

"Do you want us to try to resuscitate?": Conversational practices generating patient decisions regarding cardiopulmonary resuscitation

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Abstract

Objective: To explore how physicians elicit patients' preferences about cardio-pulmonary resuscitation (CPR) during hospital admission interviews.

Methods: Conversation analysis of 37 audio-recorded CPR patient-physician discussions at admission to a geriatric hospital.

Results: The most encountered practice is when physicians submit an option to the patient's validation ("do you want us to resuscitate"). Through it, physicians display presuppositions about the patient's preference, which is not elicited as an autonomous contribution. Through open elicitors ("what would you wish"), physicians treat patients as knowledgeable about options and autonomous in determining their preference. A third practice is related to patients delivering their preference in anticipation of the request and is encountered only for choices against CPR. These decisions are revealed as informed and autonomous, and the patient as collaborative.

Conclusion: The way that physicians elicit patients' preferences about CPR influences the delivery of autonomous and informed decisions. Our findings point to an asymmetry in ways of initiating talk about the possibility of not attempting CPR, potentially exacerbated by the context of admission interviews.

Practice Implications: Decisions about the relevancy life-sustaining interventions need an adequate setting in order to allow for patient participation. Our findings have implications for communication training in regard to involving patients in conversations about goals of care.

1. Introduction

Cardiopulmonary resuscitation (CPR) is an emergency procedure undertaken in order to restore the return of spontaneous blood circulation and breathing in a person found in cardiorespiratory arrest. From a medical point of view, do-not-attempt-resuscitation (DNAR) decisions become relevant when CPR has low chances of survival associated with high risk of adverse outcomes such as frailty and disability. Given the unpredictability of cardiac arrest, in Switzerland, as in many other countries, it is general practice to discuss the relevancy of CPR at hospital admission, especially when patients are at risk (for example, because of their illness).

Involving patients in decisions about future treatments is crucial in providing for effective, patient-centred care (1). This is even more relevant in the case of life-sustaining interventions such as CPR, which even when successful may substantially alter the person's quality of life. According to the shared decision-making model (2), decisions regarding CPR (also referred to as the patient's "code status") should rely on the medical indication and on the patient's preference expressed autonomously (3).

The implementation of patient-centered care has been described as 'challenging' in clinical practice (1). On an international scale, previous research shows that patient-informed and autonomous expression of preference is not systematically enabled during CPR conversations: hospital physicians rarely discuss the risks and chances of survival of CPR (4-6), are elusive in sharing medical recommendations (5-7), and use vague vocabulary (4; 5; 7). Studies in Switzerland show that patient participation to the decision is influenced by how physicians understand DNAR (8) and by the physician's assessment of the patients' clinical state (9).

In this paper, based on recordings of real-life conversations, we examine how physicians discuss CPR with their older patients upon hospital admission. Our analysis draws on the field of conversation-analytic studies that concern decision-making between health professionals and patients about future interventions, such as medical treatments (10-23), diagnostic tests (24-26) or surgeries (27). Among the several elements of the decision-making sequence (28), most interest has been bestowed to how health professionals initiate decisions. In this regard, Stivers et al. distinguish five main treatment recommendation actions (pronouncements, suggestions, proposals, offers, and assertions), while other authors focus more on how options are presented (13; 15-17). One particularity of these studies is that they explore how decisions are initiated and negotiated in conversations whose only or primary activity is that of making decisions. However, as we argue in our study, medical decisions may also be discussed in environments that are not strictly designed towards "decision making" but have a more informative purpose, like the admission interview during which CPR is approached.

Given that the only alternative to CPR is death, our analysis also draws on studies that concern how patients and health professionals discuss the hypothetical state of medical degradation (29-36) and plan for end of life (28; 35; 37-39); however, in this domain, the way that participants discuss the relevancy of life-sustaining interventions has only received limited attention (40; 41).

2. Methods

2.1. Data and participants

Data was collected in an acute geriatric facility to which patients were transferred for rehabilitation from a Swiss-francophone university hospital. Originally, 51 conversations were recorded, of which eight were deleted because CPR wasn't broached and two because the relatives also took part but we couldn't obtain consent prior to the recording. Our full dataset comprises 41 audio-recordings of CPR discussions occurring during admission interviews

between 41 patients and 17 physicians. All physicians were in their residency (1-3 years after finishing their medical degree). Patient demographics were collected (Table 1).

