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Consideration of advance directives by emergency physicians in patients with cardiac arrest: a clinical vignettes-based qualitative study

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Abstract

Background Emergency medical services (EMS) must incorporate the patient's physiologic state and end-of-life wishes when determining whether to initiate and/or continue cardiopulmonary resuscitation (CPR). This study aims to describe and analyze the use of advance directives (ADs) in CPR by emergency physicians (EPs).

Methods A qualitative approach using semi-directed interviews was conducted. EPs were confronted with three fictitious clinical situations where they would have to take under their care a young patient with no previous history or treatment, presenting with a cardiac arrest and a do not attempt CPR (DNACPR) order.

Results Twenty EPs, 10 men and 10 women (mean age 39.7 ± SD 11,21), were included either for individual interviews or a focus group. Without the AD, EPs all declared that they would have started CPR. With the AD, 6 physicians accepted ADs and did nothing, 5 physicians performed a time-limited trial to allow time for collegial discussion, and 9 physicians rejected ADs alone and resuscitated. Inductive analysis of the verbatims identified 4 themes (reflection, assessment of the medical situation, determining the validity of ADs, cognitive dissonance) and the opposability of ADs to medical decisions was the point of divergence within the focus group.

Conclusion This difference seems to be explained by different thought processes, notably concerning two steps: determining the validity of ADs, and the cognitive dissonance induced by the situation. EPs seem to respect ADs in cardiac arrest when determining the validity of ADs can be quick and the physician understands why the AD was written.

Keywords Cardiac arrest, Emergency medical services, Advance directive, Do-not-attempt-cardiopulmonary-resuscitation orders, Ethics, Decision-making

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Introduction

Emergency medical services (EMS) are often involved in end-of-life circumstances and are regularly confronted with cardiac arrest (CA), whose prognosis remains poor despite constant progress since the 1960s in understanding the mechanisms of CA and in its management [1, 2].

One of the measures designed to improve end-of-life care in France is the law from April 2005 which states that anyone of legal age can make their end-of-life wishes known through advance directives (ADs), should they one day be unable to express them [3]. These must take the form of a written, dated and signed document, but there is no mandatory standardized form. In other countries, this is referred to as "Do Not Attempt Resuscitation" (DNAR) and, when dealing with CA, as a "Do Not Attempt CardioPulmonary Resuscitation" (DNACPR) order [4].

In France, ADs have been binding on medical decisions since February 2016, the physician must respect the patient's wishes, except in two situations. The first is in the event of a life-threatening emergency (e.g. CA), for the time required to fully assess the situation. The second is when the ADs, after evaluation of the situation, appear to be clearly inappropriate or inconsistent for the physician with the medical situation. In this specific case, the physician is legally entitled to disregard the AD, but the decision must be justified and can only be taken after a collegial procedure [5].

Several quantitative studies have recently looked at how EMS interact with ADs in the management of out-of-hospital CA [6–9]. In these studies, the prevalence of ADs was low (7.5% in Europe, 9.9% in the United States and 11.4% in Asia) and their impact varied from one country to another. In the United States, where the order is binding, only 5.7% of out-of-hospital CA with a DNACPR underwent cardiopulmonary resuscitation (CPR) [7]. Conversely, in Japan, where the order is not binding, the percentage was 95.6% [8]. In France, before the ADs became binding on medical decisions, EMS performed CPR despite an AD opposing resuscitation in 24% of cases [9].

The way EMS deal with ADs in specific populations (patients over 65, palliative care, end-of-life care) has already been studied [10–15]. However, to the best of our knowledge, no studies have yet examined emergency physicians' (EPs) approach to the ethical dilemma faced when confronted by a clinical scenario of a healthy young adult who has an AD that specifies DNAR and presents with an acute and potentially reversible cause of CA. This is an important and worthwhile area to explore given the data that similar proportions of patients with chronic illnesses (38.2%) and healthy adults (32.7%) had completed advance directives [in the U.S.] [16].

In order to better understand how ADs are handled by EMS during CPR and the reasons why ADs are or are not applied, we carried out a study to describe and analyze how EPs handle ADs in the management of young, healthy subjects in CA.

