

Incorporating Parental Values in Complex Paediatric and Perinatal Decisions

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Article summary: A review of parental values in complex pediatric decisions, how they are constructed, elicited, and clarified, including practical suggestions.

Contributors Statement

Dr. Geurtzen and Prof. Wilkinson conceptualized and discussed the topic, collected, and reviewed relevant literature and wrote the manuscript. Both authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

1 **Abstract**

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3 Backgrounds and methods

4 Incorporating parental values in complex medical decisions for young children is important but challenging. In
5 this paper, we explore what it means to incorporate parental values in complex pediatric and perinatal decisions.
6 We provide a narrative overview incorporating literature from pediatrics, ethics, and medical decision-making,
7 focusing on value-based and ethically complex decisions for children who are clearly too young to be able to
8 express their own preferences. First, key concepts and definitions are explained. Second, pediatric specific
9 features are discussed. Third, we reflect on challenges in getting to know and express values for both parents
10 and health care providers. In the final part, suggestions for clinical practice are included.

11 Findings and interpretation

12 Decisional values are informed by global and external values, and may relate to the child, the parents, and the
13 family as a whole. These values should inform preferences and assure value congruent choices. Additionally,
14 parents may hold various meta values on the process of decision making itself.

15 Complex decisions for young children are emotionally taxing, ethically difficult, and often surrounded by
16 uncertainty. These contextual factors make it more likely that values and preferences are initially absent or
17 unstable and need to be constructed or stabilized. Health care professionals and parents need to work together to
18 construct and clarify values and incorporate them into personalized decisions.

19 An open communication-style, with unbiased and tailored information in a supportive environment is helpful.
20 Dedicated training in communication and shared decision making may help to improve the incorporation of
21 parental values in complex decisions for young children.

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26 **Key Messages**

- 27
- 28 • Incorporating parental values in complex medical decisions for young children is important but
29 challenging.
 - 30 • Decisional values are informed by global and external values, and may relate to the child, the parents,
31 and the family as a whole. These values should inform preferences and assure value congruent choices.
 - 32 • Parents may also hold various meta values on the process of decision making itself.
 - 33 • Since complex decisions for young children are emotionally taxing, ethically difficult, and often
34 surrounded by uncertainty, values and preferences may be initially absent or unstable and need to be
35 constructed or stabilized.
 - 36 • Health care professionals and parents need to work together to construct and clarify values and
37 incorporate them into personalized decisions. An open communication-style, with unbiased and
tailored information in a supportive environment is helpful.

38 Introduction

39 Making complex medical decisions for fetuses, neonates, and infants is ethically and practically challenging. It
40 is vital in both adult and pediatric medicine to incorporate patient (or parent) values¹⁻¹⁰ as part of shared decision
41 making and personalized healthcare^{2,5,11-13}. However, in practice, values are not always well elicited or
42 incorporated into decisions^{3,14-21}.

43 Decision-making in pediatrics is different from adult medicine^{3,4,22,23}. While adults can decide for themselves,
44 fetuses, neonates, and infants cannot; thus, parents or guardians are surrogate decision-makers. (For readability,
45 we use parents in this the paper, we mean to refer to those who have responsibility for a child, like parents or
46 guardians). It is usually beneficial for parents to be part of decisions. For example, Emanuel and Emanuel have
47 argued that a deliberative physician-patient relationship would best promote autonomy and well-being of
48 patients²⁴. There is some empirical support for this contention. One study described parents who shared in
49 neonatal end-of-life decisions experiencing less grief in the long-term than those who did not²⁵. Other parents
50 expressed that while it was emotional and burdensome to participate in decisions, this enabled them to prepare
51 for or prevent a feared situation, and to feel more empowered^{26,27}.

