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# Problems Experienced by Health Care Professionals with Do not Attempt Resuscitation (DNAR) Orders – A Qualitative Study

Hanna KUUSISTO[a,b], Tapani Keränen[a] and Kaija SARANTO[a]
[a] *University of Eastern Finland, Kuopio, Finland*
[b] *Tampere University Hospital, Tampere, Finland*
ORCiD ID: Hanna Kuusisto https://orcid.org/0000-0002-3697-4961
Tapani Keränen https://orchid.org/0000-0002-8173-4465
Kaija Saranto https://orcid.org/0000-0002-3195-1955

**Abstract.** A 'Do Not Attempt Resuscitation' (DNAR) order is one of the most important yet difficult medical decisions. Despite the recent European guidelines, health care professionals (HCPs) in general perceive challenges in making a DNAR order. We aimed to evaluate the types of problems related to DNAR order making. A link to a web-based multiple-choice questionnaire including open-ended questions was sent by e-mail to all physicians and nurses working in the Tampere University Hospital special responsibility area covering a catchment area of 900,000 Finns. The questionnaire covered issues on DNAR order making, its meaning and documentation. Here we report the analysis of the open-ended questions, examined based on the Ottawa Decision Support Framework with expanded individual decisional needs categories. Qualitative data describing respondents' opinions (N=648) regarding problems related to DNAR order decision making were analysed using Atlas.ti 23.12 software. In total, 599 statements (phrases) dealing with inadequate advice, information, emotional support, and instrumental help were identified. Our results show that HCPs experience lack of support in DNAR decision making on multiple levels. Digital decision-making support integrated into electronic patient records (EPR) to assure timely and clearly visible DNAR orders could be beneficial.

**Keywords.** DNAR order, decisional needs, decision-making support, electronic patient record, qualitative methods

## 1. Introduction

A 'Do Not Attempt Resuscitation' (DNAR) order means withholding cardiopulmonary resuscitation (CPR). Despite a clear definition and guidelines [1], it is known that health care professionals (HCPs) have difficulties in interpreting a DNAR order and understanding DNAR policies [2-4]. This may result in situations where patients do not have a DNAR order in place at the time of untreatable deterioration, causing prolongation of life with unnecessary suffering. Delay in documentation and lack of communication in such situations is found to be common [5]. Furthermore, challenges in the DNAR order decision-making process, documentation and responsibilities have been observed

[6,7]. In addition, lack of adequate education has been reported [3,8]. HCPs consider DNAR order making challenging [1,2,9] as it involves both medical and psychosocial as well as ethical and emotional aspects [7].

The Ottawa Decision Support Framework (ODSF) has been developed to support making difficult health decisions by guiding researchers and practitioners in assessing people's decisional needs, providing decision support to address these needs, and evaluating decisional outcomes [10-11]. The ODSF describes decisional needs that can adversely affect the quality of decisions. Decision support interventions that address decisional needs improve decision quality. Improved decision quality may favourably affect people's actions (e.g., decision delay) and downstream impacts (e.g., values-based health outcomes, regret, blame, appropriate use/costs of health services) [10].

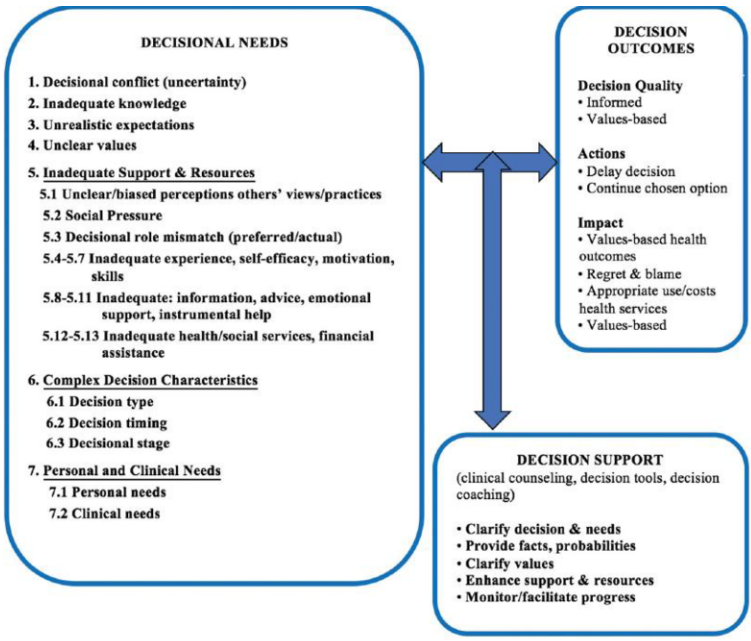


**Figure 1.** The Ottawa Decision Support Framework (ODSF) with expanded individual decisional needs [10]

We have previously shown that there is major variation among Finnish HCPs in the interpretation of DNAR orders including who is responsible for DNAR order making and whether the patient and the family should be included in the DNAR order-making process [9]. In this study we aimed to evaluate in more detail, based on the ODSF, what types of problems HCPs experience in DNAR order making [10].

## 2. Methods

An invitation for voluntary participation in the study was sent via email to all doctors and nurses working in the Tampere University Hospital (TAUH) special responsibility area, which includes two additional central hospital districts. The catchment area of the TAUH special responsibility area is ca. 900,000 inhabitants, which is 16% of the

population of Finland. All three hospital districts provide secondary care and TAUH also serves as a tertiary care centre for the two other hospital districts. Access to the questionnaire was available for ca. two months. The Webropol questionnaire survey included nine multiple-choice questions on different aspects of the DNAR order-making process as well as open-ended questions after each section. Institutional approval was obtained from each organization prior to study initiation. According to Finnish legislation, ethics committee opinion was not required as this was a web-based questionnaire with no possibility of identification of the respondents.