Methods

Study design

A qualitative approach following the COREQ [17] guidelines and using semi-structured individual interviews and a focus group was conducted between April and June 2023 among EMS physicians at the Besançon University Hospital (BUH), Besançon, France.

A registration declaration was submitted to the clinical research department of the hospital where the study was conducted and accepted, number: 2024/861. Participation was voluntary and anonymous, and each participant signed informed consent. Participants were free to drop out of the study at anytime and without justification. No participants discontinued their participation in the study. After the interviews, each participant received a transcript of their speech and validated it.

Study setting and population

All 43 EPs working in BUH EMS, including five end-of-training residents, were contacted. A purposive sampling with maximum variation criteria was used, looking for heterogeneity in terms of years of experience and career paths. According to Warren (2002) quoted by Brayman (2012) [18], for a qualitative interview study to be relevant, the minimum number of interviews required seems to be between twenty and thirty. In this study, the minimum number of individual interviews was set at 15, and the minimum number of participants to form a focus group was set at 5.

The inclusion criteria were: formal status as an EP at BUH EMS and formal consent to participate. The exclusion criterion was: to have participated in the preparatory interviews.

Study protocol

Three fictitious clinical vignettes (Table 1) and an interview guide were developed by a multidisciplinary team (physicians, public health experts and a methodologist) following a review of the literature and based on the experience of each expert. The interview guide was pre-tested, corrected and validated during exploratory interviews with two EPs who were not participating in the study. In these vignettes, physicians were asked to respond to three situations where they would have to take under their care a young patient with no previous history or treatment, presenting with a CA and a DNACPR. The vignettes differed in terms of location (out-of-hospital, in-hospital and Medical Dispatch Centres), the way the

Table 1 Clinical vignettes

Vignette 1 : You work in MICU. Your beeper goes off for a CA in a young patient accompanied by a witness. You know that he's 40 years old, has no previous medical history, is not taking any medication and was running with friends. You arrive at the scene first with your MICU team within 5 min. You quickly confirm CA. No chest compressions were started by the victim's friends. They immediately give you a copy of the patient's AD, found in his trail bag, which includes a DNACPR order.
Vignette 2 : You work in the Emergency Department. A healthy and athletic 40-year-old man with no previous medical history or treatment is referred by his family physician for obstructive pyelonephritis complicated by hyperkalemia. You have the physician's referral letter and a copy of the patient's AD, attached by his physician, which includes a DNACPR order. When you enter the room alerted by the alarms, the patient is unconscious, he is not breathing and the monitor displays a Ventricular Fibrillation Rhythm.
Vignette 3 : You work in a Medical Dispatch Centre. Your dispatcher assistant transfers the call: "Male / 40 years old / CA? / MICU sent / wife is calling". You take the call. The wife confirms that he's unconscious and not breathing. You begin to give instructions to the caller on how to start chest compressions. On this occasion the wife asks you whether or not she should start chest compressions, her husband has written a DNACPR. On further questioning, you learn that the patient has no chronic pathology, is valid and athletic.

MICU, Mobile Intensive Care Unit; CA, Cardiac Arrest; AD, Advance Directive; DNACPR, Do Not Attempt CardioPulmonary Resuscitation

physician was made aware of the AD and the expected prognosis of the CA.

In French Medical Dispatch Centres, each call is handled by a call center physician after a medical regulation assistant has received the main information about the caller's state of health. In response to a call, the medical dispatcher can give medical advice or send a first aid team or a mobile intensive care unit (MICU) [19]. In the French EMS system, all out-of-hospital CA cases are handled by a MICU manned by an EP, a specialist nurse and an ambulance driver trained at least in basic life support [20].

Measures

The principal investigator was an EP specializing in ethics who worked in the service where the study was carried out. The interviews were conducted in French, the native language of the respondents and the interviewer. The interviews were audio recorded in their entirety using a dictaphone (Zoom H1n®). The dictaphone was stored in a secure area to which only the principal investigator had access.

The individual interviews allowed respondents to express precisely what they would have done in each of the three situations and to share their thoughts freely. They were conducted face-to-face by the principal investigator until data saturation was reached.