Table 1. Patient information

	Number (%)
Age	83.24
Reason for hospitalization	
Rehabilitation after surgery or trauma	22 (53.7)
Deconditioning after urinary infection	3 (7.3)
Rehabilitation after septic choc	3 (7.3)
Geriatric rehabilitation (general)	2 (4.9)
Other	11 (26.8)
Service from which they are transferred	
Geriatrics	5 (12.2)
Internal medicine	20 (48.8)
Traumatology & Orthopedics	16 (39.0)
Diagnosis (Main and secondary)	
Malnutrition (anemia, malnutrition)	26 (63.4)
Mobility problems (walking difficulty, fractures, falls, equilibrium problems)	26 (63.4)
Renal / Urinary problems (renal insufficiency, incontinence, cystitis)	21 (51.2)
Bone related problems (coxarthrosis, osteoporosis, carpal tunel)	17 (41.5)
Cardiac problems (heart failure, thrombosis, cardiopathy, hypoantremia)	16 (39.0)
Minor/incipient neurocognitive problems	12 (29.3)
Respiratory problems (COPD, pneumonia, edema, dyspnea)	10 (24.4)
Mood disorders (adjustment disorders, dysthymic disorders)	6 (14.6)
Digestive problems (gastroenteritis, ulcer, hemorrhage)	7 (17.1)
Oncologic (lymphoma, adenopathy, carcinoma)	5 (12.2)
Sepsis	5 (12.2)
Hepatic problems	3 (7.3)
Extrapyramidal symptoms (incl. Parkinsons)	3 (7.3)
Diabetes	2 (4.9)
Others: esophagitis, mycosis, epilepsy	7 (17.111)
Existence of a prior code status	
Yes	11 (26.8)
No	25 (61.0)
Not available / unclear	5 (12.2)

Data was collected over a ten-month period (April 2017–January 2018). Patients and physicians provided consent for the recording 24h before the interview took place, but the focus on CPR was not mentioned, in order to prevent bias.

This data was supplemented by ten non-participant observations of ten CPR conversations (July 2016) to allow the first author to gain ‘on the ground’ knowledge of the facility. Information was used to establish the study protocol and to inform the analysis in regards to the setting (42).

2.2. Setting

The admission interview involved the patient and the physician in history-taking, physical examination, and cognitive testing; it was designed to gain information about the patient’s

social background, living conditions, future plans, medical history, as well as their cognitive and physical capacities; it was not oriented towards one particular topic, not even that of their diagnosis or treatment. CPR could be discussed during any of these phases of the interview, but was frequently mentioned in the beginning (as part of the history-taking) or at the very end (see Appendix B for the excerpts presented below).

2.3. Analytic procedure

Analysis was guided by the conversation analysis (CA) approach. CA resides in a finely-grained analysis of recorded data, focussing on how participants interact in order to accomplish ordinary as well as interactionally challenging tasks (43; 44). It has been extensively used for the study of medical consultations (45; 46). The recordings were transcribed using Jeffersonian conventions (47) (see Appendix A) and translated word for word from French for the purposes of this article. In the excerpts presented here, arrows are used to indicate the lines at which the phenomenon under investigation takes place.

In this paper we focus, in particular, on physician practices that result in patients expressing a preference in regards to CPR. We analyze these practices in terms of whether/how they create opportunities for patients to participate to decision-making, i.e. whether they afford an autonomous and informed indication of preference regarding CPR. For this, we draw on concepts developed in CA related to the display and distribution of epistemic rights and deontic authority. The ‘epistemic domain’ refers to the knowledge and personal experience that a person has (48; 49). For patients this concerns knowledge about their experience and their life values, which inform their preferences; for health professionals it concerns knowledge about diagnoses and medical indications for or against interventions. The right that people claim to certain types of knowledge frequently comes up in the conversation as an interactional resource (49). Deontic right refers to a person’s right to determine future actions and make decisions about interventions (50). In conversation, deontic authority is a matter of having these rights, but also of claiming them and of these rights being recognized by the other participants (51). The distribution of deontic authority is incremental for how participants take part in decisions; as such, this concept is jointly used to that of ‘epistemic rights’ in analysis about medical communication (10; 12; 21).

