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## Ethical frameworks for complex medical decision making in older patients: A narrative review



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## ABSTRACT

**Background:** With an ageing population physicians are more and more faced with complex medical and moral situations. Medical professional guidelines are often of limited use in these cases. To assist the decision making process, several ethical frameworks have been proposed. Ethical frameworks are analytical tools that are designed to assist physicians and other involved healthcare workers in complex moral decision-making situations. Most frameworks are step-by-step plans that can be followed chronologically during moral case deliberations. Some of these step-by-step plans provide specific moral guidance as to what would constitute a morally acceptable conclusion, while others do not.

**Objective:** In this narrative review we will present and discuss the ethical frameworks used for medically complex situations in older people that have been proposed in literature.

**Methods:** Three electronic databases (embase.com, Medline Ovid and PsychINFO Ovid) were searched from inception to January 24, 2020, with the help of expert librarians.

**Results:** Twenty-three studies were included in the review, containing seventeen different frameworks. Twenty studies described step-by-step-frameworks, with the number of steps varying from three to twelve. In four studies suggestions were made as how to balance conflicting moral values.

**Conclusions and implications of key findings:** Ethical frameworks are meant to assist healthcare professionals who are faced with morally complex decisions in older patients. In our view, these frameworks should contain a step-by-step plan, moral values and an approach to balancing moral values.

### 1. Introduction

Should physicians honour the request from relatives of a terminal patient not to implement a “do-not-resuscitate”-policy? Should a feeding-tube be placed in patients with advanced dementia? With an ageing population and the consequent increase in the number of patients with multimorbidity and frailty, physicians more often encounter these complex situations.

The issues raised in such complex situations are not just medical, but concern important moral questions as well, for instance as to what constitutes the best interest of the patient. Moral values play an important role in medicine. Moral values are general principles that define what is right and wrong. Moral values are used to guide and evaluate certain practices, such as medicine. The most commonly used moral values that guide medicine are beneficence, nonmaleficence, autonomy and justice (Beauchamp & Childress, 2012). Most well-known are the

four principles as described by Beauchamp and Childress (beneficence, nonmaleficence, autonomy and justice) that are often seen as a cornerstone of medical ethics.<sup>1</sup> According to these authors these principles are based in a ‘common morality’, which means that the principles represent basic moral values which are shared by all moral persons. The principles are thus grounded in human moral psychology.

Currently, there is increasing attention for including frail populations in guidelines. However, in complex situations, physicians cannot solely rely on professional medical guidelines but need to balance moral values in individual cases. This means that a tailored solution has to be found in each individual case. As patients these days are almost always treated by a multidisciplinary team of healthcare workers, the decision that is taken will have to be a *shared* decision between healthcare teams and patients. The decision also needs to be both well-argued and transparent. It should be clear for all parties what arguments were offered and which method was used to reach the final conclusion. In this

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narrative review, we will present and discuss the ethical frameworks used for medically complex situations in older patients.

## 2. Methods: search strategy and selection criteria

Three electronic databases (embase.com, Medline Ovid and PsychINFO Ovid) were searched from inception to January 24, 2020, with the help of expert librarians. Together with the expert librarians, a search strategy was designed, with a combination of all terms related to ageing and ethical frameworks. Articles in languages other than English were excluded. Details of the complete search strategy are provided in Appendix A.

Two independent reviewers (RB, GD) screened the titles and abstracts. The full text of potential relevant studies were independently evaluated. Any disagreement regarding inclusion was resolved through consensus. A predesigned data collection form was used to extract relevant information from the selected studies.

## 3. Results

A total of 4738 records were identified. After removal of duplicates, 3629 records remained and were screened (title and abstract). As a result, 3456 records were excluded, leaving 173 studies to be assessed for eligibility. All 173 studies were read full-text (if full text was available) resulting in the exclusion of 150 studies. Reasons for exclusion were: subject of study not matching research topic ( $n = 50$ ), full-text not available ( $n = 95$ ), language other than English ( $n = 1$ ), research letter/ congress abstract ( $n = 3$ ) and duplicate with different title ( $n = 1$ ). Twenty-three studies were included in this review (See Fig. 1).

In these twenty-three studies, we found seventeen different frameworks which can be divided in two categories: *with or without a step-by-step plan*. This distinction was made based on the provided information in the studies.

Twenty out of twenty-three studies used a step-by-step approach. The number of steps in the frameworks varied from three to twelve steps. Most studies described frameworks with four steps ( $n = 9$ ).