The focus group was conducted with EPs who did not take part in the individual interviews. The advantage of this methodological tool was to introduce a debate and a controversy within a homogeneous group of professionals with similar characteristics and a good level of inter-knowledge in order to identify more clearly the elements which constitute a source of debate on the treatment of AD.

Data analysis

A cross-sectional thematic content analysis was carried out by the interviewer, who conducted, transcribed and coded the interviews in their entirety manually using Microsoft Word® [21].

Once the audio tapes had been transcribed onto a password-protected computer by the main author, they were deleted from the dictaphone. Transcriptions on the computer were pseudo-anonymized using a correspondence grid and an authentication code (e.g. for the 7th individual interview: IND-Physician7). All pseudo-anonymized transcripts were then translated from the native language into English by the authors.

The verbatim transcripts were used as a basis for analyzing and summarizing the behaviors and opinions expressed by the physicians interviewed. Each part of the transcripts was analyzed cross-sectionally and classified into descriptive codes representing the idea it conveyed from one interview to the next. This approach was a four-step process based on different levels of inference, starting with descriptive codes and larger themes, progressively defining the themes and ending with conceptual categories. By dividing the discourse into fragments corresponding to the themes, it was possible to identify themes, modalities and frequencies of their occurrences using an analysis grid, as well as to identify the patterns of action and thought processes of the respondents. The analysis grid was constructed on the basis of an initial reading of some of the interviews, as well as on the hypotheses initially put forward and validated after a re-reading by the multidisciplinary team. Analysis was discussed with member of the research team to establish consensus.

Results

Characteristics of study subjects

Of the 43 EPs approached, 22 gave their consent to take part in the study. Twenty EPs were included either for an individual interview (15 participants) or for a focus group (5 participants). Two EPs were not included because their profiles (career path, experience, age and gender) were similar to interviews already conducted. Once the planned sample and data saturation were reached, recruitment was stopped.

The population studied comprised 10 men and 10 women aged between 28 and 63 (mean 39.7 ± SD 11,21), whose demographic and professional data are presented in Table 2. Physicians participating in the individual interviews were given the nonidentifying code

Table 2 Main characteristics of participants

	Gender	Age (years)	Professional experience in EMS (years)	Ethical certified training on ADs	Legal certified training on ADs	Length of interview (minutes)
Focus group						
FG-Physician1	Male	29	0	no	no	92
FG-Physician2	Female	29	0	no	no	92
FG-Physician3	Male	28	0	no	no	92
FG-Physician4	Male	28	0	no	no	92
FG-Physician5	Male	32	0	no	no	92
Individual interviews						
IND-Physician1	Male	29	0,5	no	no	29
IND-Physician2	Female	46	18	no	no	59
IND-Physician3	Male	54	26	no	no	65
IND-Physician4	Female	30	1,5	no	no	62
IND-Physician5	Female	36	9	no	no	51
IND-Physician6	Female	37	1,5	yes	yes	59
IND-Physician7	Female	30	1,5	no	no	30
IND-Physician8	Female	53	28	yes	no	46
IND-Physician9	Male	51	25	no	no	47
IND-Physician10	Male	44	14	no	no	16
IND-Physician11	Female	35	10	no	no	34
IND-Physician12	Female	58	28	no	no	44
IND-Physician13	Male	37	10	no	no	22
IND-Physician14	Female	45	16	no	no	35
IND-Physician15	Male	63	25	no	no	41

EMS, Emergency Medical Services; AD, Advance Directive

"IND-Physician" and those in the focus group "FG-Physician". The mean duration of the individual interviews was 43 min (median 44, range 16–65 min). The focus group, which lasted 92 min, was conducted with a homogeneous group of five end-of-training residents.

General impressions

All vignettes (Table 1) were considered demanding by the physicians surveyed. The respondents all stated that they would have started a CPR in the absence of ADs but their presence influenced the practice of twelve of them in at least one clinical vignette. "*I'm often short on ADs, I generally ask for them [...] now that I have them, they annoy me [...] because they make me second-guess everything. It's a situation [...] that I don't have in mind, that I've never thought of before*" (IND-Physician9). The verbatims used during the individual interviews are thematically structured into 4 themes available in Table 3.