52 In this paper, we explore what it means to incorporate parental values in complex pediatric and perinatal
53 decisions. We provide a narrative overview incorporating literature from pediatrics, ethics, and medical
54 decision-making. Our focus is on (1) value-based decisions in which no single best option exists (2) for children
55 who are clearly too young to be able to express their own preferences on (3) ethically complex issues. Such
56 decisions are also sometimes referred to as falling in the grey zone, the zone of parental discretion, or as so-
57 called preference-sensitive decisions; by definition they are ones that parents are permitted to make^{1,2,6,9,28-32}.
58 They may feature prognostic uncertainty, insufficient evidence on harms and benefits, or a very personal
59 benefit-harm ratio^{2,12,32}. Examples can be end-of-life decisions or advanced care planning in life-limiting
60 diseases^{6,33,34}. (It can be challenging to identify whether decisions fall within the grey zone of parental discretion,
61 for this manuscript focus on cases that do clearly fit in this category^{6,7,23,35-38}).

62 A single pediatric definition of shared decision making is lacking, and some prefer alternative
63 terminology^{3,5,6,12,21,27,39}. However, common ground is the importance of clarifying parental values and
64 incorporating these into, ultimately, 'value congruent decisions': choices that align with the values of the people
65 most affected by the decision^{6,13,40}.

66 Search strategy and selection criteria

67 A semi-structured search was performed using PubMed. We aimed to find papers on (1) definitions and
68 explanation of the term value, the (2) concept of value clarification including its justification and challenges and
69 (3) guidance for practice. No limitation on dates were used. Search terms were shared or complex decision-
70 making, pediatrics, value-eliciting, and value-clarification. Through 'citations' and 'similar articles' the search
71 was extended. After the first screening (May 2022, n=90 relevant full-text papers), relevant sections were
72 extracted and summarized thematically. Specific literature was searched to complement and strengthen each part
73 of our manuscript, and a search update was performed in Jan 2023 (June 2022 through Jan 2023, n=44
74 additional relevant full-text papers). Of this total of 134 relevant papers, 94 were ultimately included and cited
75 in this definitive version of our manuscript. Finally, based on reviewers' suggestions' 4 relevant additional
76 manuscripts were added.

77 Part 1: Key concepts

78 WHAT IS A VALUE?

79 'Values' in general refer to what is good and worthy. The word is frequently used in medical decision-making,
80 but often undefined. In psychology, 'personal values' are: "broad desirable goals that motivate and serve as
81 guiding principles. They affect people's preferences and behaviour over time and across situations"⁴¹. In
82 research on patient decision-aids, definitions can be similarly wide-ranging, e.g.: "An umbrella term referring to
83 what matters to an individual relevant to a health decision"⁴⁰. However, the concept of values, is layered. Key
84 components are^{42,43}:

- 85 1. Global or basic values: i.e., underlying values, ethical beliefs, or life goals. These exist beyond specific
86 decisions, but influence decision-specific values.

Terms and definitions

Value⁴⁰

An umbrella term referring to what matters to an individual relevant to a health decision.

- Values may be directly relevant to decisions (e.g., “beliefs, feelings, or perceptions regarding attributes of a treatment option”) or indirectly relevant (e.g., goals; worldviews; family, religious, or cultural values).
- Values may be represented qualitatively or, in some cases, quantitatively. This definition is deliberately broad

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Value clarification⁴⁰

The process of sorting out what matters to an individual relevant to a given health decision.

- This definition emphasizes that what matters to an individual may be broader than attribute-specific values.
- What matters may also include preferences, concerns (e.g., concerns about changes in health status), and issues to do with the context of a person’s life within which they would need to implement a decision (e.g., fitting a treatment plan into one’s work schedule)

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Value clarification methods⁴⁰

Strategies that are intended to help patients evaluate the desirability of options or attributes of options within a specific decision context, in order to identify which option [they] prefer.

- Implicit: Strategies for facilitating values clarification that do not require people to interact with anything or anyone—for example, describing “options in enough detail that clients can imagine what it is like to experience the physical, emotional, and social effects,” or simply encouraging people to think about what matters to them
- Explicit: Strategies for facilitating values clarification that require people to interact with something or someone (e.g., filling out a worksheet, using an interactive website, having a semi structured conversation with another person with the explicit purpose of clarifying values, or engaging in another structured exercise).

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Preference⁴⁰

The extent to which a decision option or health state is desirable or acceptable, either in the abstract or in comparison to other options or health states.

- Preferences may be represented qualitatively or, more commonly, quantitatively.