3. Findings

The corpus comprises 37 conversations in which patients delivered a clear preference in favor of or against CPR. Each of these practices is analyzed below. Due to space restrictions, Appendix B contains information about patients in excerpts and the details of the CPR discussion.

We discuss three practices that result in patients expressing their preference. First, physicians may refer to a particular option and make relevant the patient’s confirmation or validation of it; this practice displays relatively strong presuppositions of what the patient’s preference is. Physicians may also resort to using open elicitors that treat patients as knowledgeable about options and autonomous in determining their preference. Third, we discuss cases in which patients pre-empt any elicitation of preference and offer in anticipation their preference.

3.1. Eliciting preference as a confirmation or validation of an option

The most recurrent practice (18 cases) which resulted in patients expressing preference consists in the physician referring to an option and submitting it for patient acknowledgement or confirmation, as in Excerpts 1 and 2.

Excerpt 1 C33_PHY18_PAT44

01 PHY18: retaper et puis muscles. (0.7) voilà.
get back on your feet and muscles. (0.7) that's it.
02 (1.4)
03 PHY18: donc euh nous s'y a un problème au niveau euh: du cœur ou comme ça
so uh us if there's a problem with uh: the heart or something
04 général on- on vous réanime. vous.
→ **general we- we resuscitate you. you.**
05 PAT44: ouais
yeah
06 PHY18: °oui°
°yes°
07 PAT44: oh (0.6) °oui°
oh (0.6) °yeah°

The physician engages in discussing CPR without transition from the prior question. The discourse marker “so” indexes that an important matter is emerging in the conversation (52). The physician introduces a hypothetical scenario that presents circumstances that would make CPR relevant (lines 03-04). The generic presentation (“a problem with the heart or something general”) downplays the relevancy of this health condition.

Drawing on this, the physician refers to a relevant course of action (“we resuscitate you”, line 04). Its formulation in present tense (instead of future tense) grants to this act a dimension of certainty. Through this pronouncement (10), CPR is unilaterally presented as a decision, excluding patient agency (23). In using it, the physician claims strong epistemic authority (knowing what should be done) and deontic authority (taking that decision). The unilaterality of this pronouncement is counterbalanced with the extension of the turn by repeating the reference to the patient (“we resuscitate you. you”, line 4). This increment (in French, a right dislocation (53)) highlights the role of the patient in the decision process; while a pronouncement would make an acceptance or rejection relevant (with a preference for acceptance), this new construction makes relevant a confirmation. Overall, this construction reveals that the physician does not merely pronounce that CPR will be attempted but that he conveys his strong presupposition about what the patient might want, a presupposition that requires validation.

The patient’s response confirms the distribution of knowledge and authority contained in the physician’s formulation. His answer is affirmative but minimal, and in a post-expansion, he repeats his confirmation (“oh (0.6) oui”, line 7), which treats the information as obvious (54; 55).

Patient preference can also be obtained through questioning, thus providing for more patient participation.

Excerpt 2 C10_PHY05_PAT21

01 PHY05: monsieur j'ai encore une question. (1.5) c'est par rapport à la
sir I have one more question. (1.5) it's about
02 <réanimation>. (1.6) si le cœur: (0.5) il venait à s'arrêter. (1.6)
<resuscitation>. (1.6) if the heart: (0.5) it came to stop. (1.6)
03 est-ce que vous voulez qu'on essaie de réanimer?=
→ **do you want us to try to resuscitate?=
04 PAT21: =oui.
=yes.**
05 PHY05: ok. (0.5) °mhmh° (0.9) °d'accord° (1.1) 'pis est-ce que vous avez écrit
ok. (0.5) °mhmh° (0.9) °all right° (1.1) and have you written
06 des directives anticipées?
advance directives?

Presenting CPR as “one more question” (line 01) aligns it with the other questions of the history-taking, emphasizing the patient’s firsthand access to this information; this establishes the “environment” in which the conversational project will be pursued.

