were applicable. Healthcare professionals were divided in their opinion of six recommendations, related to the classification system, change of body position, and performance of a skin assessment.

Conclusion and implication of key findings: Focus implementation strategies mainly on organizational factors since most identified barriers were related tot hat. Most of the recommendations were applicable. Enrichment of knowledge is needed about the NPUAP/EPUAP classification system and assessment tools and materials, as well as an adjustment in the recommendation about changing the body position of the patient to make it practicable feasible.

Keywords: Pressure Ulcer, Implementation Science, Barriers, Facilitators, Primary Health Care.

NEDERLANDSE SAMENVATTING

Implementatie van de kwaliteitsstandaard Decubitus in de eerstelijnszorg: een kwantitatief onderzoek naar beïnvloedende factoren

Achtergrondinformatie: Decubitus beïnvloedt het gezondheidsgerelateerde kwaliteit van leven. In 56.6% van de gevallen worden geen preventieve interventies ingezet bij patiënten in de eerstelijnszorg met een risico op decubitus. Om zorgprofessionals te ondersteunen in het leveren van de beste mogelijk zorg voor de patiënt is de kwaliteitsstandaard decubitus ontwikkeld, welke in zomer 2020 in Nederland geïmplementeerd wordt.

Onderzoeksdoel: Dit onderzoek richt zich op het identificeren van determinanten die zorgprofessionals ervaren in het gebruik van de kwaliteitsstandaard decubitus in eerstelijnszorg in Nederland.

Methode: Dit cross-sectionele onderzoek bestaat uit een online vragenlijst over determinanten van de kwaliteitsstandaard en de toepasbaarheid van de aanbevelingen uit de kwaliteitsstandaard, gemeten met Likert-schalen. Zorgprofessionals zijn uitgenodigd via de sneeuwbal methode. Beschrijvende statistiek is toegepast, ondersteunt door Statistical Package for the Social Science Statistics.

Resultaten: In totaal zijn de antwoorden van 98 zorgprofessionals geanalyseerd. De zorgprofessionals identificeerde 12 belemmerende factoren, waarvan een gebrek aan formele afspraken over het gebruik van de kwaliteitsstandaard en niet alle organisaties hebben iemand aangewezen voor het coördineren van de implementatie het vaakst voorkwamen. Zorgprofessionals identificeerde 15 bevorderende factoren. De vaakst voorkomende zijn dat zij het tot hun functie vinden horen om de kwaliteitsstandaard te gebruiken en mening van collega's en patiënten in het gebruik wordt belangrijk geacht. De meeste aanbevelingen zijn toepasbaar volgens de zorgprofessionals. De meningen over toepasbaarheid zijn verdeeld als het gaat over het classificatiesysteem, wisselgeving en de huidbeoordeling.

Conclusie en aanbevelingen: Focus de implementatiestrategieën op de organisatorische factoren omdat deze factoren het vaakst werden geïdentificeerd als barrières. De meeste aanbevelingen zijn toepasbaar. Een toename van kennis over het NPUAP/EPUAP classificatie systeem en risicobeoordelingsinstrumenten wordt aanbevolen. In de aanbeveling over wisselhouding van de patiënt dient een aanpassing te worden gedaan zodat het praktisch uitvoerbaar is.

Trefwoorden: Decubitus, implementatieonderzoek, beïnvloedende factoren, kwaliteitsstandaard, eerstelijnszorg.

INTRODUCTION

Pressure Ulcers (PUs) are localized injuries to the skin and/or underlying tissue as a result of pressure with(out) shear, frequently occurring in patients of all ages.¹ Limited research has been conducted on the worldwide prevalence of PUs in primary care.¹ No prevalence and incidence in primary care were described in the Clinical Practice Guideline.¹ In the Netherlands, the prevalence measurement of care problems in 15 organizations in primary care showed a prevalence of 3.7%. While the prevalence rate is low, 41.9% of patients have a low risk of PUs and 1.6% have a high risk. This risk remains similar since 1998 when the national measure was conducted for the first time.²

The review of Gorecki et al. (2009) showed that PUs and PU interventions affect the health-related quality of life, such as reduce physical activity, feeling socially isolated, decreased self-concept and body image, and sleep disturbances.³ The anxiety and worry in patients are caused by patients feeling they were a burden to others. Furthermore, patients believed that inadequate healthcare and a lack of knowledge about PUs resulted in their PUs.³