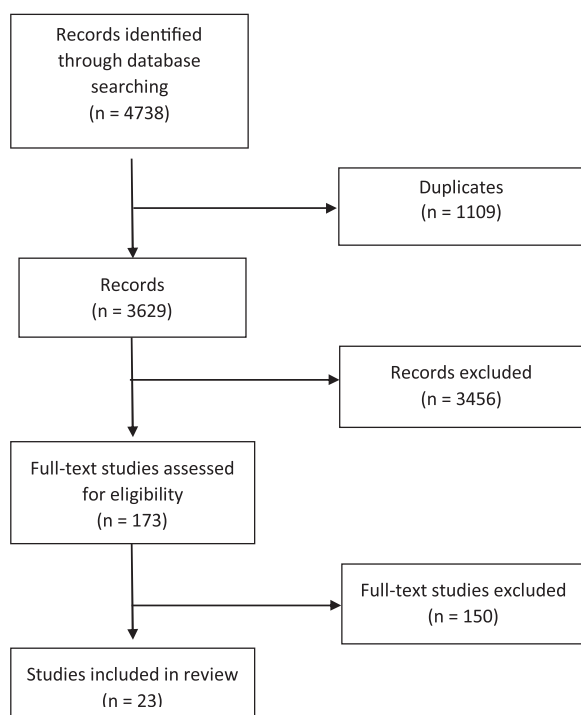


Fig. 1. Flowchart.

Details on the content of the included studies are shown in Table 1.

Twenty studies describe the framework by applying it to a theoretical patient case (Bolmsjo, Edberg, & Sandman, 2006; de Vries & Leget, 2012; Ferrie, 2006; Fins, Bacchetta, & Miller, 1997; Fleming, 2007; Gordon, Rauprich, & Vollmann, 2011; Haslam & DePaul, 2019; Kaldjian, Weir, & Duffy, 2005; Kokiko & Watts, 1995; Low & Ho, 2017; Miller, 2000; Monod, Chiolero, Bula, & Benaroyo, 2011; Schenck, 2002; Schwarte, 2001; Stinson, Godkin, & Robinson, 2004; Tjia & Givens, 2012; van der Steen, Muller, Ooms, van der Wal, & Ribbe, 2000; Wells, 2007; Wlody, 1990; Wright & Roberts, 2009). Three studies reported how the framework was used, for instance which participants were present (Fins et al., 1997; Miller, 2000; Schwarte, 2001). In two studies the group was small, consisting of three to four people (Fins et al., 1997; Schwarte, 2001). The third study described a more organised meeting, with an ethics consultant as chairman (Miller, 2000). One study gave three concrete conditions how to use the proposed framework: providing a chair trained in medical ethics, organizing the discussion around the eight steps of the framework and identifying a consensual option at the end of the process as well as designating a person to oversee the implementation of the chosen option (Monod et al., 2011).

Eleven of the studies were descriptive studies with a case discussion, five were case studies with application of a model, three studies were descriptive studies, three studies were case studies and one study was conceptual. Most studies described situations in hospitals ( $n = 10$ ), nursing homes ( $n = 5$ ), or a combination of hospital and home situations ( $n = 3$ ). More details on type of study, aim of the studies as well as the context can be found in Table 2.

### 3.1. Step-by-step approach

Most ethical frameworks ( $n = 20$ ) were so-called step-by-step frameworks (SBSF). These frameworks are meant to structure moral case deliberations and the different steps can often be used in chronological order. A total of fifteen different SBSF are described.

Six studies used the 'Four Topics Method', which states that four topics should be taken into account when deliberating morally complex cases: medical indications, patient preferences, quality of life issues, contextual features (Ferrie, 2006; Gordon et al., 2011; Miller, 2000; Schenck, 2002; Stinson et al., 2004; Tjia & Givens, 2012; Wright & Roberts, 2009). Other SBSF can be seen as variations to this Four Topics method.

Steps that are often mentioned in many of the described SBSF are:

- **Identify the problem or dilemma.** Participants discuss the most urgent problem at hand, for instance: should we place a feeding-tube, perform cardiopulmonary resuscitation? It is important this problem is clearly identified, so as to ascertain the right problem is being discussed.
- **Medical indications.** What are the goals of treatment? Which medical treatment is available, how can it aid the patient? This criterion of sound medical treatment is based on the moral principles of beneficence and non-maleficence.
- **Identify and describe the different possible alternatives.** In complex situations, there are always several possible alternatives, that should be discussed.
- **Patient preferences.** Although there might be a medical indication for a certain medical intervention, this does not mean the intervention is appropriate. The burden of the treatment might not be justified by the possible benefits. Patient preferences as to the possible balance between benefits and burden might also differ. To decide upon the most appropriate course of action, patient preferences are therefore of crucial importance. This criterion is based on the moral principle of autonomy.
- **Quality of life issues.** What will be the quality of life with and without medical interventions? Quality of life issues are partly subjective as patients can appreciate different situations in a