Out-of-hospital

In vignette no. 1 (Table 1), 19 physicians took the decision to start CPR on their own: "*We'll start resuscitation, and figure it out afterwards*" (IND-Physician14), "*If I take the time to think about and read the AD first, I'm wasting my patient's time. But, I can't accept ADs without thinking. So in the initial phase I start CPR*" (IND-Physician12).

Only one physician with 25 years of experience judged the AD to be appropriate for a prognosis assessed as unfavorable, and stated that he would not initiate CPR: "*Without ADs, it's true that I won't hesitate to attempt resuscitation [...] If he'd had chest compressions with ADs, I might have done something, but he hasn't been massaged, there's an AD so I'm not doing anything*" (IND-Physician9).

In-hospital

In vignette no. 2 (Table 1), nine physicians singlehandedly took the decision to reject ADs for three different reasons. Firstly, six physicians used their experience to judge ADs as unsuitable for the medical situation: "*it's a reversible situation*" (IND-Physician9), "*it's rare, but we've already seen patients recover without any after-effects in similar cases, so I'd rely on that*" (IND-Physician11), "*my experience to date has never shown me anyone regretting having been treated*" (IND-Physician12). Secondly, a man and a woman with 26 and 28 years of experience respectively said: "*I'd rather resuscitate wrongfully than not resuscitate*" (IND-Physician3), "*I make the decision for him [...] the job of the EP is to be proactive*" (IND-Physician8). Thirdly, one physician felt that the AD document was legally insufficient, regardless of the method of delivery.

Table 3 The way advance directives are considered during cardiopulmonary resuscitation, individual interviews

Core theme	Subtheme	Exemplary quotes
1. Reflexion	1a. Time	"*we need time*" IND-Physician14 "*you don't have time, you're fighting for it*" IND-Physician12 "*time spent in analysis […] is time wasted*" IND-Physician5 "*because we're already late*" IND-Physician2
	1b. Responsibility	"*you're alone to make decisions*" IND-Physician10 "*the idea is to surround yourself with other physicians*" IND-Physician8 "*staying alone is not possible*" IND-Physician3
2. Assessment of the medical situation	2a. Patient	"*young person in good health with no previous history*" IND-Physician15
	2b. Phenomenon	"*sudden cardiac arrest*" IND-Physician11
	2c. Prognosis	"*very good recovery potential*" IND-Physician6 "*will be in a vegetative state at best*" IND-Physician9
	2d. Judgement	"*I dismiss the AD because it is inappropriate*" IND-Physician11
3. Determining the validity of ADs	3a. Authentication	"*verification of data and identity*" IND-Physician10
	3b. Wishes	"*I still need to be certain that this AD corresponds to the patient's wishes. And I can't be sure of that at all because he's unconscious.*" IND-Physician12
	3c. Knowledge	"*I don't know if he wrote them with full medical knowledge of what these terms would mean for him*" IND-Physician4
	3d. Discernment	"*under the influence of toxic substances, suffering from a psychiatric pathology, impaired judgement or cognitive disorder?*" IND-Physician5
	3e. Delivery method	"*I don't know where it came from, it could have been signed by* anyone" IND-Physician13
	3 f. Legal	"*I don't know what's legal and what isn't when it comes to ADs*" IND-Physician8
	3 g. New situation	"*a situation I've never experienced before*" IND-Physician12
	3 h. Opinions of relatives	"*I would try to contact other people, members of his family, people close to him.*" IND-Physician4
4. Cognitive dissonance	4a. ADs in a healthy person	"*this AD which is based on nothing*" IND-Physician14 "*I'm… shocked, I find it hard to understand*" IND-Physician8 "*a very destabilising situation*" IND-Physician12 "*it's assisted suicide*" IND-Physician3 "*that makes sense […] it raises some good questions*" IND-Physician9
	4b. Searching for a Reason	"*why did he write ADs?*" IND-Physician1 "*I don't know why he doesn't want to be resuscitated*" IND-Physician13 "*we don't have to understand, but it would help the team buy into the project*" IND-Physician5
	4c. Not doing something I can do	"*we want to resuscitate this person*" IND-Physician1 "*I'd have trouble accepting not doing anything, it would be very difficult for me, as a physician*" IND-Physician2 "*I'm here to treat, so I'm doing my job*" IND-Physician7 "*it'll be a bit binary and very instinctive, as a physician […], I'm going to start doing what I was trained for*" IND-Physician4 "*I start CPR, and figure it out afterwards*" IND-Physician8