The Dutch 2015 national measurement of the prevalence of care problems shows that often (56.6%) no preventive measures were taken in risk patients in primary care. The most common interventions were protection of the skin (30.1%), information and instruction (20.1%), and prevention or combatting dehydration and poor nutrition (14.5%).² As the quality of care improves, the relative risk of developing of PUs changes. In addition to addressing hydration and nutrition, it has become increasingly to reduce pressure and shear force.⁴

To support patients and healthcare professionals (HCPs) in their decisions about the prevention and treatment of PUs, access is provided to the international evidence-based guideline 'Prevention and treatment of PUs'.⁵ The guideline contains recommendations, particularly focused on prevention, risk and skin assessment, nutrition, change of body position, and pressure reducing material. These guidelines are based on systematic evidence searches in relevant databases, and they aim to improve the quality of prevention and treatment of PUs.^{1,6} HCPs should apply the recommendations of the guidelines to all patients with a risk of developing a PU or who currently have a PU.⁷

The guideline 'Prevention and treatment of PUs' needs to be up-to-dated to ensure prevention and treatment are based on the best available evidence to provide the patient with the best possible care on the subject. Every four years, the European and United States National Pressure Ulcers Advisory Panels release an evidence-based update of the international guideline.⁵ Based on this international guideline, a group of professionals developed the quality standard PU, commissioned by the Dutch Nurses' Association, and

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financed by ZonMw. The quality standard will be implemented in the Netherlands in the summer of 2020.⁶

To prepare the implementation of the newly developed quality standard, it is important to gain insight into influencing determinants, to determine the implementation strategies. The determinants may relate to HCPs in primary care, organizations where the HCPs work, socio-political environment, and/or the quality standard itself.⁸⁻⁹ The HCP factors consist of cognitive skills to search and interpret information, as well as attitudes towards the quality standard as complexity and visibility of the effect. Determinants of the organizations in primary care were the tendency to innovate, internal communication, and availability of facilities and materials. Factors that determine the socio-political environment included intensity of multidisciplinary cooperation, participation in professional networks, actively promoting evidence-based practice within the profession, financial incentives, laws and regulations, and segments within the HCPs, such as forerunners and stragglers. Gaining insight into these determinants was important to design implementation strategies focused on the decisive influencing factors.⁸

Simultaneously with the development of the quality standard short-term studies were conducted on influencing factors in following the guideline 'Prevention and treatment of PUs' of 2011. The studies showed barriers and facilitators in the determinants of the guideline in primary care, such as excess information and unclear formulation of recommendations; determinants of HCPs, such as a need for knowledge of the importance of prevention and the need to agree about communication, tasks, and responsibilities; determinants of organization and socio-political environment, such as the need of reimbursement of tools and materials and clear laws and regulations regarding reimbursement.¹⁰⁻¹²

Previous research regarding the influencing determinants for implementation of the guideline 'PU prevention and treatment' is not generalizable due to a small and non-representative study population. Every setting and organization needs specific adjusted implementation strategies to fulfill the aim of the quality standard regarding PU. To allow implementation strategies to fit current practice implementation strategies need to be designed per subgroup of HCPs, nurses, paramedics, physicians, and managers. In this study, the determinants of usability and feasibility of the quality standard regarding PU were identified to understand which determinants influence the use of the quality standard to design implementation strategies to HCPs in Dutch primary care.¹⁴ Furthermore, the spreading of the concept quality standard contributes to broad support among the HCPs in Dutch primary care.

Aim

This study aimed to identify determinants that influence healthcare professionals in the actual use of the quality standard regarding pressure ulcers in Dutch primary care.

METHOD

Design

This cross-sectional observational study used an online survey in LimeSurvey among HCPs in Dutch primary care.

Reporting is conducted following the 'Strengthening the Reporting of Observational Studies in Epidemiology' checklist.¹³

Population

The population of interest was all HCPs in Dutch primary care who are involved in prevention and treatment of PUs. HCPs in Dutch primary care are (student) nurses with different levels of education, paramedics such as dietitians, physiotherapists, occupational therapists, physicians, and managers with or without a (para)medical background.

Recruitment and procedures

Potential participants were invited from March to April 2020 to participate. The survey was distributed via the professional networks of those involved in development of the quality standard for PUs, professional associations, Twitter, and LinkedIn. During the COVID-19 pandemic, one reminder was sent on LinkedIn after two weeks so as not to burden HCPs.¹⁴ Through snowball sampling, potential participants were asked to share the invitation in their network to reach potential participants who might be difficult to identify. The distribution via networks and social media to invite potential participants minimizes sampling bias.¹⁵ To increase the response rate, every 20th respondent who entered their email address received a gift voucher. The goal of recruitment was to have each subgroup of HCPs represented. The response rate of this nonprobability sample was not calculated. Because of the recruitment strategy, it is unknown how many HCPs were invited.