**Table 1**  
Included studies.

First author (reference no)	Year	Ethical principles	SBSF	Balancing values	Ethical framework	Patient preferences	No. steps
Bolmsjo et al. (2006)	2006	Teleological, goal of care, ethical constraints (self-determination, fairness, relevant evidence-based knowledge and the nurse's good life), structural constraints, nurses ethical competence.	yes	Make a priority list of the alternatives, weigh the orders of priority against each other and taking into account the ethical side-constraint of fairness	Model developed by Sandman: identify and describe the normative situation - identify and describe the different possible alternatives - assess the different alternatives - decide, implement and evaluate	+	4 (12)
de Vries & Leget (2012)	2012	Ethics of care	yes	no	1 focus on the uniqueness of every human being and the particularity of every situation; 2 focus on dependence and asymmetric relations of power within the human relationships; 3 recognition and acceptance of the vulnerability of human beings; 4 focus on human beings as relational beings needing interpersonal relationships in order to be able to flourish	+	4
Ferrie (2006)	2006	Moral values unclear	yes	no	Step-by-step approach: express the question - guidelines? - gather objective information - define key terms - consider and discuss with stakeholders	-	5
Fins et al. (1997)	1997	Beneficence, nonmaleficence, autonomy, justice	yes	no	1 assess the patient's medical condition; 2 determine and clarify the clinical diagnosis; 3 assess the patient's decision-making capacities, beliefs, values, preferences and needs; 4 consider family dynamics and the impact of care on family members and others intimately concerned with the patient's well-being; 5 consider institutional arrangements and broader social norms that may influence patient care; 6 identify the range of moral considerations relevant to the case in a manner analogous to the clinical process of differential diagnosis; 7 suggest provisional goals of care and offer a plan of action including plausible treatment and care options; 8 negotiate an ethically acceptable plan of action; 9 implement the agreed upon plan; 10 evaluate the results of the intervention; 11 undertake periodic review and modify the course of action as the case evolves	+	10
Fleming (2007)	2007	Moral values unclear	yes	no	Pellegrino: 1 clarify the facts; 2 identify that there is an ethical concern; 3 frame the issue (who decides, by what criteria, (biomedical good, best interests of the patient)); 4 identify and resolve the conflict; 5 make a decision	+	5(7)
Gordon et al. (2011)	2011	Beneficence, nonmaleficence, autonomy, justice, combined with common morality	yes	no	Four topics method: analysis of medical indications, patient preferences, quality of life issues, contextual features	+	4
Haslam & DePaul (2019)	2019	Autonomy, non-maleficence, beneficence, justice, fidelity and veracity	yes	no	Corey 8 step framework: 1 identify the problem or dilemma; 2 identify the potential issues involved; 3 review the relevant ethical codes; 4 know the applicable laws and regulations; 5 obtain consultation; 6 consider possible and probable courses of action; 7 enumerate the consequences of various decisions; 8 choose what appears to be the best course of action	-	8
Hayley et al. (1996)	1996	Beneficence, respect for persons, fidelity, justice	no	no	Framework based on beneficence, respect for persons, fidelity, justice	-	n/a
Kaldjian et al. (2005)	2005	Beneficence, nonmaleficence, autonomy, justice, rights, consequences	yes	Determine the best course of action and support it with reference to one or more sources of ethical value	Systematic approach: state the problem - data gathering and organizing - ask: is the problem ethical? - ask: more information needed? - determine best course of action - confirm adequacy and coherence of the conclusion	+	5 (9)
Kokiko & Watts (1995)	1995	Beneficence, autonomy, justice	yes	no	R.O.L.E.: risks of medical treatment, opinion of the patient, life quality, external factors	+	4
Low & Ho (2017)	2017	Beneficence, non-maleficence, utilitarianism, distributive justice	yes	no	Four topics approach by Jonsen: 1 medical indication; 2 patient preference; 3 quality of life; 4 contextual features	+	4

(continued on next page)

Table 1 (continued)