Six physicians, 4 women and 2 men with less than 10 years of experience, who started CPR in MICU while the ADs were being confirmed, did not carry out any CPR in the EMS following the mode of delivery: "*that we have the patient's ADs, which come from the family physician, […] it has a strong value*" (IND-Physician5), "*the patient's choice was informed by a physician*" (IND-Physician6).

Five physicians sought to confirm "*the validity of the ADs*" (IND-Physician2) once CPR had begun, and then called for a collegial decision to clarify their decision: "*I know CPR very well, I know very little about the legal and ethical aspects, I'm going to start doing what I know how to do, knowing that I can stop at any time*" (IND-Physician4).

Medical dispatch centre

In vignette no. 3 (Table 1), all physicians confirmed that they would send the MICU: "*I'm sending everyone and we discuss it afterwards*" (IND-Physician1), "*it's a mistake not to send a MICU in the event of CA*" (IND-Physician15). Because: "*it's only declarative*" (IND-Physician5), "*on the phone we are blind*" (IND-Physician9).

The physicians' feelings were more neutral than in other situations: "*In human terms, I already feel a little more at ease. Maybe because I'm behind a phone*" (IND-Physician4). But everyone wondered what they should say to the wife and how: "*my duty is […] to ask the woman to start chest compressions […] but I can't force her*" (IND-Physician6).

Advance directives and life-threatening emergencies

In practice, physicians associated ADs with something positive: "*it's still useful to us*" (IND-Physician2), "*they provide guidance*" (IND-Physician15) for patients "*rather elderly or at the end of life […] they give us the right not to resuscitate*" (IND-Physician12).

Respondents said "*it suits our conscience more than our practice […] the outcome of my medical decision will be the same*" (IND-Physician4), "*if they weren't there, it would be the same answer […] it simplifies things to make relatives understand*" (IND-Physician13).

Physicians were divided on the use of ADs in "*life-threatening emergency situations, where it is difficult to take these directives into account*" (IND-Physician11). Respondents generally considered ADs in life-threatening emergencies to be usable on a case-by-case basis but unsuitable, and responses did not seem to depend on a particular type or threshold of experience. The general view is that "*it all depends on the situation*" (IND-Physician9), "*case-by-case […] medicine in general is about context, we learn the theory but there are going to be a lot of factors that enter the equation and that's when we're going to have to think things through*" (IND-Physician1).

Regarding the French legal provision allowing an AD to be ruled out in life-threatening emergencies only after a collegial decision, EPs unanimously felt that this was unsuitable for their practice "*that's crazy*" (IND-Physician11). "*Collective decision-making in an extreme emergency is impossible*" (IND-Physician14), "*it's adapted to ethical considerations with your oncology physician*" (IND-Physician9).

Focus group

The physicians in the focus group agreed on the lack of time to reflect and the need for collegiality. However, they differed on the extent to which ADs are binding on medical decisions, particularly in vignette no. 2 (Table 1): four physicians agreed not to undertake resuscitation because they were sure that the ADs were those of the patient and that they had been informed by a physician "*I respect the patient's right to make their own health choices […] as long as they have signed the form […] it's a done deal*" (FG-Physician5). These physicians engaged in a lively debate "*the days when you decided for people are over […] you don't have the right to do that*" (FG-Physician3) with the fifth physician dismissing the *AD "because of a reversible cause, not adapted to the situation […] was it thought through? […] This man may not have had the necessary knowledge or explanations*." (FG-Physician4).

None of the physicians changed their minds. After the discussion, they specified that an AD "*is not a medical decision, but the physician helps […] with reasoning*" (FG-Physician1). The group considered that ADs could be used on a case-by-case basis in life-threatening emergencies, but were unsuitable "*for emergency medicine […] because depending on the situation they can be an aid to decision-making, but they must not be an obstacle […] to emergency care*" (FG-Physician4). The group concluded that "*in the end, we respect ADs when it suits us*" (FG-Physician3).