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Choice⁴⁴

The selected option, either intended or actual, for screening or treatment decisions⁴⁴

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Value congruency^{44,47}

A calculation of the match between the chosen option or “choice” (dependent variable) and the patient’s “values” (independent variable), or in other words, meaning the decision aligns with what matters to the people most affected by the decision.

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Unlike the field of psychology, in which four higher order values are quite well defined (conservation, self-enhancement, openness to change and self-transcendence), in medicine and particularly paediatrics, values are not well characterised⁴¹. In a report from a children’s hospital ethical committee, the three most important factors influencing parental decisions were the child’s quality of life, the chance of getting better and degree of discomfort^{48,49}. A paper on advanced care planning (ACP) in children with rare diseases reported five domains expressed by parents: getting out and moving freely, feeling included and engaged, managing symptoms and disease burden, optimizing coordinated care among many team members, and planning for the future⁵⁰. Some papers identify the influential values of ‘being a good parent’ and ‘protect[ing] your child against harm’^{5,22,27,51-53}.

112 Part 2: Paediatric specific features

113 Parents or guardians are default surrogate decision-makers for young children^{3,4,12,22,53}. In most countries, they

114 also have legal decision-making responsibilities that differ from surrogates in adult decision making^{5,19,22}.

115 Paediatric decision-making is more complicated, in part because there is usually more than one parent with

116 decision-making responsibilities²³. Each parent may vary in their views, values, and ability to process

117 information and participate in the decision-making process¹⁰. Choosing for self-versus-others influences

118 treatment preferences³. For very young children, ‘substituted decision-making’ (knowing what a person would

119 want in these circumstances) is not applicable^{5,22}. While parents are used to making decisions for their children,

120 shared medical decision making can cause stress, anxiety, and an emotional burden for surrogates^{19,54}.

121 Some unique features of decisions for young infants include potential perceived social pressures e.g., a view that

122 ‘children should not die’^{5,22}. Decisions potentially carry a heavy ethical weight because of the potential for long-

123 term risks and benefits, combined with a relatively high level of uncertainty about prognosis^{8,19,32,55,56}. In the

124 perinatal period the patient may not yet even be born, parents may not yet feel like parents. Decisions need to be

125 made in a sensitive period of parent-child bonding when a firm place for the child within the family or social

126 structure may be lacking⁵⁷. Lastly, parental autonomy is more restricted than adults’ autonomy to make

127 decisions for themselves, since decisions that would cross the harm-threshold and risk significant harm for their

128 child are not (or should not be) permitted⁵⁸. (Although extremely important, such potentially harmful fall outside

129 the scope of this manuscript).

130 Part 3: Challenges in getting to know and express values for parents and health care professionals.

131 An overview of challenges (and potential strategies) in knowing and clarifying values can be found in Table 2.

132 Global values develop throughout childhood and adolescence, remain relatively consistent during adulthood,

133 and reflect “a lens through which all decisions are viewed”^{41,42}. They may be influenced by (e.g.) personality,

134 or religion⁴². Parents’ global values may be relevant in part because of the potential similarity of values between

135 parents and children, through direct transmission as well as indirectly through shared environment, culture, and
136 socio-economic status⁴¹. However, existing (limited) evidence suggests that health professionals often
137 concentrate more on biomedical decisional values and preferences, than on global psychological, spiritual, and
138 social values^{20,26,59}.

139 Depending on the context, parents' values may also be influenced by family, school staff, other parents,
140 community members^{3,42}. It can be challenging to distinguish between unwanted external pressure, and situations
141 where parents choose to involve important others in medical decision-making "on the basis of ongoing
142 relationships, reciprocal concerns, respect of others' advice and mutual interests without implying coercion or
143 undue influence"⁴².

144 VALUE CONSTRUCTION AND CONTEXT

145 Parents may have pre-existing decisional values and preferences (for example where they have faced similar
146 decisions before). But, for complex medical decisions, it is likely that values need to be uncovered or even
147 constructed at the time that a decision arises³⁷. This raises a further problem: it is not easy to know one's own
148 values and preferences in ethical decisions affected by high stake consequences, conflicting priorities, high
149 levels of uncertainty and emotion, low levels of familiarity with the decision, and sometimes time-pressure^{23,60-62}.