First author (reference no)	Year	Ethical principles	SBSF	Balancing values	Ethical framework	Patient preferences	No. steps
Miller (2000)	2000	Beneficence, nonmaleficence, autonomy, justice	yes	no	Four topics method: analysis of medical indications, patient preferences, quality of life issues, contextual features	+	4
Monod et al. (2011)	2011	Autonomy, beneficence, nonmaleficence, distributive justice, dignity, integrity, vulnerability	yes	For each option, clarify how the option helps or does not help to solve the conflicts between the principles	Guide for ethical reflection: identify clinical relevant facts and clarify ethical situation – identify patient's sociofamilial context – identify care responsibilities of stakeholders – identify values considered by stakeholders – analyze ethical conflicts at stake – identify all possible options – identify consensual option that best integrates values of the patient, stakeholders and health professionals – discuss moral justification	+	4(8)
Schenck (2002)	2002	Beneficence, nonmaleficence, autonomy, justice	yes	Assess the role of virtues in the situation: what a given principle means in this case and balancing it against the moral claims of each of the others	Algorithm for biomedical decision-making: outline medical facts - outline non-medical issues - assess goods important to the case - apply principles to the case - assess role of virtues - compare with prior cases - make recommendations	-	7
Schroeter (2002)	2002	Autonomy, beneficence, nonmaleficence, justice, fidelity, veracity, respect for others, treating patients equally, respect for dignity and worth, supporting patients' rights and choices	no	no	Autonomy, beneficence, nonmaleficence, justice, fidelity, veracity, respect for others, treating patients equally, respect for dignity and worth, supporting patients' rights and choices	-	n/a
Schwarte (2001)	2001	Autonomy, justice, beneficence, sanctity of human life, non-maleficence	yes	No	Four stages ethical decision-making: 1 each team member states his opinion, 2 determining underlying reasons for initial position, 3 discussing concerns of the group 4 plan of action	-	4
Stinson et al. (2004)	2004	Utilitarianism (positieve value over disvalue) Beneficence, Nonmaleficence, autonomy, justice	yes	no	Four topics method: analysis of medical indications, patient preferences, quality of life issues, contextual features	+	4
Tjia & Givens (2012)	2012	Beneficence, nonmaleficence, autonomy, justice	yes	no	Four topics method: analysis of medical indications, patient preferences, quality of life issues, contextual features	+	4
van der Steen et al. (2000)	2000	Beneficence, nonmaleficence, autonomy, justice	yes	no	Checklist of considerations (value to patients health status, other important factors, role of family, role of nursing staff, decisive status)	+	7
Wells (2007)	2007	Autonomy, veracity, justice, fidelity, beneficence	yes	no	The ethical encounter-the ethical loading-the ethical unloading	-	3
Wicclair (1991)	1991	Beneficence, nonmaleficence, autonomy, justice	no	no	General framework of the four principles beneficence, nonmaleficence, autonomy, justice	-	n/a
Wlody (1990)	1990	Beneficence, nonmaleficence, autonomy, justice, human dignity, privacy, quality of life	yes	no	Wlody model for addressing ethical issues in nursing: assessment, advocacy and action	-	3(12)
Wright & Roberts (2009)	2009	Traditional ethical rules or moral principles: e.g. beneficence, nonmaleficence, autonomy, loyalty, fairness	yes	no	Four topics method: analysis of medical indications, patient preferences, quality of life issues, contextual features	+	4

**Table 2**  
Detailed information on type of study, aim and context.

First author (reference no)	Type of study	Aim of the study	Context
Bolmsjo et al. (2006)	Descriptive study with case discussion	Use a teleological model for analysing nurses' everyday ethical situations in dementia care	Nursing home
de Vries & Leget (2012)	Descriptive study with case discussion	Introduction of an ethical approach, seen from the perspectives of traditional medical approach and ethics of care in older patients with cancer.	Home situation and hospital
Ferrie (2006)	Case study with application of a model	Quick guide to ethical theory in healthcare in nutrition support situations	Hospital
Fins et al. (1997)	Case study with application of a model	Present a method of moral problem solving in clinical practice	Hospital
Fleming (2007)	Descriptive study	Not mentioned	Nursing home
Gordon et al. (2011)	Case study with application of a model	Examine the methodological strengths and weaknesses of the applicability of the four-principle approach	Hospital
Haslam & DePaul (2019)	Case study	Demonstrate the application of the Corey et al 8-step framework for ethical decision-making	Hospital
Hayley et al. (1996)	Descriptive study	Give an understanding of why ethical issues in the nursing home are different than in the hospital setting.	Nursing home
Kaldjian et al. (2005)	Descriptive study with case discussion	Offer a systematic strategy that situates clinical ethical reasoning within the paradigm of clinical reasoning	Hospital
Kokiko & Watts (1995)	Descriptive study with case discussion	Provide a framework to act as a springboard for thought in ethical decision making and to assist in the integration of ethical thought into everyday practice	Hospital
Low & Ho (2017)	Descriptive study	To highlight relevant ethical red flags and discuss the 4-topics approach in patients with neurodegenerative disease	Home situation and hospital
Miller (2000)	Case study with application of a model	Application of a model to guide ethical decision making in a burn treatment	Hospital
Monod et al. (2011)	Descriptive study with case discussion	Propose a guide for health professionals to appraise ethical issues related to nutrition support in severely disabled elderly persons with nutrition difficulties	Unclear
Schenck (2002)	Descriptive study with case discussion	An attempt to pursue the importance of character and virtue ethics in patients with head and neck cancer	Home situation and hospital
Schroeter (2002)	Descriptive study with case discussion	Help perioperative nurses relate the ANA code of ethics to their own area of perioperative practice	Hospital
Schwarte (2001)	Case study with application of a model	Discuss various ethical principles in relation to nutrition cessation in the terminally ill	Hospice
Stinson et al. (2004)	Case study	Explore legal issues, discuss ethical guidelines and identify techniques for conflict resolution in voluntary stopping eating and drinking	Hospital
Tjia & Givens (2012)	Descriptive study with case discussion	Review of ethical principles, how to apply a 4-stage ethical framework and provide practical considerations for medication discontinuation	Nursing home
van der Steen et al. (2000)	Conceptual study	Describe a method for the development of a guideline that clarifies the steps to be taken in the decision making process whether to forgo curative treatment of pneumonia	Nursing home
Wells (2007)	Case study	Highlight the various ethical principles involved in clinical decision-making, and to suggest methods for resolution of ethical dilemma's	Home situation
Wicclair (1991)	Descriptive study with case discussion	Describe how to distinguish between judgments based on clinical standards and those based on ethical principles	Home situation
Wlody (1990)	Descriptive study with case discussion	Describe an original nursing model for addressing ethical issues at the bedside in critical care	Hospital
Wright & Roberts (2009)	Descriptive study with case discussion	A basic decision-making approach to common ethical issues in consultation-liason psychiatry	Hospital and nursing home

different way.