As in excerpt 1, the patient's preference is elicited through use of a hypothetical scenario ("if the heart it came to stop", line 02). The course of action is formulated within a polar interrogative ("do you want us to try to resuscitate", line 03) and as a "single choice" (41). Reference to CPR being "tried" and the stress with which this particle is delivered makes the distinction between "doing" CPR and CPR being successful. Closed questions such as this, featuring a single option, are often encountered in anamneses; they limit the contributions that patients can make and add pressure to affiliate to the candidate option (15; 56-58), which the patient does very fast (line 04). However, in comparison with Excerpt 1, the physician's claim in regards to the decision is much lower.

3.2.Eliciting preference through open elicitors

Another way of obtaining patient preference is through an open elicitor that requires the patient to specify the relevant course of action, as in Excerpt 3 (7 cases).

Excerpt 3 C6_PHY3_PAT17

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01  PHY03:  et puis (.) juste aussi pour terminer après ɛj'arrête de vous embêter
           and then (.) just also to finish then ɛI stop annoying you
02  hehe euh:: ts on demande aussi toujours ça aux gens qui arrivent ici
           hehe uh:: ts we also always ask this to all the people who come here
03  euh à ((centre)). ça n'a rien à voir avec votre état de santé hein
           uh to ((center)). it has nothing to do with your health state huh
04  mais juste de savoir si: vous avez déjà un petit peu réfléchi, ·h
           but just to know if: you have already thought a little bit, ·h
05  s'il vous arrivait quelque chose de très très gra:ve, qu'est-ce que
           if something very very se:rious happened to you, ·h what
           → would you wish: that the physicians do: (.) or don't do:=
06  vous souhaiteriez: que les médecins fa:ssent (.) ou ne fassent pas:=
           → =this I've already answered this question several [times
07  PAT17:  =ça j'ai déjà répondu à cette question plusieurs [fois
           =this I've already answered this question several [times
08  PHY03:  [au ((hôpital))?
           [at ((hospital))?
09  PAT17:  oui.
           yes.
10  PHY03:  oui.
           yes.
11  PAT17:  non pas d'acharnement thérapeutique ça °je ne voudrais pas.°
           no no futile care this °I wouldn't want.°

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The introduction signposts what the physician sets out to do: "finish"ing a project (line 01) and "ask"ing something (line 02). This accomplishes "pre-delicate" work as it alerts to the fact that the physician will engage in doing something that can be heard as problematic (43). The topic is elaborately launched, consisting of a disclaimer ("then I stop annoying you"), a projection of its routine character ("we ask also this to all the people"; "nothing to do with your health state"), and a description of cardiac arrest in vague terms ("if something happened to you very very serious"), which also work to project the upcoming topic as delicate (29; 43).

The patient's preference is elicited through a content question (59). The formulation ("what would you wish that the physicians do or don't do", line 05-06) conveys the idea that several options are available; in particular, the construction of a negative alternative hints to refusing an intervention rather than choosing one. However, these options are not explicitly specified, conveying the presupposition that the patient already has background knowledge to make sense of the query and its purpose.

The patient's answer supports this claim. The patient mentions that she has already dealt with this question before (line 07), grounding her decision in prior experience. Ultimately, she provides a response ("no no futile care", line 11). The patient's turn starts with a "no", rejecting the idea of positive action being taken that is embodied in the content question. The response

displays the patient as familiar with medical jargon (“futile care”) and potentially increases the authority of her decision.

With an open elicitor, the patient is given full decisional autonomy. However, she is not provided with any information substratum that would guide that decision. Information is also an issue for the patient; her account of having discussed CPR previously is pivotal in relaying her decision.

3.3. Patient pre-emptions of the projected question

In 12 conversations, patients share their decision before the physician has made an allusion to an option; in all cases, the patient’s preference is for DNAR.