Data collection

This survey consisted of three measures: the measure of demographic characteristics, determinants of the implementation and use of the quality standard for PUs, and the applicability of recommendations of the quality standard PU. The demographic characteristic measure included four single choice and six open questions about gender, age, working

hours, and work setting. The questionnaire regarding the determinants of the implementation and use of the quality standard PU is the Measurement Instrument for Determinants of Innovations (MIDI), which is not validated in primary care.⁹ This questionnaire included 40 questions about determinants of the quality standard PU, determinants of the HCPs, organizations where the HCPs work, and socio-political environment, with Likert scales varying from two points (yes/no) to seven points (totally disagree to totally agree).⁸⁻⁹ The determinants of the MIDI comprised a pooled analysis of empirical data, theoretical expectations, and the practical experience of implementation experts. All determinants were measured in this study since all barriers and facilitators could be of practical relevance for designing the implementation strategy.⁹

The last part of the survey measured the applicability of nine out of 70 recommendations of the quality standard PU with a 10-point Likert scale (zero corresponds to not applicable, 10 corresponds to applicable). The nine essential recommendations were selected by the researcher based on personal experience in primary care and following consultation with senior researcher B. van Gaal. The recommendations related to performing a risk, skin, and nutrition assessment, classification by the NPUAP/EPUAP system, changing the body position of the patients, mattress selection, encouraging patient self-management, designing a care plan, and making formal agreements within every organization about the use of the quality standard. If the respondent answered with a six or less, the respondent was invited to offer his/her opinion of the applicability of the recommendation. The explanation contributes to a better understanding of the non-applicability of the recommendation in actual use. The concept quality standard PU was added to the survey to create support among HCPs. At the end of the survey, an open space was provided for optional general comments.

Data analysis

When participants did not fully complete the survey, the provided answers were included for analysis when the participants completed the measures of demographic statistics and determinants of the quality standard PU.

The extent of missing data in the measure of the applicability of recommendations of the quality standard PU was examined. Imputation of missing data is not necessary because the analysis is descriptive.¹⁵

Descriptive statistics (counts, percentages, median and interquartile range (IQR)) were used to analyze demographic characteristics and to evaluate determinants for implementation to identify barriers and facilitators concerning the implementation of the quality standard PU.

Determinants to which $\geq 20\%$ of participants responded with disagree were marked as barriers and those to which $\geq 80\%$ of participants responded with agree were marked as facilitators for implementation of the quality standard.¹⁶

Descriptive statistics (median and IQR) were also used to evaluate the applicability of recommendations of the quality standard because a parametric test is not commonly used in ordinal data.¹⁷ Recommendations in which the median is six or less than six were considered as not applicable and those in which the median is seven or more than seven were regarded as applicable.

Data was analyzed in subgroups of nurses, paramedics, physicians and managers.

The analysis was supported by the IBM Statistical Package for the Social Science Statistics (SPSS) version 24,0 (Armonk, New York, USA).

Ethical issues

This study was conducted according to the principles of the declaration of Helsinki, October 2013, version 13, and the General Data Protection Regulation.¹⁸⁻¹⁹ It was not assessed by the medical ethical committee because participants were not subjected to actions or rules and conducts were not imposed on them.

Before data collection, the potential participants were asked online for their consent.

RESULTS

Participants

During the six-week period, 167 HCPs working in the primary care (partially) completed the survey. In total, 98 HCPs filled in the measures of demographic characteristics and determinants of the implementation. The measure related to the applicability of the recommendations was completed by 88 of the 98 HCPs, which resulted in 90 (9.2%) missing values. The 98 HCPs consisted of 76 nurses, 19 paramedics, two physicians and one manager (see Table 1). Of the nurses, 93.4% was female, with a median age of 32.5 years (IQR 28-48). All paramedics were female, with a median age of 37 years (IQR 30-59). The physicians included one general practitioner and one specialist geriatric medicine, both males with a median age of 60.5 years. The only manager is a female of 50-60 years old with a (para)medic or nursing background, and she did not complete the section related to the recommendations.