- **Contextual features.** These features can include social circumstances, such as whether the patient has a social network to provide medical care or other forms of assistance. Legal factors and scarce medical resources might also be factors to be taken into account.

In ten frameworks the first step was the clarification of the medical situation of the patient (Fins et al., 1997; Fleming, 2007; Gordon et al., 2011; Kokiko & Watts, 1995; Low & Ho, 2017; Miller, 2000; Schenck, 2002; Stinson et al., 2004; Tjia & Givens, 2012; Wright & Roberts, 2009). In seven frameworks the initial step consisted of an assessment of the ethical problem (Bolmsjo et al., 2006; Ferrie, 2006; Haslam & DePaul, 2019; Kaldjian et al., 2005; van der Steen et al., 2000; Wells, 2007; Wlody, 1990).

In one study a combination of assessing the ethical and clinical situation was used as the first step (Monod et al., 2011). In two studies the starting point was not explicitly described as either ethical or medical (de Vries & Leget, 2012; Schwarte, 2001).

In fourteen SBSF, the preferences of the patient were an explicitly mentioned step of the framework (Bolmsjo et al., 2006; de Vries & Leget, 2012; Fins et al., 1997; Fleming, 2007; Gordon et al., 2011; Kaldjian et al., 2005; Kokiko & Watts, 1995; Low & Ho, 2017; Miller, 2000; Monod et al., 2011; Stinson et al., 2004; Tjia & Givens, 2012; van

der Steen et al., 2000; Wright & Roberts, 2009).

### 3.2. No step-by-step approach

Three studies did not use a step-by-step approach, but used the four medical ethical principles as a basis for their framework (beneficence, nonmaleficence, autonomy and justice) (Hayley, Cassel, Snyder, & Rudberg, 1996; Schroeter, 2002; Wicclair, 1991). In addition, other values were used, such as fidelity, veracity and respect for persons.

### 3.3. Moral values and other considerations

Most frameworks offer step-by-step plans that can be followed chronologically during a moral case deliberation. In addition, most studies (n = 21) describe certain moral principles and/or values and/or virtues that are to be used as a basis for the framework. The moral principles that were mentioned most (n = 19) are beneficence, non-maleficence, autonomy and justice, based on (Beauchamp and Childress (1979) (Fins et al., 1997; Gordon et al., 2011; Haslam & DePaul, 2019; Hayley et al., 1996; Kaldjian et al., 2005; Kokiko & Watts, 1995; Miller, 2000; Monod et al., 2011; Schenck, 2002; Schroeter, 2002; Schwarte, 2001; Stinson et al., 2004; Tjia & Givens, 2012; van der Steen et al., 2000; Wells, 2007; Wicclair, 1991; Wlody, 1990; Wright & Roberts,



2009). In addition, one study used four theoretical considerations: goal of care, ethical constraints, structural constraints and nurses' ethical competence (Bolmsjo et al., 2006). Ethics of care was used as a basis for the framework in one study (de Vries & Leget, 2012). In two studies, it was unclear what ethical principles were used (Ferrie, 2006; Fleming, 2007).

Some authors mentioned other moral values, such as 'self-determination' (Bolmsjo et al., 2006), 'fidelity' (Haslam & DePaul, 2019; Hayley et al., 1996; Schroeter, 2002; Wells, 2007), 'veracity' (Haslam & DePaul, 2019; Schroeter, 2002; Wells, 2007), 'respect for persons' (Hayley et al., 1996; Schroeter, 2002), 'dignity' (Monod et al., 2011; Wlody, 1990), 'integrity' (Monod et al., 2011), 'vulnerability' (Monod et al., 2011), 'loyalty' (Wright & Roberts, 2009), 'fairness' (Bolmsjo et al., 2006; Wright & Roberts, 2009), 'treating patients equally' (Schroeter, 2002), 'respect for dignity and worth' (Schroeter, 2002) and 'privacy' (Wlody, 1990). Other considerations that were mentioned by authors were: 'relevant evidence-based knowledge' (Bolmsjo et al., 2006), 'the nurse's good life' (Bolmsjo et al., 2006), 'uniqueness of human being' (de Vries & Leget, 2012), 'asymmetric relationships of power' (de Vries & Leget, 2012), 'humans as relational beings' (de Vries & Leget, 2012), 'common morality' (Gordon et al., 2011), 'patient's rights' (Kaldjian et al., 2005; Schroeter, 2002), 'consequences' (Kaldjian et al., 2005), 'sanctity of human life' (Schwartz, 2001), 'ethics of care' (de Vries & Leget, 2012) and 'quality of life' (Wlody, 1990).