150 There are a range of contextual factors that influence the expression of values and preferences including the
151 adequacy of information, credibility of information source, clarity of communication, affective caregivers
152 responses, choice architecture, emotions, perceived social norms, and (dis)comfort with the medical
153 environment^{1,3,23,27,37,54,56,60,61,63,64}.

154 Three important factors are knowledge, bias, and emotions, especially in the health care professional-parent
155 relationship^{1,56,61,64-66}. It is important to provide all relevant information about the condition and options and it is
156 also important for parents to understand this^{23,37,56}. Low health literacy or low numeracy (lack of familiarity with
157 graphs and probabilities) can be a barrier for expressing preferences^{2,4,23,63,67}. However, health care professionals
158 do not always assess parents' level of understanding⁶³. Information irrelevant to the consideration of options can
159 be included, or selective neglect of either current or future factors may occur^{1,37,61,66}. Health care professionals
160 may introduce bias, consciously or unconsciously, and bring their own values into the conversations. Influences
161 of choice architecture include framing (positive – such as survival rates, or negative – such as mortality rates) or
162 the order of options (e.g., presenting a default). Lastly, emotions can make it harder to understand and interpret
163 information and may alter perceptions^{1,56,61}. Parents may have feelings of guilt or failure³. When parents feel
164 anxious, overwhelmed, in denial or defensive, this may hinder the expression of values and preferences²³.

165 CONFLICTING VALUES AND PREFERENCES

166 Values can conflict, for example, prolonging life versus maximising comfort. This can be within one parent, but
167 also between persons. Translating these into specific preferences can be very difficult^{27,37,42,67}. Furthermore,
168 specific preferences can conflict with underlying values, for example when they relate to a preferred
169 intervention not compatible with the valued outcome or are open to interpretation (e.g., "I want everything
170 done")^{63,68}. In the paediatric situation, there are potential conflicts between values relating to the wider family
171 versus the child^{53,69}. Moreover, parental values are inextricably linked or entangled with those of the child^{32,69}.
172 Finally, conflicting values may occur between the community/society and the individual values of the family^{7,38}.

173 META VALUES

174 Most parents prefer to have a role in decision-making, but, depending on personality and/or context, may vary in
175 how great a role^{3,4,12,19,33,56,70-79}. In adults, a mismatch between actual and preferred roles in decision-making is
176 associated with greater anxiety and less satisfaction⁵⁶. In general, parents prefer more responsibility for decisions
177 that are high risk, when they have experience with the decision, when the decision is thought to be part of the
178 normal parental role, when big picture goals are involved (such as palliative care), and for decisions with the
179 potential to harm the child^{3,6,33,55,79}. Having other children was found in one study to be associated with parents'
180 preference for making the final decision, another study found previous paediatric intensive care admissions and
181 private insurance associated with a preference for more medical influence^{33,79}. Finally, another study found no
182 predicting parental characteristics⁷⁸. On the other hand, parents have expressed a desire for more health care
183 professional centred responsibility in decisions that are highly urgent, require high medical (technical) expertise,
184 and decisions with potential to benefit an infant^{33,55,79}. Finally, the preference for the decision-making
185 responsibility is also culturally influenced; for example, some cultures do not encourage shared decision
186 making^{19,80}. It is important to realize that health care professionals are often unable to predict the role preference

187 of patients in the decision-making, and false assumptions are common^{3,27,66,72,78,81,82}. While variation in role
188 preferences regarding parents' final decision-making responsibility exists, and some may not (yet) be ready for a
189 value conversation, it is unlikely that parents want their values to be ignored.

190 Parents also differ in *how* they wish to make complex decisions. Some prefer a more rational or deliberative
191 process: effortful, conscious, and analytical^{62,64}. Others prefer a less rational, intuitive process: less effortful and
192 less conscious^{62,64}. Explicit deliberation helps to verbalize and articulate preferences and reasons, to make
193 congruent decisions, to feel better about how the decision was made and it allows for explicit consideration of
194 likelihood of outcomes and values of these. However, negative emotions may be intensified, parents may
195 generate reasons for preferences that are inaccurate and may limit focus to a few decision attributes that are
196 easiest to verbalize while overlooking others^{1,62,64,68}. A more intuitive process might help in implicit integration
197 of large amounts of information; intuitive feelings can be surprisingly accurate. The risks are the influence of
198 bias (although this may also apply to rational processes), the lack of logical sounding reasons that help to
199 convince others and self that the decision is good, and in early stages of decision-making (e.g. information
200 gathering) it may lead to uninformed decisions⁶².