Excerpt 4 PHY02_PAT20

01 PHY02: par rapport à:: ·h on a discuté avec vous, (0.3) ben en fait je vais
about the:: ·h we discussed with you, (0.3) well actually I will
02 vous poser une question qu’on pose toujours à tous les patients
ask you a question that we always ask all patients
03 d’accord? ·h c’est pour euh: connaître votre volonté (0.2) si jamais
all right? ·h it's to uh: know your will (0.2) if ever
04 il vous arrive quelque chose et puis que vous pouvez pas exprimer votre
something happens to you and that you can't express your
05 volonté. (0.4) ·h d’accord? (0.5) donc c’est par rapport à la prise de
will. (0.4) ·h all right? (0.5) so it's about making
06 décisions médicales. (1.4) une des questions qu’on veut savoir c’est-
medical decisions. (1.4) one of the questions we want to know it's-
07 ça- ça ne va pas arriver mais, (0.2) si jamais (0.2) votre cœur s’arrête,
it- it won't happen but, (0.2) if ever (0.2) your heart stops,
08 (0.6)
09 PAT20: faut l’laisser s’arrêter.
should let it stop.
10 PHY02: d’accord.
all right.

The physician struggles to initiate the discussion (lines 01-02). She starts to present the topic (“about the::”), but interrupts to cast it as something the patient has already discussed (“we discussed with you”), and again interrupts to present it as something routine (“we always ask to all our patients”). The self-initiated repairs cast the launch of the discussion as a source of trouble (60). By switching from presenting CPR as something *previously* discussed to something *routinely* discussed, the physician shows that she renounces the claim of first-hand access to the patient’s code status history and allows the patient more freedom to position himself. This is also foreshadowed by the use of “actually” (“well actually I will ask you a question”), which displays upcoming talk as contrastive to the prior one (61).

The topic is then presented in two ways (“to know your will”, line 03 and “about making medical decisions”, lines 05-06), the latter translating the former into the requirements of hospital admissions. While it is not clear what the decision concerns, the physician has invested considerable effort in accounting for the discussion and asking for the patient’s confirmation (“all right” line 02 and 05), which is left unanswered. The physician projects an upcoming question (“one of the questions we want to know”, line 06). This “pre-delicate” is also a “preliminary to a preliminary” (43), as it is not followed by the question but by the hypothetical scenario presenting cardiac arrest as something with low chances of happening (line 7).

The continuing intonation of the turn and the fact that it is not yet syntactically complete signals that more is coming. Nevertheless, the physician allows for break in the continuity of the turn through a 0.6 silence (line 08), after which the patient shares his decision to let the heart stop (line 09).

The patient's answer is pre-emptive, as he offers his decision in anticipation of being explicitly asked to, before the physician's question is complete. His response brings the prior turn to completion in terms of the activity that is accomplished: establishing the relevant course of action in case of cardiac arrest. The phenomenon is closely related to what has been investigated as "anticipatory completion" (62-64), and is understood as an "opportunity for another to begin speaking even when no form of elicitation is evident" (63). Lerner noted that such "anticipatory completion" of a turn in progress by another speaker is afforded by certain syntactic formats (62-64). Here, this is made relevantly possible by the reference to the hypothetical scenario ("if ever your heart stops", line 07), which works as a "preliminary component" signalling another component that can be anticipated. In this case, the completion by the patient leads to talk being collaboratively produced.

By sharing his preference pre-emptively but in coordination with the turn the physician produced, the patient displays affiliation with the on-going conversational project (62). Affiliation is also displayed through the use of the reference ("the heart" becomes "it") and the repetition of the verb ("stop"). The response is also afforded by the fact that the conversational project was signposted throughout the introduction (referring to making decisions, projecting an upcoming question).

Through this anticipation, the patient displays himself as knowledgeable about his preference and as ready to display agency (take the decision). The production of the decision in anticipation allows the patient assumes epistemic and deontic authority for making the deciding.

4. Discussion and conclusion

4.1. Discussion

This study has explored what physician practices result in patients sharing their preference regarding the relevancy of CPR in case they suffer a cardiac arrest, and how this might influence patients' agency in autonomously sharing their preference.

The most encountered practice is when physicians submit to the patient's acknowledgement or confirmation a specific alternative. The design of the turn displays the extent to which the physician claims an assumption regarding the patient's preference. With a pronouncement (Excerpt 1) the physician claims full agency over knowing and determining this preference (10). Polar interrogatives (Excerpt 2) highlight patient agency and participation in the final decision, though the reference to only one option displays strong presuppositions in regards to what the preference might be. Such formulations are likely to be heard by patients as being endorsed by the physician and thus requiring compliance (28; 65).

