Title: Difficulty in having 'do not attempt cardiopulmonary resuscitation' (DNACPR) discussions with older medical patients and their families: a survey of hospital doctors.

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ABSTRACT

Objectives

To determine, for doctors looking after older medical inpatients: (1) how difficult they find discussions about 'do not attempt cardiopulmonary resuscitation' (DNACPR); (2) whether difficulty is associated with doctors' personal and professional characteristics; (3) how frequently DNACPR discussions are made more difficult by practical issues and by doctors' uncertainties.

Methods

Survey of hospital doctors working on the acute medical wards of a UK NHS teaching hospital.

Results

171/200 (86%) of eligible doctors participated. 165 had experience of DNACPR discussions with older inpatients and/or their families and were included in our analysis. "Difficulty" (defined as finding discussions 'fairly difficult' or 'difficult') was experienced by 52/165 (32%) for discussions with patients and 60/165 (36%) for discussions with families. Doctors with specific training in DNACPR discussions were less likely to have difficulty in discussions with patients. Older, more experienced doctors were less likely to have difficulty in discussions with families. Lack of time and place, and uncertainty about prognosis were the most frequently reported causes of difficulty.

Conclusions

Many doctors have difficulty in DNACPR discussions. Training needs to include managing discussions with families, as well as with patients, and doctors need time and space to deliver this important part of their job.

KEY MESSAGES

What was already known?

- Doctors often find it hard to discuss DNACPR
- DNACPR discussions may be avoided

What are the new findings?

- A third of hospital doctors report difficulty with DNACPR discussions
- Training lessens difficulty with patients, but not families, where seniority helps.

What is their significance?

Clinical

- Senior doctors could help trainees with family discussions

Research

- Studies of better DNACPR discussion training are needed

INTRODUCTION

Older patients with multiple chronic illnesses (multimorbidity) make up a large proportion of those admitted to acute medical wards.[1] They are at high risk of cardiorespiratory arrest, but unlikely to survive an attempt at cardiopulmonary resuscitation (CPR).[2] Their doctor may therefore consider recording an advance 'do not attempt CPR' (DNACPR) decision.[3]

The importance of discussing DNACPR decisions with patients and their families is obvious and has been recently highlighted in a report about the care of older people during the COVID-19 pandemic.[4] However, discussions about DNACPR may be delayed until late in the patient's illness.[5] One reason for this may be that doctors find them difficult.

We aimed to determine, in a survey of hospital doctors: (1) how difficult doctors find discussions about DNACPR with older medical inpatients and with their families; (2) whether difficulty is associated with doctors' personal and professional characteristics; and (3) how frequently DNACPR discussions are made more difficult by practical issues and by doctors' uncertainties.

METHODS

All doctors who worked on the acute medical rota at Oxford University Hospitals NHS Foundation Trust (a large UK teaching hospital Trust) between 2nd August 2017 and 31st July 2018 were eligible to participate. Doctors consented to participation by completing and returning the survey. All responses were anonymous. The study was approved by the University of Oxford Medical Sciences Interdivisional Research Ethics Committee.

The survey questions were informed by previous research and interviews with doctors who had experienced DNACPR discussions. They included items about the doctor's personal and professional characteristics, whether they had received specific training in DNACPR discussions and how many of these discussions they had in a typical week. Doctors were asked to rate how difficult on the whole ('easy', 'fairly easy', 'fairly difficult' or 'difficult') they found having these discussions with older medical inpatients and with their families. They were also asked to rate how frequently ('never', 'sometimes', 'often' or 'always') the following practical issues and uncertainties were causes of difficulty: 'not having a suitable place to have the discussion', 'not having enough time to have the discussion', 'being unsure about the patient's prognosis', 'being unsure about the chances of resuscitation being successful' and 'being unsure about what to say'.

We summarised the survey data using descriptive statistics. In order to determine associations with "difficulty" (defined as finding discussions 'fairly difficult' or 'difficult') we fitted logistic regression models with doctors' age, sex, current grade (consultant or trainee), country (UK or non-UK) of medical qualification, years since qualification and receipt of specific training as predictors. We did separate analyses for discussions with patients and families and fitted both univariable and adjusted models. We included sex, country of qualification and receipt of specific training as covariates when estimating the adjusted effects of age, grade and years since qualification. The effects of sex, country of qualification and receipt of specific training were mutually adjusted and additionally

adjusted for age. We did not include age, years since qualification and grade together in any model, as these were strongly associated one with another. The strength of the statistical evidence for each of the relationships was assessed using Wald tests. All analyses were carried out in Stata 16.

RESULTS

171/200 (86%) of eligible doctors completed the survey. 165 of these doctors had experience of DNACPR discussions with older medical inpatients and/or their families whilst working in the acute medical wards and were included in our analysis. The doctors' median age was 30 years, 48% were female and 23% were working at a consultant (senior) grade (see Table 1). Most had received their primary medical qualification in the UK and 59% had received specific training in DNACPR discussions. The reported frequency of DNACPR discussions varied widely: 11/165 (7%) doctors had no DNACPR discussions with older patients (and/or their families) in a typical week; 36 (22%) had one discussion; 42 (25%) had two discussions; 25 (15%) had three discussions; 16 (10%) had four discussions; and 35 (21%) had at least five discussions per week.