Barriers to implementing the quality standard PU

The HCPs identified 12 out of 41 determinants as barriers to implementation of the quality standard PU in Dutch primary care. Most identified barriers (n=8) were determinants of the organization, in other words, not all HCPs were aware of the quality standard (reported by 22 nurses and 8 paramedics), there was a lack of formal agreements about the use of the quality standard PU, and not all organizations appointed someone to coordinate the implementation (reported by, respectively, 46 and 47 nurses, 12 paramedics and both

physicians). Subsequently, feedback about progress of implementation did not take place (reported by 31 nurses, 8 paramedics and both physicians). There was insufficient staff to use the quality standard as intended (reported by 16 nurses and 4 paramedics), and there were other changes within the organizations that the HCPs were dealing with (reported by 18 nurses, 10 paramedics and both physicians). The last identified barriers related to the organization included a lack of measures by which departing HCPs were replaced in time (reported by 31 nurses) and insufficient access to information about the use of the quality standard (reported by 4 paramedics).

Concerning the HCPs, three barriers were identified. HCPs experienced personal disadvantages (reported by 45 nurses and 7 paramedics) and the number of colleagues for whom the quality standard was intended and used was low (reported by 39 nurses and seven paramedics).

Nevertheless, a majority of the nurses (n=39) stated that the quality standard was too complicated to use. This barrier was related to the quality standard itself.

The only manager who completed the survey also identified seven of the 12 barriers that were identified by the other HCPs, of which five were related to HCPs and two were related to the organization.

Facilitators to implement the quality standard PU

In total, 15 of the 41 determinants were identified by HCPs as facilitators of the implementation of the quality standard PU in Dutch primary care. The majority (n=12) of facilitators were related to the HCPs specifically. Nurses (n=65) and both physicians stated it was their job to use the quality standard. Furthermore, nurses (n=71) and both physicians stated the effects of the use of the quality standard were visible. Nurses (n=71) regarded it as important to recognize PUs in patients by using the quality standard. Physicians agreed to this necessity and also stated that it important to prevent PUs. Another facilitator was the expectation of financiers (reported by 61 nurses and both physicians) and colleagues (reported by 64 nurses) to use the quality standard. The motivation to comply the physicians (reported by 61 nurses, 17 paramedics and both physicians), nurses (reported by 18 paramedics and both physicians) and carers, paramedics and patients (reported by 17 paramedics) was important in using the quality standard. Nevertheless, the physicians stated that patients cooperate with the use of the quality standard.

Concerning the quality standard, 51 nurses stated the quality standard aligns with current practice and both physicians found the quality standard relevant for their patients. Moreover, the physicians identified one facilitator related to the organization: there were sufficient financial resources to use the innovation as intended.

The manager who completed the survey identified two facilitators that were not identified by

the other HCPs. The manager stated that colleagues rely on sufficient help from colleagues within and external to the organization when using the quality standard.

See Figures 1 and 2 for an overview of all the determinants reported by nurses and paramedics.

Applicability of recommendations of the quality standard PU

In total, three out of the nine recommendations of the quality standard PU were regarded as applicable by the HCPs (see Table 2). The HCPs agreed that it succeeds to estimate the risk of PUs by using clinical judgment in combinations with a risk assessment instrument. There was also agreement that it succeeds to screen and assess the nutrition status as described in the malnutrition directive by using an assessment instrument. Furthermore, the HCPs agreed that it succeeds to collaborate agreements with (multidisciplinary) care providers about tasks and responsibilities to prevent and treat PUs. These agreements were about consulting dieticians, occupational therapists and physiotherapists as well as collaborating with the (general) practitioner.

The nurses and paramedics agreed that it succeeds to select a pressure reducing mattress that meets the needs of the patient, which would include selecting the mattress according to the level of immobilization and inactivity, the effects of posture and distortion on pressure distribution, required heat regulation, the slipping of the patient, the length and weight of the patient, and already present PUs. There was also agreement among nurses and paramedics that it succeeds to encourage patient self-management with information and guidance tailored to the patient. Nurses and paramedics agreed that it succeeds to describe a care plan that include the PU classification, care and assessment of the skin, precautionary actions (change of body position, pressure reducing mattress, mobility goals, skin care and nutrition), wound care, presence or absence of PU and moments of evaluation.

Nurses and paramedics were divided in the opinion of the applicability of three recommendations, namely (1) using the NPUAP/EPUAP classification system when classifying PU, (2) changing the body position of the patient every four hours, with attention to the frequency while considering the personal characteristics of the patient, treatment goals, the characteristics of the mattress, and (3) performing a skin assessment within eight hours by patients with a risk of PU. Nurses reported these three recommendations as applicable and the paramedics stated that they were not applicable.

The opinions of the physicians about the applicability of the recommendations vary from not applicable to applicable.