Another practice is using open elicitors that require patients to autonomously state their preferences (Excerpt 3). Through these references, physicians treat patients as equally knowledgeable about possible options and as being more entitled (and therefore having more autonomy) to determine and announce their preference. However, such line of questioning also holds as implicit that patients have already made a decision about CPR, that they can share it on the spot, and that this decision is not bound to change. This may limit the patients' capacity to ask questions in regards to CPR or to re-assess their decisions in accordance to their evolving medical condition.

A third practice is related to patients delivering their preference pre-emptively, in anticipation of the physician's request. As Excerpt 4 shows, such completion can be made possible by the particular syntactic construction under which is introduced the reference to hypothetical circumstances which make CPR relevant. Using hypothetical scenarios has also been documented in other clinical settings as an important interactional resource to discuss life

decisions and its features have been reported in literature (29-36). Our data shows that its organizational features allow patients and physicians to accomplish two things.

First, conversations in which patients share their preferences in anticipation reveal these decisions as informed and autonomous, and the patient as collaborative and eager to share their decision. In these conversations, decision making truly becomes an interactional achievement. The practice has been mentioned in other studies but not analysed (9). Its fitted design to the physicians' turn displays the patient's attention of what is going on in the conversation (66). The pre-emptive answer converts the routine structure of physician-asking-questions-and-patient-answering-them encountered in Excerpts 1-3, into a project, which is achieved collaboratively, and in coordinated fashion, under patient agency.

Second, these conversations allow patients to take ownership over referring to the relevancy of DNAR (as the only time the phenomenon happens it is in regards to DNAR decisions). Lerner shows that anticipatory completion causes a change in the ownership of the turn; in this way, next speakers may pre-empt an emerging dispreferred action in the current speaker's turn and transform it into an alternative preferred one (62). This reflection orients to the possibility of DNAR-related courses of action being referred to by physicians, as being dispreferred. Physicians are required to navigate through contrastive constraints when discussing life-sustaining treatment: while they might feel compelled to encourage patients to choose DNAR whenever relevant, this might be at odds with their larger mission of preserving life and ensuring patients' rehabilitation. As such, openly calling upon the relevancy of DNAR might be socially undesirable for physicians, just as for any other person, though not for patients. In this regard, our findings point to a certain asymmetry in ways of initiating talk about (and wording out) DNAR. Through anticipatory completion, patients not only affirm ownership of their decision but alleviate the physician's work in regards to discussing or making DNAR relevant.

Findings also show that in these conversations, physicians embark in discussing CPR in an environment that is not specifically designed for decision-making. Entrapped in the 'history-taking' format, preferences about CPR are approached as information that the patient has and gives to the physician, towards which the physician can elaborate presuppositions, but not as something that patients can decide during the encounter, with the support of their physician. Discussing decisions in an encounter oriented towards information-giving would account for why, in this setting more than in other, relevancy of DNAR and the prospect of death or vulnerability might be difficult for physicians to introduce in an overt way. It would also account for why, with very few exceptions, the typology of decision-initiating actions typical in decision-making conversations such as pronouncements, suggestions, proposals, offers, assertions (10) or option-listing (17) is not encountered in our data. In this sense, our findings show that discussing medical decisions is a conversational project that can take place in environments that, such as the history-taking, are not strictly concerned with decision making (which have received most research attention until now), but are nevertheless decision-relevant environments. Content but also environment in which conversations about medical decisions take place impact the social organization of these interactions.

We recognize several limitations to this study. The methodology and the homogeneity of data do not allow for statistical generalizations and to extrapolate findings to other settings. The use of video data would have also been an added value for the analysis. For an in-depth comprehension of how patient autonomy is enacted, the analysis should also account for what happens after the decision sequence.