201 INTERACTION BETWEEN PARENTS AND HEALTH CARE PROFESSIONALS

202 Value clarification is often suboptimal in practice for both adults and children^{43,59,83}. Three studies using actual
203 audiotaped conversations with surrogates on adult, paediatric and neonatal intensive care units showed that a
204 shared approach and value discussions were rare (although more common on neonatal and paediatric than adult
205 intensive care units) and that family responses were mostly passive^{16,19,21}.

206 Several problems have been identified for value clarification. Patients, including parents, rarely discuss their
207 values directly^{26,84}. Barriers are numerous: the lack of perceived parental readiness, health care professionals'
208 assumptions to know values and preferences, (perceived) lack of time in clinical encounters, lack of skills
209 including education of these skills, the lack of a good relationship between health care professional and parents,
210 the lack of a constant contact person, bad communication, too strong emotions (on both sides), health care
211 professional holding a negative bias towards value clarification, the lack of a good way for a health care
212 professional to evaluate value congruency and the lack of a supportive system in terms of supportive guidelines,
213 supportive tools and a supportive organisation^{6,8,23,26,34,54,66,67,82,84,85}.

214 **Part 4: Towards clinical practice**

215 There is not a single correct way to incorporate parental values into paediatric decision-making. It will vary
216 depending on the type of choice to be made, on what information parents want to have, on which role parents
217 wish to play in the choice and on how rational parents can or want to be in the decision-making.

218 INFORMATION EXCHANGE

219 Parents should be encouraged to become informed^{62,63,67}. They must understand the diagnosis, prognosis, and
220 likely trajectory, although this requires sensitivity to their needs^{67,86}. Uncertainty should be addressed^{13,87}.
221 Parents, in turn, should provide information on their personal situation. Outcome parameters known to be
222 relevant for both health care professionals and parents must be incorporated in the conversation^{88,89}. If available,
223 a list with topics known to be important may be useful as starting point for the provision of information, as
224 parents do not always know where to start, are naïve, and simply want to gain understanding but don't know
225 what information they may ask for⁹⁰.

226 STARTING POINTS FOR VALUE CLARIFICATION

227 The approach to value clarification depends on context and preferences of those involved. If a well-defined
228 decision has to be made, health care professional and parents may work either from choice to value or the other
229 way around. In medical high-risk situations with no specific choice yet to be made, health care professionals
230 generally start with a more general discussion of values.
231 Starting from a specific decision means acknowledging the decision at stake, including the options and its pros
232 and cons. Ideally parents and health care professional work together from uninformed to informed preferences
233 for this specific decision, reflecting a deeper understanding⁶⁷. Health care professionals should allow both
234 intuitive and rational deliberation, explore specific health beliefs and help to optimize mental representations^{37,63}.
235 Iteration is needed for this dynamic, non-linear process with values and preferences unfolding, influenced by
236 emotions^{37,63}. Parental understanding about both the medical facts and the understanding of their own values
237 should be checked. For all, but especially for the most intuitive decisions, it may be important to allow for some

238 time and suspend the selection of the initial option⁶³. An advantage of this approach is that parents are more
 239 likely to appreciate that there is a decision to be made and that their input is of importance^{2,71}. It also allows for
 240 paediatricians deciding beforehand on whether or not the decision is preference-sensitive, and to let parents only
 241 participate when there is an actual decision to be made, avoiding the problem of “speaking of decisions if there
 242 is nothing to decide yet or nothing to decide anymore”^{6,12,91}. Lastly, parental autonomy in making decisions is
 243 more easily preserved when starting with a specific decision.