Qualitative data describing respondents' opinions regarding problems related to DNAR order-making were analysed using Atlas.ti 23.12 software. The ODSF with a focus on expanded individual decisional needs [10] was used for coding the data. Further, the data was analysed using the model to classify the codes into code groups based on phrases identified in the narrative responses. Results are presented with descriptive statistics of the code groups.

## 3. Results

There were 859 responses to the question 'Are there any problems with the DNAR order-making process?'. Of these, 648 participants responded 'yes' and described their opinions. The narrative responses expressed individual decisional needs in DNAR order making. The code analysis resulted in 48 codes in four code groups. A total of 599 phrases focused on inadequate advice, information, emotional support, and instrumental help [10]. A summary of the phrases, codes and code groups are presented in Table 1.

**Table 1.** Codes within the code groups based on expressed opinions.

| Expressed opinions (phrase types) | Codes | Code group |
|---|---|---|
| *patients, relatives, or nurses do not understand what DNAR means; physicians are unsure about the DNAR criteria; the timing is unsatisfactory, too late, or hasty; discussion not shared with or not informed to patients or relatives* | Background, Criteria, Inform, Knowledge, Legislation, Medical, Nurse, Patient, Physician, Relatives, Support, Timing | Advice (inadequate) |
| *decisions not explained to relatives; patients' status unclear; documentation is delayed; decisions are not recorded nor shared* | Anamnesis, Awareness, Background, Decision, Entry, Explain, Notes, Perceive, Recording, Summary, View | Information (inadequate) |
| *decision causes emotions for all; conflicts of interest between relatives and physicians; unrealistic expectations and misjudged mental resources of relatives* | Accept, Attitude, Courage, Disagreement, Opinion, Resistance, Resources, Suspicion, Unbelief, Uncertainty | Emotional support (inadequate) |
| *lack of co-operation, consultation, and joint discussions between professionals; unclear responsibility; delays in decisions; lack of skills in decision making* | Communication, Consultation, Cooperation, Discern, Discussion, Education, Emergency, Orientation, Possess, Postpone, Reach, Relay, Responsibility, Skills, Understand | Instrumental help (inadequate) |

The number of codes was almost equal (N=10-12) in three code groups, Advice, Information and Emotional support, and slightly higher in Instrumental help (N=15).

The distribution of opinions between the four code groups varied slightly, 'Inadequate advice' being the most frequent with 105 phrases (Table 2.).

**Table 2.** Distribution of coded problems in DNAR decision making: expressed opinions based on inadequate Advice, Information, Emotional support, and Instrumental help.

| Code groups | Advice | | Information | | Emotional support | | Instrumental help | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| Codes (N=48) 100 % | 12 | 25 % | 11 | 23 % | 10 | 21 % | 15 | 31 % |
| Phrases (N=599) 100% | 212 | 35 % | 183 | 31 % | 67 | 11 % | 137 | 23 % |

## 4. Discussion and Conclusions

The ODSF with a focus on expanded individual decisional needs served as the framework for analysing problems in the DNAR order decision-making process. More than 75% of respondents described experienced problems with the DNAR order decision-making process. Inadequate support and resources especially with regard to advice, information, emotional support, and instrumental help were reported. Previous studies have shown that HCPs consider DNAR order making challenging [2,8]. Based on our findings, the reason seems to be a lack of support at various levels. Making a DNAR order includes assessment of several medical issues, such as prognosis of the disease and possible outcomes of CPR [12]. In some countries patients are involved in DNAR order decision-making [13] and, in general, patient autonomy regarding DNAR order making is supported whenever it is possible [14,15]. However, in our Finnish study we found that in addition to medical and instrumental support, there is a lack of emotional support for HCPs. HCPs reported ethical difficulties when discussing the DNAR order with the patient and relatives even though, according to Finnish legislation, a competent patient can refuse any treatment, but cannot demand a treatment, such as CPR, that a physician considers unethical prolongation of suffering [16]. In a systematic review it was shown that that DNAR orders are often inconsistently recorded [17]. Despite the guidelines of the Finnish National Institute for Health that a DNAR order should be recorded in the risk information part of the electronic patient records (EPR) by a treating physician [18], we observed that HCPs experience difficulties and lack of support in documentation of DNAR order making at the right time and in the right place in an EPR. It seems that physicians' confidence regarding DNAR order making is low [19], which is in line with our findings of HCPs' experienced lack of support in the DNAR order decision-making process. Several studies have highlighted the need for improvement of education in DNAR order making [2, 3, 8].

HCPs are known to experience difficulties in DNAR order making, interpretation as well as documentation. We found that behind these difficulties seem to be HCPs' experience of lack of support in the DNAR order decision-making process at multiple levels. A digital decision-making support integrated into EPRs to assure timely and clearly visible DNAR orders could be beneficial. The digital support could alarm HCPs when certain indicators of poor prognosis are present in the EPR. Example alarm indicators could be: high age, multimorbidity, multi-pharmacy and certain medications used in palliative care, as well as various laboratory or radiological results such as total failure of an internal organ or a large intracerebral hematoma or infarction.

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