4.2. Conclusion

Decisions regarding the appropriateness of CPR should be based on the medical indication regarding the potential benefits and risks of the intervention, and on patient preference informed by their values and life goals. Better understandings of how patient preference is elicited and what constraints are imposed onto it are thus essential. In line with prior studies (10-21; 23; 25; 26; 28; 67; 68), we show that physician practices vary in regards to how much autonomy they allow and make relevant in patient expressions of their preferences. Our findings suggest that reference to the relevance of DNAR might be difficult for physicians, perhaps due to their professional mission of preserving life and but also, in our particular setting, of their objective (patients' rehabilitation). Physicians deal with their possible situational inadequacy through employing linguistic resources that allow patients to offer in anticipation the decision which is sought. Indeed, our data also show that in several cases, patients willfully share DNAR preferences before physicians produce specific questioning. This display of collaboration highlights the intersubjective nature of CPR discussions.

4.3. Practice implications

The goal of this study was to advance understandings of how physicians involve patients in CPR decisions. Our analysis has offered evidence that when physicians refer to CPR as potentially relevant ("Do you want us to try to resuscitate?"), they project CPR as the most valid option. This sets an expectation for patients to conform, which restricts autonomous expressions of patient preferences. On the other hand, physicians may also defer to the patient the responsibility of defining the relevant course of action, for example by using content questions ("if something serious happened what would you wish that the physicians to do?"). However, this only benefits patients who are informed about the types of actions that can be undertaken and have reflected on their preference. Our findings also show that explicitly referring to the relevancy of DNAR is a delicate task for physicians. Patients who are convinced of not wanting CPR eagerly and overtly discuss this issue, even before physicians ask for their preference. Nevertheless, it is important that physicians explore the basis of this decision.

Ultimately, our findings reveal the need for physician trainings that addresses communication in conjunction with medical ethics and shared decision-making. CPR conversations might foster more patient autonomy and be more informative if taking place in a setting that allows for more time and for a therapeutic bond to be built, such as through advance care planning practices (69).

Informed consent and patient details

I confirm all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story. Patients and physicians gave their verbal and written consent prior to recording. The research was approved by the canton of Vaud Ethics Committee (project ID 2017-00229).

Conflicts of interest

The authors report no conflict of interest.

Funding sources

This research was funded by the Chair of geriatric palliative care of the Lausanne University Hospital and the WEGH Foundation (Switzerland).

Acknowledgements

We thank the patients and physicians who agreed to participate to the study. This project was developed and led with the support of a steering committee which we thank here: Dr Wanda Bosshard, Mehdi Laouadi, Dr Etienne Rochat, and professor Pascal Singy. We acknowledge the input and support of our colleagues from the Chair of geriatric palliative care and the Palliative and supportive care service of the Lausanne University Hospital, and in particular of professor Gian Domenico Borasio, professor Christophe Büla, Dr Laura Jones, and Dr Kristof Major. We also thank professor Douglas Maynard whose comments guided our reflection.

Appendix A. Transcription key adapted from the Jefferson (2004) transcription system

=	no discernable break between the turns/latching conversation
[point of overlap onset
]	point of overlap end
(3.4)	length of silence, measured in seconds and tenths of seconds
(.)	micro pause (less than 0.2 of a second)
:	lengthening or stretching of the sound
-	cut-off or self-interruption
.	falling intonation
,	continuing intonation
?	talk ending with rising intonation
h	hearable outbreath
·h	hearable inbreath
<u>underline</u>	emphasized talk
°no no°	talk is quieter than surrounding talk
>no no<	talk is faster than surrounding talk
((word))	transcriber's description

Appendix B. Information about excerpts

Excerpt no.	Patient age	Prior code status	Reason for admission	Other main diagnosis	Start of the conversation/ Total duration of the interview (min:ss)	Part of the interview when CPR is discussed
1	73	not available	Rehabilitation after hip prosthesis surgery	Hip osteoarthritis	10:04 / 52:51	Before history-taking
2	86	not available	Rehabilitation after urinary infection	Parkinson's disease	12:06 / 44:48	End of history-taking
3	86	not available	General rehabilitation	Cerebellar ataxia	28:12 / 44:49	End of history-taking
4	84	DNAR	Rehabilitation after gastroenteritis	Renal failure, nephropathy, hypertension, anemia	14:15 / 49:33	End of history-taking

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