Limitations

This study has some limitations. The model presented in this study raises the question of its generalization to other countries since our work was limited to the French system. Our study focused on themes present across the interviews, possibly at the expense of nuanced differences between participants. The study was conducted by a physician/researcher who knew the participants professionally, which implies a risk of subjective judgement. The use of clinical vignettes represents a limitation as it requires the participants to imagine and envision the scenes, it is nonetheless a strength, distancing them from the overwhelming emotion that the description of real-life scenes can generate, and a necessity, as a prospective ethical analysis of life-or-death issues is necessarily fictitious.

Discussion

To our knowledge, this study is the first to analyse the way EPs consider end-of-life preferences like ADs during CA when dealing with a young healthy person who has a DNACPR. This clinical scenario creates the greatest tension between the ethical and legal obligation to respect a patient's autonomy and the physician's obligation (or professional commitment) to provide lifesaving treatment, especially in a scenario where the decision to intervene must be made immediately. In practice, ADs are infrequent and are often reported to the physician after CPR has begun. We wanted to find out, using fictitious clinical situations, how a physician would react to a CA with a DNACPR AD in their hands.

The EPs surveyed unanimously consider ADs to be unsuitable in CA, because if they want to reject the AD, they are often alone and do not have the time to obtain a collegial consultation as required by French law. In France, this collegial procedure takes the form of a consultation with the available members of the care team, if there is one, and the reasoned opinion of at least one physician called in as a consultant [22].

The results show discrepancies in the thought process of EPs and the way they treat a CA in a young patient with a DNACPR. Physicians either accepted the AD and did nothing, or rejected the AD alone and resuscitated, or performed a time-limited trial to allow time for collegial discussion [23]. However, this is the same clinical situation, the same patient, and the protocols for treating CA are stringent. This difference seems to be explained by different thought processes, notably concerning two steps: determining the validity of ADs, and the cognitive dissonance induced by the situation.

With regards to determining the validity of ADs, the results of this study show that, in the opinion of the EPs questioned, ADs in CA can be used on a case-by-case basis when it is possible to immediately ensure that the patient is the author and that they correspond

to the patient's wishes. Thorevska et al., suggest that patients who wrote an AD without medical advice did not understand the life-sustaining therapies mentioned in their ADs [24]. Our study seems to indicate that an AD co-written with a physician has a greater impact on decision-making because it would be more precise in the choice of terminology used and would offer a guarantee that medical information has been given.

Regarding cognitive dissonance, the presence in a young, healthy subject of an AD urging EPs not to attempt CPR, even though they know how to resuscitate and want to, prompts them to search for a reason. Results show that ADs seem to be respected mainly when they corroborate the EPs intentions. Burkle et al., suggest that medical compliance with an AD is a "specific situation" and that medical judgement is more important than compliance with an existing AD, depending on the patient's clinical condition [25]. They point out that adherence to ADs is higher in situations involving chronic illness or terminal patients, whereas in emergency and/or reversible situations, medical judgement prevails. EPs seemed to consider the ADs of healthy people to be the result of a lack of information and medical knowledge. Bond et al., have shown that the level of agreement with ADs is directly related to what physicians think is best for the patient, suggesting that if patients had the same scientific knowledge, they would agree with the medical decision [26]. Additionally, physicians seem to think they know what is best for their patients, convinced that every effort should be made to treat them [27]. However, what is best for the patient based on a medical opinion may not be so in the patient's opinion [28].

Conclusions

EMS are confronted with end-of-life circumstances that require dynamic decisions and action. In our specific sample, EPs seem to respect ADs in CA when determining the validity of ADs can be quick and the physician understands why the AD was written. Future studies will be needed, to better describe this phenomenon, involving the various specialties involved in the management of CA.

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Author contributions
Study concept and design (PEM & TM), acquisition of the data (PEM), analysis and interpretation of the data (PEM & AC), drafting of the manuscript (PEM & AC), critical revision of the manuscript for important intellectual content (AK & TM). All authors read and approved the final manuscript.