244 On the other hand, starting with an exploration of values is common in paediatric ACP or paediatric palliative
 245 care in order to better tailor care to each individual family and be better prepared when decisions arise³⁴. An
 246 advantage is that choices are sometimes defined (or not) by specific values, especially when these values are
 247 less uncommon. These alternative choices may have been overlooked if conversations had started from
 248 predefined decisions^{6,38,42}. Even with a well-defined decision at stake, working from value to choice is readily
 249 applicable. Parents must think about their own values, given some understanding of the medical condition of
 250 their child, and subsequently health care professionals can help translate these, if needed, into a specific
 251 preference⁶⁷. This recognizes the importance of both the parental and health care professionals input, that
 252 patients can meaningfully engage without requiring a 100% understanding of the (complex) situation and that
 253 parental autonomy is preserved in deciding “how life preferably should unfold”⁶⁷. Furthermore, starting with
 254 parental values may be more appropriate for the parents who prefer not to feel responsible for the final decision-
 255 making, and for parents with incomplete preferences^{34,64,92}.

256 COMMUNICATION ABOUT VALUES

257 It is potentially helpful to first check if it is a good time for a conversation, to address parental meta-values on
 258 decision making and to empower them to participate (see communication strategies, Table 3)^{1,8,54,55,63,68,82}.

259 Table 3 Communication skills: phrases that are potentially useful for health care professionals (modified
 260 experts’ suggestions and authors’ experiences).

<p>Goals and potentially useful/example phrases</p> <p>Address emotions</p> <p>How are you doing right now?¹</p> <p>General</p> <p>I'm really sorry that you're going through this¹</p> <p>Tolerate silence, listen, watch for cues in body language^{1,55,63,78,82,93}</p> <p>Tell me how you are feeling?</p> <p>We can make this decision together now, but you may want to have a bit more time to think about it, or discuss with others⁹⁰</p> <p>This must feel like an impossible situation for you⁹⁴</p> <p>I'd like to suggest that we try to buy a little more time... to keep in touch and to give you some time to process what I've told you⁹⁴</p> <p>You were upset by what I was telling you, weren't you? Please can you tell me what was distressing you?¹⁶</p> <p>Many parents in your situation feel overwhelmed, angry, or sad. These are normal feelings⁹³</p> <p>I realize this must be a very difficult time for you, so we will take it one step at a time⁹³</p> <p>Invite / empower to participate in decision-making and make clear that >1 option is available</p> <p>Is it okay if we talk about your options together?⁶⁸</p> <p>Is now a good time to talk?^{1,55}</p> <p>We face some decisions here¹</p> <p>For some families... While for other families...^{82,95}</p> <p>As parents you are experts on how the condition affects your child⁸</p> <p>Are there other important people that you want to talk to in making this decision?⁹⁶</p> <p>There are [e.g.] two routes that we can take in this situation, we do not know exactly which suits you the most⁹⁰</p> <p>There's no question that you know what's best for her⁹⁴</p> <p>Is this a good time?⁹³</p> <p>Would you want somebody else to be here or for us to call that person?⁹³</p> <p>Thank you for pointing this out, you know [name] so well⁹³</p> <p>Address meta-values in decision-making process</p> <p>Responding to cues like “this is too hard – I cannot make the decision” or “what would you do, if this was your child?”⁵⁵</p> <p>Some parents would like recommendations from me while others prefer to make the decision on their own, where do you fall for this decision?^{82,90}</p> <p>Would you like me to share with you what I see as you most reasonable medical options?⁶⁸</p> <p>You do not have to decide²¹</p> <p>Open eliciting of values</p> <p>What are you hoping for your child / family / yourself?^{1,55,82}</p> <p>What is your biggest fear/worry?^{1,39,55,67,82}</p> <p>Do you regret anything that's been done?¹</p> <p>What are the main problems for your child, for your family?¹</p> <p>What gives your life meaning?⁶⁷</p> <p>How does your child look to you?⁵⁵</p> <p>What are your concerns if we go down path A?⁸²</p> <p>What is most important to you [as a family] in what I have just said?^{39,68}</p> <p>What is your first feeling / intuition?⁶²</p> <p>Do you have all the information you think you need to weigh up these two options?⁹⁶</p> <p>If you think about what we have just discussed, what are the most important things for you in this decision?⁹⁰</p> <p>How do you feel that the benefits of [X] relate to the benefits of [Y]? And what about the disadvantages?⁹⁰</p> <p>Acknowledge uncertainty</p> <p>Unfortunately, we cannot be completely certain what will happen to your child⁹⁰</p> <p>Many parents I speak to find this uncertainty really difficult to deal with²¹</p>
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Reflecting and checking on values