### 3.4. Balancing of moral values

During moral deliberations relevant moral values, such as autonomy and beneficence need to be taken into account to ascertain all relevant moral and medical aspects are being taken into consideration.

Four studies described how moral values should be balanced against each other during the different steps, or how tensions that arise during the deliberation should be resolved (Bolmsjo et al., 2006; Kaldjian et al., 2005; Monod et al., 2011; Schenck, 2002).

In the first study it is suggested to make a priority list of all the different alternatives, weigh the order of priority against each other and take into account the ethical side-constraint of fairness. It should then be assessed whether this overall order of priority will be accepted by the involved parties. If the decision is not accepted, it should be assessed whether there are strong enough reasons to decide upon it anyway. If this is not the case, another order of priorities should be reached (Bolmsjo et al., 2006).

The second study recommends to determine the best course of action and support that position with reference to one or more sources of ethical value. The best course of action is decided upon by reference to moral values, rights, consequences, comparable cases, professional guidelines, and conscientious practice. The conclusion can then be confirmed by looking at its adequacy and coherence (Kaldjian et al., 2005).

In the third study it is advised to clarify for each option how it helps or does not help to solve the conflicts between the principles. The most appropriate course of action should then be arrived at by identifying the consensual option that best integrates the values of the patient, stakeholders and health professionals (Monod et al., 2011).

In the fourth study it is suggested to include the role of virtues in the situation: what does a given virtue mean in this case? 'Including the virtues with a careful balancing of appropriate principles serves to maintain the intimate nature of the physician-patient relation'. The outcome of this is then balanced against the moral claims of each of the other stakeholders in the case. According to this study, this enriches the discussion and 'provides more guidance than reliance on principles and rules alone' (Schenck, 2002).

### 3.5. Utilization of ethical frameworks

In our research several studies described the possible utilization of

an ethical framework. One of the reasons was that an ethical framework can be an aid in clarifying a situation which at first hand might seem overwhelming: 'Adopting a step-by-step-approach can simplify the process of resolving ethical problems' (Ferrie, 2006). A step-by-step-approach can help organise, give structure and help not to overlook aspects important to the case.

Another observed function of a framework was that it can substantiate moral intuitions from health care workers, stimulate critical thinking and protect against personal biases: 'However, to be able to arrive at such well-considered and well-founded ethical decisions, there is a need to reason in a structured way and not leave ethical decisions entirely to intuitive responses to the situations in question' (Bolmsjo et al., 2006).

Another study mentioned a framework can also facilitate a dialogue between members of a health care team: 'The most important thing we can do is maintain an ongoing dialogue among the burn team, the patients and the families of the patients' (Miller, 2000). It was also described that a framework can make participants more aware of the possible actions that can be taken: 'An awareness of the different moral frameworks and ethical principles and a systematic step-by-step approach can be helpful in opening up discussion, clarifying the situation, and increasing awareness of the possibilities, enabling us to resolve problems with compassion and an open mind' (Ferrie, 2006).

Furthermore, frameworks were meant to ascertain that patients values and wishes are taken into account when deciding upon the right course of action: 'Most important is that patient values and a narrative construct compatible with them be seriously addressed if the healthcare team is to help patients make appropriate choices in terms of their care' (Schenck, 2002).

Using a framework can provide a justification for decisions that were not be shared by everybody, and make them more transparent: 'A practical and systematic approach to clinical ethical reasoning thereby not only enhances the clarity and content of ethical decisions, but also facilitates dialogue and cooperation between the participants who will live with the decisions that are made' (Kaldjian et al., 2005). 'By capitalizing on the way clinicians think, we believe this approach provides a practical means to articulate ethical justifications for challenging clinical decisions' (Kaldjian et al., 2005). 'By use of a model, (nurses) incorporate these roles into practice by methodically examining and addressing ethical issues as they arise in the clinical setting' (Wlody, 1990).

## 4. Discussion

In order to deal with morally complex decision-making situations in older patients, several ethical frameworks are proposed. These ethical frameworks are designed to stimulate debate and guarantee a transparent, well-argued solution, accepted by all parties.

When dealing with complex moral decision-making situations, healthcare workers may suffer moral distress, in finding the right course of action. The use of a framework can give the team 'an opportunity to talk about their experiences in a structured way' (Janssens et al., 2018). Frameworks can help professionals by supplying them with good reasons for what they should do, even if the circumstances are suboptimal. A framework can also assist family members who have to decide for their next of kin what should be done. It is important to provide a structure for meetings concerning complex clinical ethical decision making as a study showed that family members as well as patients are often unclear of the purpose of shared care plan meetings (Kristensson, Andersson, & Condelius, 2018).