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Data availability
No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate
A registration declaration was submitted to the clinical research department of the hospital where the study was conducted and accepted, number: 2024/861. Participation was voluntary and anonymous, and each participant signed informed consent. Participants were free to drop out of the study at any time and without justification. No participants discontinued their participation in the study. After the interviews, each participant received a transcript of their speech and validated it.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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References

1. Wyckoff MH, Greif R, Morley PT, Ng KC, Olasveengen TM, Singletary EM, et al. Education, Implementation, and Teams; and First Aid Task Forces. Circulation. 2022;146:483–557. https://doi.org/10.1161/CIR.0000000000001095. 2022 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations: Summary From the Basic Life Support; Advanced Life Support; Pediatric Life Support; Neonatal Life Support.
2. Kleinman ME, Perkins GD, Bhanji F, Billi JE, Bray JE, Callaway CW, et al. ILCOR Scientific Knowledge gaps and Clinical Research priorities for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: a Consensus Statement. Circulation. 2018;137:802–19. https://doi.org/10.1161/CIR.0000000000000561.
3. Loi. n○ 2005 – 370 du 22 avril 2005 relative aux droits des malades et à la fin de vie. https://www.legifrance.gouv.fr/eli/loi/2005/4/22/SANX0407815L/jo/texte. [accessed 08.04.24].
4. Laurie JM, Gerald K, Douglas SD, Michael RS, Scott MS, Ahamed HI, et al. 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation. 2010;122:S665–75. https://doi.org/10.1161/CIRCULATIONAHA.110.970905.
5. Loi. n° 2016-87 du 2 février 2016 créant de nouveaux droits en faveur des malades et des personnes en fin de vie. https://www.legifrance.gouv.fr/eli/loi/2016/2/2/AFSX1507642L/jo/texte. [accessed 08.04.24].
6. Rajagopal S, Kaye CR, Lall R, Deakin CD, Gates S, Pocock H, et al. Characteristics of patients who are not resuscitated in out of hospital cardiac arrests and opportunities to improve community response to cardiac arrest. Resuscitation. 2016;109:110–5. https://doi.org/10.1016/j.resuscitation.2016.09.014.
7. Counts CR, Blackwood J, Winchell R, Drucker C, Jennerich AL, Feder S, et al. Emergency medical services and do not attempt resuscitation directives among patients with out-of-hospital cardiac arrest. Resuscitation. 2021;158:73–8. https://doi.org/10.1016/j.resuscitation.2020.11.015.
8. Maruhashi T, Oi M, Asakuma S, Kotoh R, Shibuya H, Kurihara Y, et al. Advanced do-not-attempt-resuscitation directives and emergency medical services for out-of-hospital cardiopulmonary arrest patients in Japan: a pilot study. Acute Med Surg. 2021;8:692. https://doi.org/10.1002/ams2.692.
9. Reuter PG, Agostinucci JM, Bertrand P, Gonzalez G, De Stefano C, Hennequin B, et al. Prevalence of advance directives and impact on advanced life support in out-of-hospital cardiac arrest victims. Resuscitation. 2017;116:105–8. https://doi.org/10.1016/j.resuscitation.2017.03.015.
10. Poveda-Moral S, Rodríguez-Martín D, Codern-Bové N, José-Maria P, Sánchez-Valero P, Pomares-Quintana N, et al. Managing ethical aspects of advance directives in emergency care services. Nurs Ethics. 2021;28(1):91–105. https://doi.org/10.1177/0969733020952112.
11. Wiese CH, Bartels UE, Ruppert DB, Graf BM, Hanekop GG. Prehospital emergency physicians' experiences with advance directives in Germany: a