The HCPs provided 121 responses regarding the recommendations of the quality standard PU (see Table 3). Summarized, the HCPs experienced a lack of knowledge about materials and risk assessment instruments as well as a lack of time. Furthermore, the HCPs stated that the supplier of materials, such as mattresses, decided which materials were provided, and the impaired cognitive functioning of the patient was a problem.

DISCUSSION

This study aimed to identify determinants that influence healthcare professionals in the actual use of the quality standard regarding PUs in Dutch primary care. Twelve barriers and 15 facilitators for the implementation of the quality standard PU, as experienced by HCPs in Dutch primary care, were identified. The most often identified barriers were a lack of formal agreement about the use of the quality standard PU and not all organizations appointed someone to coordinate the implementation of PU care. The most often identified facilitator was the motivation to comply with multidisciplinary colleagues when working according to the quality standard PU.

The measure of applicability of the recommendations of the quality standard indicates that the recommendations about risk assessment, nutrition status, and cooperation agreements do not need adjustment for implementation. The measure of the recommendations about the classification system, change of body position and skin assessment indicates that it requires attention for implementation, focused on the knowledge of assessment instruments and materials, and creating time for HCPs to apply the recommendations.

The lack of agreement about the use of the quality standard PU is also identified as a barrier by Fisher et al. (2016)²⁰. The barriers relating to insufficient access to information about the use of the quality standard, the low number of colleagues who use the quality standard and the amount of nurses who stated the quality standard is too complicate to use implies that there is a lack of knowledge in HCPs. The lack of knowledge was also identified as a barrier in the previous qualitative research of van der Velden and van Gaal (2019), which stated the implementation strategies should focus on increasing knowledge and creating time for PU prevention and treatment¹³. A striking difference in the study of Heslen and Martens (2019) is that no barriers were identified in this study regarding in confusion and excess of information in the quality standard PU¹¹.

The fact that HCPs stated that using the quality standard PU is part of their job, but experienced a lack of time to apply in the care of their patients, is consistent with the study of Mohsen (2016)²¹.

There is consistency in findings related to the unfamiliarity of the NPUAP/EPUAP classification system between the study of van Schijndel and Jenniskens (2020) and this

study. A difference in findings is that in the study of van Schijndel and Jenniskens (2020) HCPs stated some sentences were unclear, which was not identified in this study²².

There are several strengths in this study. First, the quantitative design of this study made it possible to measure many determinants, whereby the implementation strategies could be designed by matching the subgroups of HCPs. Second, the great benefit to provide insight into the explanation of HCPs as to why recommendations were not applicable, ensured that the developers of the implementation strategies understand the reasons of none applicability and thus what is needed to change for implementation. However, the variety of HCPs enriches the multidisciplinary insight into determinants for implementation and applicability of the recommendations.

To appreciate the results of this study, some limitations need to be considered. First, the intended goal to have nurses, paramedics, physicians and managers represented is partially achieved. The number of participating physicians and managers was low, so external validity is a concern.²³ The compromise of external validity could signify that results were biased and need to be treated with some caution. Second, potential participants informed online and their consent was requested. Self-selection on eligibility criteria by the potential participants could be an invisible problem for the integrity of this study, thus the results were presented with some caution.²⁴ Last, the interpretation of the applicability of the recommendations of the quality standard could be negatively biased. Some respondents indicated they consider a six as applicable, while six during the analysis was judged as not applicable. If six was also judged as applicable, the recommendations about the NPUAP/EPUAP classification system and change of body position every four hours were indicated as applicable by paramedics, and less explanation was obtained for understanding the none probability.

The results of this study, in addition to previous research, will be used to design implementation strategies for the quality standard PU in Dutch primary care. The strategies should be mainly focused on the organizations, since most barriers were related to that. It is recommended to include the PU care in the assessment of the indication statement to be developed in 2020 for and by Dutch district nurses, to provide the best possible PU care to patients in primary care. As the quality standard for community care described, the district nurses had a central position in prevention and also stimulation self-management in patients to promote and maintain health.²⁵ Therefore, PU care should be one of the quality indicators belonging to the quality standard for community care, which are currently in development.²⁶ Since limited research has been conducted to the effects of implementation strategies, future research to gain insight in the effects of the implementation strategies is recommended in contribution to the implementation of other guidelines and quality standards in primary care.

In conclusion, the mainly focus of implementation strategies should be on organizational factors since most identified barriers were related to that. HCPs stated it is their job to use the quality standard and the effects of using were visible. Most of the recommendations of the quality standard were stated as applicable. Enrichment of knowledge is needed about the NPUAP/EPUAP classification system and assessment tools and materials, as well as an adjustment in the recommendation about changing the body position of the patient to make it practicable feasible.