Most ethical frameworks found in literature are step-by-step plans that can be followed chronologically during moral case deliberations. We believe that frameworks that include a step by step plan are preferred by clinicians, as in our experience clinicians are generally not well trained in medical ethics and find the practical guidance of a step by plan more helpful, as they are already used to working with different

consecutive steps in clinical practice. Further research is required to base this assumption on scientific evidence. Furthermore, in clinical practice it is important that a conclusion is reached, so further plans for the patient can be made. Not reaching a conclusion is not an option, as it has to be decided what to do, or not to do.

There is a wide variety of the proposed step-by-step plans. Some frameworks are composed of multiple steps, with explicit phases that have to be completed. Other frameworks are less specific and give more general, vague directions. Some of these step-by-step plans do not provide specific moral guidance on what to take into consideration and as to what would constitute a morally acceptable conclusion. Other frameworks have more moral content, meaning the presentation of moral principles and other considerations that can guide the decision making process.

The ‘traditional’ principles of beneficence, nonmaleficence, autonomy and justice were most commonly used. As these different moral principles often come into conflict with each other in morally complex situations, principles need to be balanced against each other. According to Beauchamp and Childress, this process of balancing requires participants to make judgments about the relative weight and strengths of moral principles in a specific case. This involves “sympathetic insight, humane responsiveness, and the practical wisdom of evaluating a particular patient’s circumstance and needs” (Beauchamp & Childress, 1979). However, only a few ethical frameworks provide a method for balancing moral values when they come into conflict with each other, which is often the case in morally complex situations.

Some of the frameworks are general in nature. These kind of very ‘broad’ frameworks are likely to be of limited use during a moral case deliberation, as they do not give enough practical guidance as to what is the best course of action. For instance, a framework consisting of ‘encounter-ethical loading-ethical unloading’ might not be easily applicable by healthcare workers who are not familiar with these ethical terms.

Ethical frameworks are meant to guide medical professionals towards an ethically acceptable solution in a morally complex situation. The reason why these situations are complex is because there is a tension between different moral values. This means that during deliberations moral values and medical issues need to be considered and balanced against each other, such as autonomy, patient preferences, beneficence, quality of life issues, chances of success of a certain medical intervention etcetera. To truly reach a morally well-balanced decision in a certain case, we consider it to be of vital importance that all relevant moral and medical issues are addressed during the deliberations.

To ascertain all relevant moral values are discussed during the deliberation we are of the opinion that ethical frameworks should be more than a step-by-step plan, but should also incorporate relevant moral values. For instance, a step such as ‘identify different alternatives’ could possibly fail to incorporate an important value like ‘autonomy’ or ‘beneficence’. These moral principles might be the four principles as proposed by Beauchamp and Childress, supplemented by several derivative rules such as rules of veracity, confidentiality, privacy, and fidelity.

Ethical frameworks can be used in different circumstances. In our research, most frameworks were applied to a theoretical case, two described a meeting when the framework was used. In one study, a comprehensive moral deliberation led by an ethics consultant was described. Most hospitals provide ethics support services such as a moral case deliberation led by an experienced ethics consultant. During a comprehensive moral case deliberation, participants reflect upon a specific moral question, within a structured conversation led by a trained, neutral facilitator.

During moral case deliberations it will become clear which moral values will conflict with each other. These tensions need to be resolved during the deliberations. To avoid that this balancing of moral principles becomes a black box, and is solely based on intuition, we are of the

opinion that an ethical framework should incorporate a method to balance values during the deliberations. This could be the method as described by Beauchamp and Childress, where participants add relative weights to the moral principles in question.

## 5. Conclusions

Healthcare workers are increasingly faced with morally complex decisions in older patients. To aid in these situations, several ethical frameworks are proposed. These frameworks can function as an analytical tool during (comprehensive) moral case deliberations. Most ethical frameworks we found are step-by-step plans, that can play a role in structuring these deliberations. We feel that frameworks with a step-by-step-plan are preferable, as clinicians who have to work with them are generally not well trained in medical ethics and are already used to follow consecutive steps in medical guidelines. Many of the frameworks we found are step-by-step-plans, that do not include any moral values that need to be balanced. These types of frameworks run the risk that certain moral values, such as autonomy or beneficence are ‘missed’ during the deliberations. Clinicians might not think of bringing these values up, as they are probably unfamiliar with them. If an ethical framework does not specify these values as being of importance in a moral deliberation, it is uncertain that these values are actually being taken into consideration, and there is no warranty the decision that has been taken is morally acceptable.

Moral dilemmas are often caused by a conflict between different moral values, such as autonomy and beneficence. However, we found that many frameworks do not provide a way to balance these possible conflicts between moral values. These types of frameworks run the risk that the final conclusion that is reached remains a black box, as it is not clear how the conclusion is reached. The conclusion and course of action might therefore be difficult to explain to outsiders who were not part of the deliberations.