So, what I'm hearing you say is...¹

[describe using their descriptions, e.g.] she seems to be in pain¹

It sounds like [...] is important to you, which means...⁶⁷

What does it mean to you to be a good parent now that we have this information?⁸²

It sounds like you are saying [repeat] – do I have this right?⁶⁸

Introducing doubt / gently challenge preferences

For some a [certain percentage] risks seems like a lot, but for others it seems small compared with the benefit⁶¹

Although you have some negative images of what it would be like to live with [diagnosis], you might be surprised that most patients report a high quality of life⁶¹

Is this what you really most want?⁶⁸

We can make this decision together now, but you may want to have a bit more time to think about it, discuss with others⁹⁰

The real life experience of disability can be very different than it sometimes seem to people who are not disabled²⁷

If we don't look at the acute problems, but at the long-term problems, your child...⁹⁴

Address conflicts between participants on values and preferences

It seems that each of us is focusing on a particular aspect of this situations⁶³

Let's incorporate your standpoint into the discussion that we are having as [child's name] medical team⁹⁴

Of course, I understand that this is against your instincts as a parent [...] but we focus on what would be best for [your daughter/son] in the interests of your daughter, not in our own interests¹⁶

Find common ground

We are both hoping for that goal^{1,55}

Well, this means we would not initiate [suspension], we would say that it is fine, we have tried, and we really did everything we

263 Some parents may directly indicate what role they prefer, but others do not or may do so indirectly e.g., ‘Doctor
264 what would you do?’^{12,27,55,68}. Providing guidance upon request is not paternalistic, but if sensitive to role
265 preferences, can be culturally sensitive and helpful for parents who feel burdened by the decision^{68,75,80,92}. Meta
266 values may also be conflicting, e.g., when the wish for autonomy in decision-making seems to result in a non-
267 value congruent decision⁸⁵. Furthermore, parents may differ in how ‘rational’ versus ‘intuitive’ they want the
268 decision-making process to be. Therefore, health care professionals should aim for acceptable (instead of
269 perfectly rational) decisions⁶⁴.

270 To prevent strong emotions from impeding a conversation about values it is often advised to address and share
271 emotions first, or to build in a delay or distraction prior to deliberation^{1,62,63,68}. Screening tools and psychological
272 support may be helpful⁵⁶. It is important to actively listen, watch for cues in body language, face or voice and
273 remain silent at appropriate times^{1,55,63,78,82}.

274 Health care professionals must actively work not only to elicit parents’ values, but also to help parents construct
275 them. Open-ended questions should reflect on what parents are hoping for, what they fear and on what makes
276 life meaningful to them. Health care professionals can ask for specific concerns and hopes related to each option
277 if applicable, on what parents think is most important to them and what information is missing^{1,55,57,67,68,82}. Parents
278 should be encouraged to also share their feelings towards options, even if they may be difficult to explain^{62,63}. It
279 may help to ask parents what it would mean to them to be a good parent, as this may help prioritize conflicting
280 values⁸².

281 Health care professionals should reflect back and check parental values using parents’ own words, confirming
282 understanding^{1,13,55,63,67,68,82}. Also, clear differences between stakeholders should be addressed⁶³. Furthermore,
283 health care professionals may want to gently challenge the preference, to know if it is stable and informed or
284 not. Ways of doing this include asking whether the preference is really what they want given the values that the
285 health care professional learned about, to encourage the suspension the initial option (postpone judgement to
286 form an overall impression first), to suggest that preferences may change after parents learn more about risks
287 and benefits, introducing doubt and to uncouple short term positive or negative emotions from long term effects
288 that may be the opposite^{62,63,68}.

289 Health care professionals and parents should work together to translate values into a value congruent choice.
290 Again, using parents’ own words is useful, as well as finding common ground and assuring non-judgemental
291 support^{1,55,59,68,70,82}. Finally, the final decision may be made, postponed, or be made provisional on contextual
292 factors. It is not possible to predict how parents will feel subsequently and how context will evolve, so parents
293 and health care professional should communicate about follow-up^{63,82}.