[Table 1 about here]

Figure 1 and Appendix Table 1 show the distributions of how difficult doctors found DNACPR discussions.

[Figure 1 about here]

The distributions of degree of difficulty are similar for discussions with patients and with families, with the latter being rated as slightly more difficult. "Difficulty" (defined as finding discussions 'fairly difficult' or 'difficult') was experienced by 52/165 (32%) of doctors when the discussions were with patients and by 60/165 (36%) of doctors when they were with families.

The associations of "difficulty" with the doctors' characteristics were similar in both the adjusted and unadjusted analyses (see Table 1 and Appendix Table 2 respectively). In the adjusted analyses, doctors who had received specific training in DNACPR discussions were less likely to report difficulty;

this association was stronger and only statistically significant for discussions with patients. In addition, older doctors were less likely to experience difficulty; in this case the association was stronger and only statistically significant for discussions with families. There was also evidence that doctors who had been qualified for longer and who were working in a consultant, rather than in a training, grade were less likely to experience difficulty in discussions with families.

Figure 2 and Appendix Table 3 show how frequently doctors rated the specific practical issues and uncertainties that we asked about, as causes of difficulty. The most frequently encountered were 'not having a suitable place to have the discussion', 'not having enough time to have the discussion' and 'being unsure about the patient's prognosis'.

[Figure 2 about here]

DISCUSSION

We found that many doctors working on acute medical wards have difficulty in DNACPR discussions with patients and with families; a third of doctors rated them as 'fairly difficult' or 'difficult'. The finding that many doctors have negative experiences of DNACPR discussions, variously expressed as 'difficult' or 'uncomfortable,' has been previously reported.[6-10] Combining our findings with those of previous studies, it is clear that this has been an important and replicable problem for doctors working in several different countries for many years.

Training has often been recommended as the answer to this problem.[11] For discussions with patients, we found that doctors who had received training were less likely to experience difficulty. However, for discussions with families the association between training and difficulty was somewhat weaker and not statistically significant. Doctors who were less likely to have difficulty in discussions with families were older, had been qualified for longer, or were working as a consultant. These findings suggest that training does help doctors with DNACPR discussions, but might help more for discussions with patients than with families, where seniority seems to be important. This may be because DNACPR discussions with families are often more complex, especially in the acute medical setting; each family member may have a different view about resuscitation and, if the patient is too unwell to state their own wishes, families may feel responsible for the decision being taken.

External factors may also cause difficulty. We found that practical issues of shortage of time and the lack of a suitable place were frequent causes, a finding previously highlighted by both doctors and patients.[12 13] Clinical uncertainty about prognosis was another frequent cause of difficulty and reflects the challenges of accurate prognostication for older inpatients with multimorbidity.[14]

Our findings have implications for how we train and support doctors with DNACPR discussions. First, we need to ensure that doctors receive specific training in this important part of their job. Second, we need training that includes how to have DNACPR discussions with families and how to manage prognostic uncertainty. Third, we should recognise the value of experience and seniority. Finally, we should ensure that doctors have both the time and a suitable place to have DNACPR discussions.

The main strengths of this study are the inclusion of doctors of all grades and the high response rate. Its main limitation is that it was done in one hospital and at one point in time. Furthermore, the survey did not include all personal and professional characteristics that may be associated with difficulty; for example, we did not ask doctors about their religion or personal values. Nor did we ask doctors about patient or family factors that may be causes of difficulty; for example, age, severity of illness and understanding of resuscitation.

CONCLUSION

Many doctors have difficulty in discussions about DNACPR. This difficulty has implications not only for the doctors, but also for their patients. If doctors find DNACPR discussions difficult, they may not manage them as well as they would like, and may even avoid having them. Specific training seems to help in discussions with patients, but less so with families. There remains a need to make sure that doctors receive appropriate training and that the form of training helps with family discussions as well as with patient discussions. Senior doctors may have an important role in delivering that training and supporting their junior colleagues. We also need to ensure that hospital doctors have the time and space to deliver this important part of their job.

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COMPETING INTERESTS

None.

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Figure 1. Bar chart of severity of difficulty reported by doctors in discussing DNACPR with older medical inpatients and their families.