Frameworks that do not include moral values and provide guidance as to how moral values should be balanced cannot guarantee that all relevant aspects and moral values are taken into consideration and that the final conclusion can be made clear to outsiders.

We therefore suggest that ethical frameworks should contain: 1) a step-by-step plan to structure moral deliberation; 2) moral values to guarantee morally relevant aspects are being taken into consideration, and 3) an approach or method to resolve possible conflicts between moral values. We realize morally complex situations cannot be resolved in one ‘correct’ way and several options might be morally acceptable.

## Transparency document

The [Transparency document](#) associated with this article can be found in the online version.

## CRediT authorship contribution statement

**Rozemarijn Lidewij van Bruchem-Visser:** Conceptualization, Methodology, Validation, Formal analysis, Investigation, Writing - original draft, Visualization. **Gert van Dijk:** Conceptualization, Methodology, Validation, Formal analysis, Investigation, Writing - original draft, Visualization. **Inez de Beaufort:** Conceptualization, Methodology, Writing - review & editing, Supervision. **Francesco Mattace-Raso:** Conceptualization, Methodology, Writing - review & editing, Supervision.

## Declaration of Competing Interest

None.

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## Appendix A. Details of the search strategy

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### Medline Ovid

(exp Aged/ OR Health Services for the Aged/ OR Homes for the Aged/ OR Housing for the Elderly/ OR Nursing Homes/ OR exp aging/ OR Geriatrics/ OR Geriatricians/ OR Geriatric Nursing/ OR Geriatric Assessment/ OR Geriatric Psychiatry/ OR dementia/ OR Alzheimer Disease/ OR (elder\* OR ((for-the-aged OR older) ADJ6 (care OR people OR subject\* OR person\* OR patient\* OR home OR homes OR housing OR adult\* OR women OR woman OR female\* OR men OR man OR male\*)) OR very-old\* OR frail\* OR old\*-age\* OR oldest-old\* OR ((aged OR senior\*) ADJ (people OR subject\* OR person\* OR patient\* OR population\* OR care)) OR nursing-home\* OR frail\* OR aging OR ageing OR geriatric\* OR Gerontolog\* OR septagenarian\* OR octagenarian\* OR nonagenarian\* OR centenarian\* OR supercentenarian\* OR gerontopsych\* OR psychogeriat\* OR geropsych\* OR dementia OR alzheimer\*):kw,ab,ti.) AND (\* ethics/ OR (ethic\*):ti.) AND (Models, Theoretical/ OR Decision Trees/ OR Clinical Protocols/ OR Critical Pathways/ OR Practice Guideline/ OR Practice Guidelines as Topic/ OR Standard of Care/ OR (framework\* OR model\* OR (decision ADJ3 (tree\* OR support\*)) OR protocol\* OR pathway\* OR (good ADJ3 practice\*) OR guideline\* OR Guidance\* OR routine\* OR recommendation\* OR paradigm\* OR guide OR standards OR regulation\* OR code OR deliberation\* OR decision-making).ab,ti.) NOT (exp animals/ NOT humans/) NOT (news OR congress\* OR abstract\* OR book\* OR chapter\* OR dissertation abstract\*).pt. AND english.la.

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Geriatrics/ OR Geriatric Patients/ OR Geriatric Psychiatry/ OR dementia/ OR "Alzheimer's Disease"/ OR (elder\* OR ((for-the-aged OR older) ADJ6 (care OR people OR subject\* OR person\* OR patient\* OR home OR homes OR housing OR adult\* OR women OR woman OR female\* OR men OR man OR male\*)) OR very-old\* OR frail\* OR old\*-age\* OR oldest-old\* OR ((aged OR senior\*) ADJ (people OR subject\* OR person\* OR patient\* OR population\* OR care)) OR nursing-home\* OR frail\* OR aging OR ageing OR geriatric\* OR Gerontolog\* OR septagenarian\* OR octagenarian\* OR nonagenarian\* OR centenarian\* OR supercentenarian\* OR gerontopsych\* OR psychogeriat\* OR geropsych\* OR dementia OR alzheimer\*):ab,ti.) AND (\* ethics/ OR (ethic\*):ti.) AND (Models/ OR Decision Support Systems/ OR Treatment Guidelines/ OR Professional Standards/ OR (framework\* OR model\* OR (decision ADJ3 (tree\* OR support\*)) OR protocol\* OR pathway\* OR (good ADJ3 practice\*) OR guideline\* OR Guidance\* OR routine\* OR recommendation\* OR paradigm\* OR guide OR standards OR regulation\* OR code OR deliberation\* OR decision-making).ab,ti.) NOT (exp animals/ NOT humans/) NOT (news OR congress\* OR abstract\* OR book\* OR chapter\* OR dissertation abstract\*).pt. AND english.la.

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