questionnaire-based multicenter study. Minerva Anestesiol. 2011;77(2):172–9. Epub 2010 Dec 9. PMID: 21150851.
12. Taghavi M, Simon A, Kappus S, Meyer N, Lassen CL, Klier T, Ruppert DB, Graf BM, Hanekop GG, Wiese CH. Paramedics experiences and expectations concerning advance directives: a prospective, questionnaire-based, bi-centre study. Palliat Med. 2012;26(7):908–16. https://doi.org/10.1177/0269216311419885.
13. Bronnert R, Munday D, Cole R, Pettifer A. UK paramedics can legally withhold resuscitation in defined circumstances. Palliat Med. 2013;27(6):573. https://doi.org/10.1177/0269216313478677.
14. Poveda-Moral S, de la Casa PJ, Sánchez-Valero P, Pomares-Quintana N, Vicente-García M, Falcó-Pegueroles A. Association between knowledge and attitudes towards advance directives in emergency services. BMC Med Ethics. 2021;22(1):75. https://doi.org/10.1186/s12910-021-00646-y.
15. Osman AD, Howell J, Smithies L, Wilson D, Lam L, Moran J, et al. Assessment of emergency department staff awareness, access and utilisation of advance care directives and goals of care: a cross-sectional survey. Australas Emerg Care. 2022;25(3):235–40. https://doi.org/10.1016/j.auec.2021.12.002.
16. Yadav KN, Gabler NB, Cooney E, Kent S, Kim J, Herbst N, et al. Approximately one. Health Aff (Millwood). 2017;36(7):1244–51. https://doi.org/10.1377/hlthaff.2017.0175. Three US Adults Completes Any Type Of Advance Directive For End-Of-Life Care.
17. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. December 2007;19:349–57. https://doi.org/10.1093/intqhc/mzm042.
18. Bekele WB, Ago FY. Sample size for interview in qualitative research in Social sciences: a guide to novice researchers. Res Educational Policy Manage. 2022;4(1):42–50. https://doi.org/10.46303/repam.2022.3.
19. Reuter PG, Desmettre T, Guinemer S, Ducros O, Begey S, Ricard-Hibon A, et al. Effectiveness and cost-effectiveness of telephone consultations for fever or gastroenteritis using a formalised procedure in general practice: study protocol of a cluster randomised controlled trial. Trials. 2016;17:461. https://doi.org/10.1186/s13063-016-1585-9.
20. Adnet F, Lapostolle F, International EMS. systems: France. Resuscitation 2004;63:7–9. https://doi.org/10.1016/j.resuscitation.2004.04.001
21. Terry G, Hayfield N, Clarke V, Braun V. Thematic analysis. In: Willig C, Stainton Rogers W, editors. Qualitative research in psychology. 2nd ed. London: the sage handbook; 2017. pp. 17–37.
22. Loi no 2016 . – 1066 du 03 août 2016 créant de nouveaux droits en faveur des malades et des personnes en fin de vie. https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000043588182 [accessed 08.04.24].
23. Vink EE, Azoulay E, Caplan A, Kompanje EJO, Bakker J. Time-limited trial of intensive care treatment: an overview of current literature. Intensive Care Med. 2018;44:1369–77. https://doi.org/10.1007/s00134-018-5339-x.
24. Thorevska N, Tilluckdharry L, Tickoo S, Havasi A, Amoateng-Adjepong Y, Manthous CA. Patients' understanding of advance directives and cardiopulmonary resuscitation. J Crit Care. 2005;20:26–34. https://doi.org/10.1016/j.jcrc.2004.11.002.
25. Burkle CM, Mueller PS, Swetz KM, Hook CC, Keegan MT. Physician perspectives and compliance with patient advance directives: the role external factors play on physician decision making. BMC Med Ethics. 2012;13:31. https://doi.org/10.1186/1472-6939-13-31.
26. Bond CJ, Lowton K. Geriatricians' view of advance decisions and their use in clinical care in England: qualitative study. Age Ageing. 2011;40:450–6. https://doi.org/10.1093/ageing/afr025.
27. Bradley CT, Brasel KJ, Schwarze ML. Physician attitudes regarding advance directives for high-risk surgical patients: a qualitative analysis. Surgery. 2010;148:209–16. https://doi.org/10.1016/j.surg.2010.05.020.
28. De Vleminck A, Houttekier D, Pardon K, Deschepper R, Van Audenhove C, Vander Stichele R, et al. Barriers and facilitators for general practitioners to engage in advance care planning: a systematic review. Scand J Prim Health Care. 2013;31:215–26. https://doi.org/10.3109/02813432.2013.854590.

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