294 ENVIRONMENTAL AND ORGANISATIONAL ASPECTS

295 Individual health care professionals should prepare themselves, create a safe and quiet place, make sure to (let
296 parents) invite important relatives, show basic politeness (e.g. no pagers, phones, know the name of the child,
297 introduce oneself, sit), and write or formulate a plan and communicate this to others involved^{1,49,54,57}. Repeated
298 meetings with a common contact person are often needed, and ideally should start as early as possible with
299 conversations about values. Time invested allows for building relationships and constructing values^{12,13,54,56,57,97}.
300 Lastly, involving a multidisciplinary team is useful for ensuring a holistic perspective (e.g., social work,
301 chaplaincy, palliative care, midwives, nurses, or therapists)^{12,56,57,80}.

302 More broadly, the health care system should be facilitating and ensuring that clarifying values is supported and
303 economically viable⁶³. Guidelines could be adapted to encourage this, by e.g., moving away from one-size-fits-
304 all recommendations to explicitly describing options and trade-offs or to incorporate tools^{81,98}.

305 Tools such as digital information, multimedia and patient decision-aids may be helpful in providing information
306 on health care conditions, and on potential options in a relatively unbiased way avoiding choice architecture
307 problems⁶³. They should be used in addition to communication (not replace it) and only by those parents who
308 want to use it. One study reported benefits from a campaign to empower patients e.g., by showing three
309 questions (“What are my options?” “What are the benefits and harms?” “And how likely are these?”) in waiting
310 rooms⁹⁶.

311 Patient decision-aids are specifically designed to help complex decisions, and include information about the
312 decision, but may also help with value clarification^{40,44,47}. Two commonly used value clarification methods in
313 patient decision-aids are to ask people to think about pros and cons, or to rate the importance of option
314 attributes. Although these reduce decisional conflict, they did not increase value congruence when tested in
315 isolation from conversations⁴⁷. Methods that showed most promise were those that explicitly and dynamically
316 showed people how options aligned or failed to align with their values⁴⁷. However, the best approach for a
317 patient decision-aid may be contextual⁴⁰. Value Clarification Methods are most useful in well-defined decisions
318 when information is available on common attributes and how they relate to each other and to each option.
319 However, the lack of flexibility in unique and less well-described decisions can be a disadvantage⁴⁰. Also,
320 attributes can be too widespread, too uncertain, or not even known and thus they may introduce bias^{40,64}.

321 TRAINING, EDUCATION AND UNDERSTANDING

322 Value clarification skills of health care professionals may currently be insufficient but can be taught⁶³. In
323 particular, communication training may be useful, as well as education on common factors identified by parents
324 to be central to their decision-making process, peer to peer coaching and mirror interviews with
325 families^{19,49,56,59,63,66}. These and other training modalities should be incorporated in medical education programs.
326 Next to these practical training and education goals, a clear normative overview of the landscape of terms used
327 in this field would be helpful.

328 Conclusions

329 Incorporating parental values in complex medical decisions for young children is important but challenging.
330 Decisional values are informed by global and external values, and may relate to the child, the parents, and the
331 family as a whole. These values should inform preferences and assure value congruent choices. Furthermore,
332 parents may hold various meta values on the decision making itself which should be acknowledged. Complex
333 decisions for young children are emotionally taxing, ethically difficult, and often surrounded by uncertainty.
334 These contextual factors make it more likely that values and preferences are initially absent or unstable and need
335 to be constructed or stabilized. Health care professionals and parents should work together to construct and
336 clarify values and incorporate them into personalized decisions. An open communication-style, with unbiased
337 and tailored information in a supportive environment is helpful. Dedicated training in communication and
338 shared decision making may help to improve the incorporation of parental values in complex decisions for
339 young children.

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565 **Figure/Table Legends**

566 Figure 1 Overview of concepts and relations in value-based decision making for fetuses, infants, and young
567 children

568 Table 1 Overview of concepts and definitions

569 Table 2 Challenges for knowing and clarifying parental values in complex paediatric and perinatal decisions

570 Table 3 Communication skills: phrases that are potentially useful for health care professionals (based on
571 experts' suggestions and authors' experience).

572