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Tables and figures

Table 1: Demographic characteristics of participants

Variable	Total, N=98			
	Nurses N=73	Paramedics N=19	Physicians N=2	Manager N=1
Gender				
Female, N (%)	76 (77.6)	19 (100)	-	1 (100)
Age (years)				
Median (IQR)	32 (28-48)	37 (30-59)		
Range			55-65	50-60
Work hours a week				
Median (IQR)	32 (24-32)	28 (22-36)		
Range			25-35	30-40
Work experience (years)				
Median (IQR)	5 (2-10)	10 (5-19)		
Range			25-35	-
Work experience in pressure ulcer prevention and treatment (years)				
Median (IQR)	10 (4-20)	9 (2-21)		
Range			25-35	-

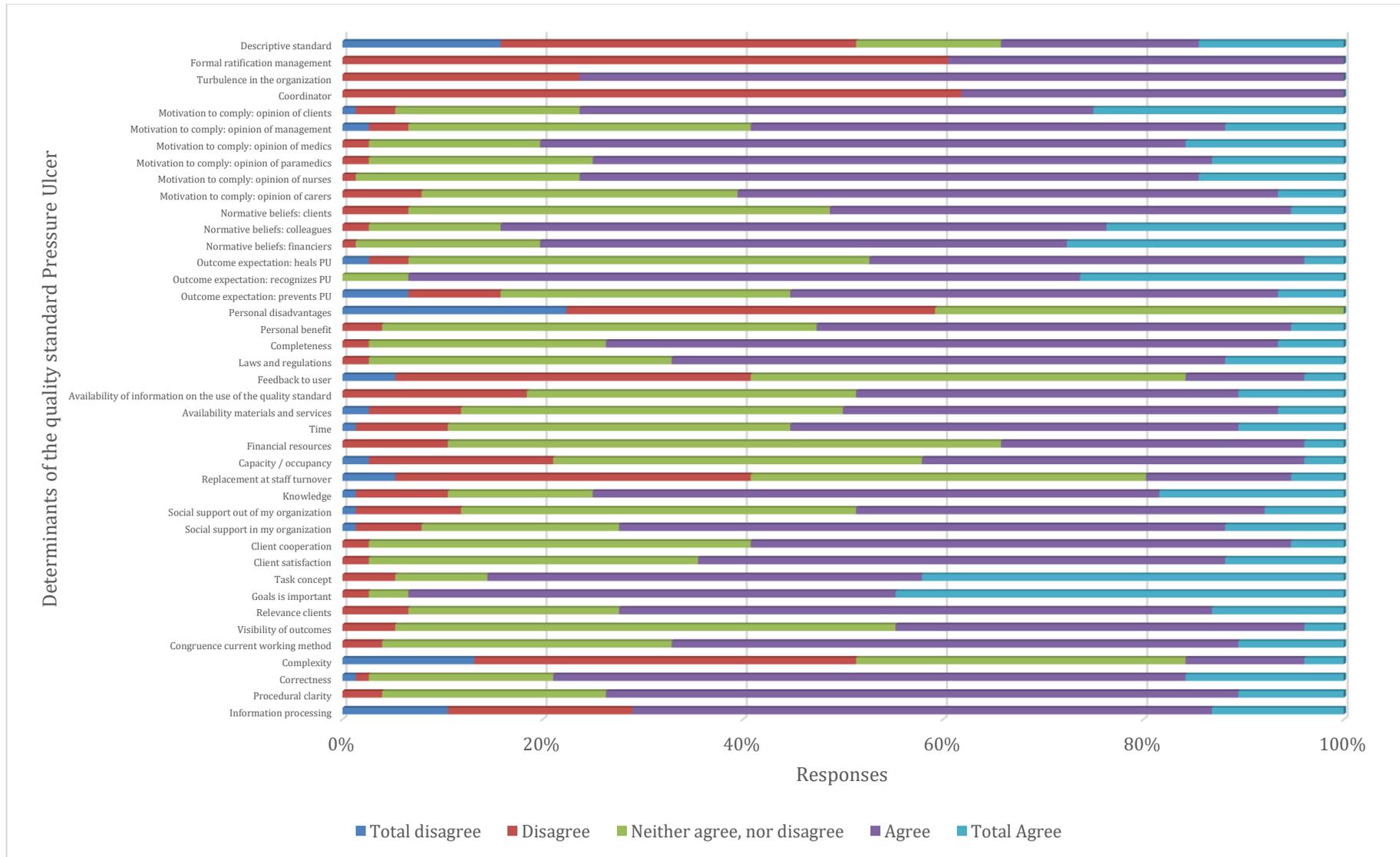


Figure 1: Determinants for implementation the quality standard PU experienced by nurses