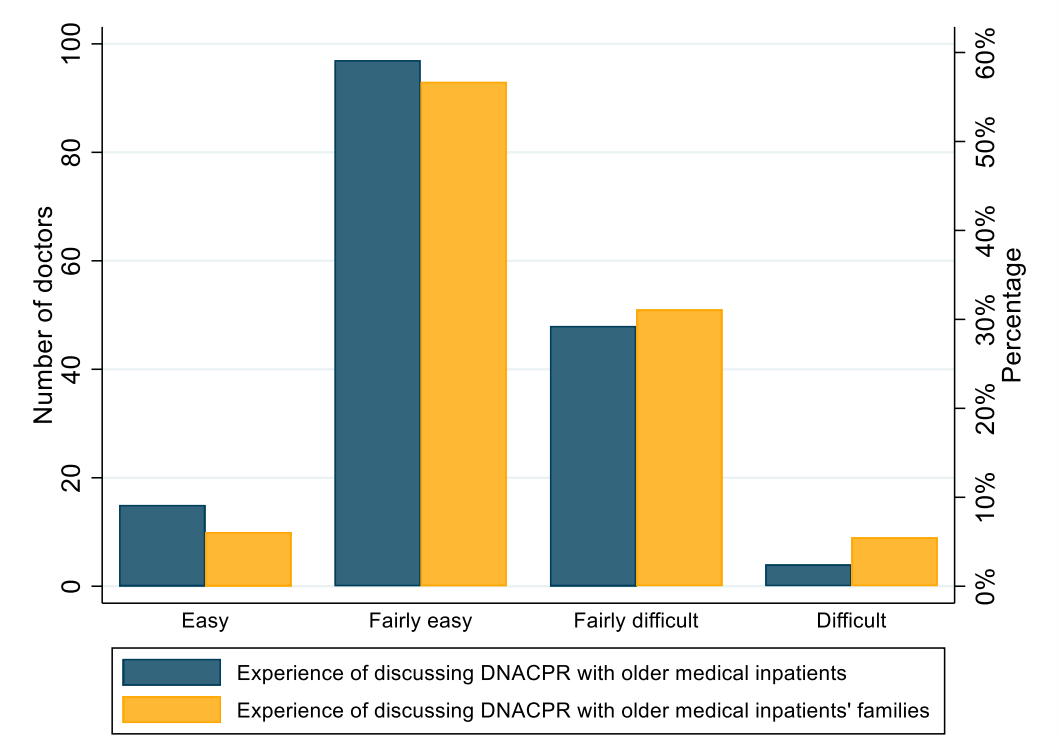

Table 1. Characteristics of doctors who participated in the survey and their associations with difficulty in DNACPR discussions with older medical inpatients and their families.

Variable	Category	Number (%) of doctors surveyed	Experience of discussions with patients			Experience of discussions with patients' families		
			Number (%) of doctors in category who experienced difficulty*	Adjusted analysis		Number (%) of doctors in category who experienced difficulty*	Adjusted analysis	
				Odds ratio (95% CI)	p-value		Odds ratio (95% CI)	p-value
Age**	≤29 years	79 (48)	28 (36)	1	0.27	33 (43)	1	0.02
	30-39 years	46 (28)	12 (26)	0.52 (0.22, 1.24)		19 (41)	0.87 (0.40, 1.89)	
	≥40 years	34 (21)	9 (26)	0.59 (0.23, 1.53)		5 (15)	0.22 (0.08, 0.65)	
	Missing	6 (4)	-	-		-	-	
Sex***	Male	83 (50)	20 (24)	1	0.12	29 (35)	1	0.76
	Female	80 (48)	31 (39)	1.77 (0.86, 3.62)		30 (38)	0.90 (0.45, 1.79)	
	Missing	2 (1)	-	-		-	-	
Grade**	Trainee	127 (77)	41 (33)	1	0.87	53 (42)	1	0.01
	Consultant	38 (23)	11 (29)	0.93 (0.41, 2.13)		7 (18)	0.31 (0.12, 0.76)	
Country of medical qualification***	UK	142 (86)	44 (31)	1	0.87	51 (36)	1	0.67
	Non-UK	22 (13)	7 (32)	1.10 (0.37, 3.27)		9 (41)	1.26 (0.44, 3.58)	
	Missing	1 (1)	-	-		-	-	
Years since qualification**	≤4 years	84 (51)	29 (35)	1	0.42	37 (45)	1	0.03
	5-14 years	42 (25)	11 (26)	0.55 (0.22, 1.34)		14 (33)	0.52 (0.23, 1.20)	
	≥15 years	33 (20)	10 (30)	0.81 (0.32, 2.08)		6 (18)	0.27 (0.10, 0.75)	
	Missing	6 (4)	-	-		-	-	
Specific training in discussions about DNACPR***	Not received	68 (41)	27 (40)	1	0.03	29 (43)	1	0.18
	Received	97 (59)	25 (26)	0.46 (0.23, 0.94)		31 (33)	0.62 (0.31, 1.24)	

DNACPR=do no attempt cardiopulmonary resuscitation. *'fairly difficult' or 'difficult', **Odds ratios adjusted for sex, country of medical qualification and receipt of specific training in DNACPR discussions. ***Odds ratios additionally adjusted for age.

Figure 2. Frequencies with which doctors rated specific practical issues and uncertainties as causes of difficulty in discussing DNACPR with older medical inpatients and their families.