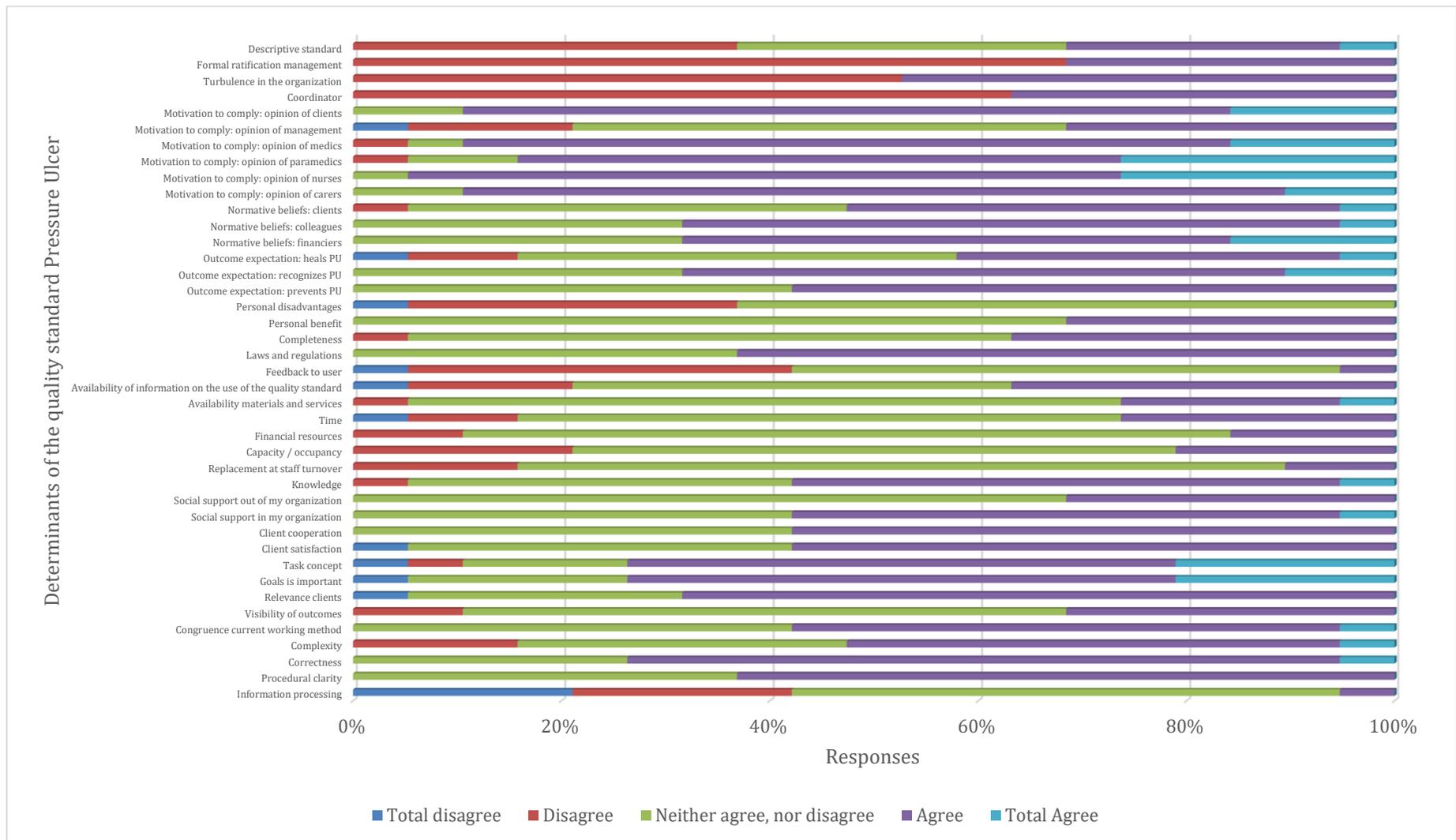


Figure 2: Determinants for implementation the quality standard PU experienced by paramedics

Table 2: Applicability of recommendations of the quality standard Pressure Ulcer

Recommendation of the quality standard Pressure Ulcer	Nurses N=72 <i>Median (IQR)</i>	Paramedics N=14 <i>Median (IQR)</i>	Physicians N=2 <i>Min-max</i>
Risk assessment	8 (8-9)	8 (7-9)	8-10
Classification system	8 (7-9)	6 (4.8-7)	4-10
Change of body position	7 (6-9)	6 (3.8-7.5)	7-9
Mattress selecting	8 (7-9)	8 (7-9)	5-7
Skin assessment	7 (7-8)	5.5 (3.5-8)	4-7
Nutrition status	8 (7-9)	7 (4.8-8)	7-7
Self-management	7 (7-8)	8 (7-8)	6-7
Care plan	8 (7-9)	7 (5.8-7)	5-7
Cooperation agreements	8 (7-9)	7 (5.8-8.3)	7-9

Table 3: Selection of explanations why a recommendation of the quality standard Pressure Ulcer is not applicable

Recommendation of the quality standard Pressure Ulcer	Number of responses	Illustrative responses
Risk assessment	Nurses: 2	(1) "Little experience with it"
Classification system	Nurses: 11	(1) "Too large document, ..." (2) "Not in possession of the listed classification systems" (3) "Not familiar with NPUAP/EPUAP" (4) "Is at the moment not required to use within the organization..."
Change of body position	Nurses: 19	(1) "We cannot apply this every 4 hours in home care" (2) "Client don't want to" (3) "Lack of knowledge"
Mattress selecting	Nurses: 9	(1) "Lack of knowledge.." (2) "Suppliers are sometimes difficult to manage" (3) "Financing of alternating pressure mattresses only applies if someone is in bed 24/7" (4) "The supplier assesses ... which mattress is needed" (5) "Not all clients wants to buy a different mattress" (6) "It will take a while to be convincing to the current prescribers ... (rusted pattern)"
	Paramedics: 2	(1) "I engage the occupational therapist" (2) "Not within my position"
	Physicians: 2	(1) "Only use class 1 mattresses ..."
Skin assessment	Nurses: 12	(1) "... time is missing. It should work within 24 hours, often not within 8 hours" (2) "... tied to wound nurses and wound minders who are not there everyday" (3) "Task of the district nurse" (4) "Carers do not immediately see the consequences of pressure sores on the skin within 8 hours ..." (5) "... lack of knowledge and lack of experience"
	Paramedics: 9	(1) "Not my job" (2) "This is done by nurses" (3) "Cannot be scheduled within 8 hours"

Nutritional status	Nurses: 10	<ul style="list-style-type: none"> (1) "Do not know the nutrition directive" (2) "... it is more useful to hire a dietician. An instrument may be a precautionary recommendation" (3) "Lack of knowledge with regard to nutrition and nutrition status" (4) "Lack of time by dieticians and nurses ..." (5) "This is usually not the question of the care recipient ..."
	Paramedics: 6	<ul style="list-style-type: none"> (1) "Refer to the dietician" (2) "Not my job"
Self-management	Nurses: 7	<ul style="list-style-type: none"> (1) "We work with clients with dementia" (2) "... clients don't see the importance" (3) "... lack of disease insights by patients ..."
	Paramedics: 2	<ul style="list-style-type: none"> (1) "Target audience" (2) "Too little insight, motivation, willingness to change in some cases"
	Physicians: 2	<ul style="list-style-type: none"> (1) "Will not work in psychogeriatric patients"
Care plan	Nurses: 5	<ul style="list-style-type: none"> (1) "... I don't feel enough time to and space to tackle the quality standard pressure ulcers during my work" (2) "Teams are not yet focused on writing good nursing care plans ..." (3) "Care plan becomes unclear by describing all this ..."
	Paramedics: 6	<ul style="list-style-type: none"> (1) "It must be a multidisciplinary plan ..." (2) "A large part not within my job" (3) "It is the task of nurses"
	Physicians: 2	<ul style="list-style-type: none"> (1) "Demand is becoming increasingly complex and the level of professionals is falling ..." (2) "Depending on successful implementation; is certainly not yet the case"
Cooperation agreements	Nurses: 4	<ul style="list-style-type: none"> (1) "... good focusers who keep the whole team informed of new rules and information" (2) "It has to be applied for and that takes time"
	Paramedics: 4	<ul style="list-style-type: none"> (1) "... Content and agreements must be better viewed and recorded" (2) "... paramedics are involved too late, should be preventive"
	Physicians: 1	<ul style="list-style-type: none"> (1) "Coordination with attending to the"

physician is the first importance, from which it is possible to initiate further”