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Hospital Culture and Intensity of End-of-Life Care at Three Academic Medical Centers: A Comparative Ethnographic Study

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41 **KEY POINTS:**

42 **Question:** What is the role of hospital culture and institutional structures in the provision of
43 potentially non-beneficial high-intensity life-sustaining treatments near the end of life?

44 **Finding:** We conducted 113 semi-structured, in-depth interviews with hospital-based clinicians
45 and administrators at three academic hospitals in California and Washington. Hospital culture
46 tended to be aligned with institutional structures (e.g., policies, practices, protocols, and
47 resources), and together shaped the provision of potentially non-beneficial life-sustaining
48 treatments near the end-of-life at each site.

49 **Meaning:** Institutional cultures should be considered when developing policies and
50 interventions to mitigate non-beneficial high-intensity life-sustaining treatments.

51
52

ABSTRACT:

Importance: There is significant institutional variability in the intensity of end-of-life care that is not explained by patient preferences. Hospital culture and institutional structures (e.g., policies, practices, protocols, resources), might contribute to potentially non-beneficial high-intensity life-sustaining treatments near the end of life.

Objective: To understand the role of hospital culture in the everyday dynamics of high-intensity end-of-life care.

Design: Comparative ethnographic study. Data were deductively and inductively analyzed using thematic analysis through an iterative coding process.

Setting: Three academic hospitals in California and Washington that differed in end-of-life care intensity based on measures in the Dartmouth Atlas.

Participants: Hospital-based clinicians, administrators, and leaders

Main Outcome and Measure: Institution-specific policies, practices, protocols, and resources that shape hospital culture and their role in the everyday dynamics of potentially non-beneficial high-intensity life-sustaining treatments.

Results: We conducted 113 semi-structured, in-depth interviews with inpatient-based clinicians and administrators between December, 2018 and June, 2022. Respondents at all hospitals described default tendencies to provide high-intensity treatments that they believed was universal in American hospitals. They also reported that pro-active, concerted efforts among

multiple care teams were required to de-escalate high-intensity treatments. Efforts to de-escalate were vulnerable to being undermined at multiple points during a patient's care trajectory by any individual or entity. Respondents described institution-specific policies, practices, protocols, and resources that engendered broadly-held understandings of the importance of de-escalating non-beneficial life-sustaining treatments. Respondents at different hospitals reported different policies and practices that encouraged or discouraged de-escalation. They described how these institutional structures contributed to the culture and everyday dynamics of end-of-life care at their institution.

Conclusions and Relevance: Clinicians, administrators, and leaders at the hospitals we studied report that they work in a hospital culture where high-intensity end-of-life care constitutes a default trajectory. Institutional structures and hospital cultures shape the everyday dynamics by which clinicians may de-escalate end-of-life patients from this trajectory. Individual behaviors or interactions may fail to mitigate potentially non-beneficial high-intensity life-sustaining treatments if extant hospital culture or lack of supportive policies and practices undermine individual efforts. Hospital cultures need to be considered when developing policies and interventions to decrease potentially non-beneficial high-intensity life-sustaining treatments.

BACKGROUND

Ethical challenges are common around the provision of potentially non-beneficial high-intensity life-sustaining treatments near the end of life such as intensive care unit (ICU) admission, mechanical ventilation, cardiopulmonary resuscitation, and continuous renal replacement therapy.[1–3]. The United States is unique in the proportion of older adults with serious illness who are admitted to the ICU near the end of life[4–8] despite minimal evidence that the benefits outweigh the burdens[9–11]. Many of these patients receive treatments that are perceived to be non-beneficial, the majority of whom do not survive hospitalization[12–14]. The US's market-based healthcare system encourages overtreatment[15]. Indeed, ICU beds per capita and the use of high-intensity life-sustaining treatments continue to rise[8,16–21]. Interventions aimed at improving the quality of end-of-life care in the ICU have had mixed results[22–25].

Understanding how and why potentially non-beneficial high-intensity life-sustaining treatments occur is complicated by significant variation in end-of-life treatment intensity throughout the US[26–31]. This observed variation is not explained by patient preferences, regional differences, or a clinicians' failure to recognize poor prognoses[2,5,22,28,29,32–35]. This suggests that potentially non-beneficial high-intensity life-sustaining treatments may be driven by currently understudied systemic factors.

Drivers of potentially non-beneficial high-intensity life-sustaining treatments include the ethical, social, and cultural aspects of healthcare institutions[27,31,36–39]. Culture is defined as shared beliefs, values, and practices of a group of people (e.g., organization, institution, or profession) and influences the typical way of doing things[40,41]. Institutions vary in treatment intensity, which appears to be stable over time[32,42]. Prior studies suggest that hospital cultures might influence the provision of non-beneficial high-intensity life-sustaining treatments[27,31,36,38,43]. There is a gap in our understanding of how hospital cultures are related to institution-specific structures –

123 defined as the hospital's policies, practices, protocols, and resource allocation – as well as how
124 it might influence the intensity of end-of-life care. Institutional structures and hospital culture
125 influence one another cyclically and iteratively[44]. In sociological scholarship, this feedback loop
126 perpetuated over time is described as "recursion," where one entity cyclically reproduces and
127 strengthen another. The objective of this study was to elucidate our understanding of the
128 complex, recursive relationships between hospital culture, institutional structures, and the
129 provision of potentially non-beneficial high-intensity life-sustaining treatments.
130

131 **METHODS**

132

133 Design: This is a comparative ethnographic study conducted at three academic hospitals in
134 California and Washington selected for differences in intensities of end-of-lifecare (e.g., high,
135 medium, and low) based on the Dartmouth Atlas (See Table 1). We interviewed clinicians and
136 administrators with different clinical backgrounds and organizational responsibilities. This project
137 was guided by a conceptual framework based upon literature review and on prior work by the
138 authors (See Figure 1)[31,45–47]. This conceptual framework was continuously refined throughout
139 the project as more data was collected and analyzed.
140

141 Data collection: One interviewer (ED), a hospitalist and PhD-trained sociologist, conducted
142 semi-structured, in-depth interviews with inpatient-based clinicians, leaders, and administrators.
143 Interviews were conducted in-person until the COVID-19 pandemic when interviews transitioned
144 to Zoom video-conferencing. Respondents were purposively sampled by profession, which
145 contributed to understanding everyday dynamics within each hospital. Recruitment occurred
146 through group e-mail solicitations, individual requests, and snowball sampling[48,49]. Participation
147 rate could not be calculated because persons were contacted through unsolicited e-mails and
148 list-serves, along with direct solicitations. Sampling occurred until theoretical saturation was

149 reached, the point where interviews generated no new insights.[50,51] We include further details of
150 our methods using the Consolidated Criteria for Reporting Qualitative Research (COREQ) in
151 eTable 1.
152
153 An interview guide was used across all sites; minor adaptations were made for different roles
154 (See eAppendix 1 for interview guide). The initial guide derived from our conceptual framework
155 and evolved during pilot and subsequent interviews. The interviews were open-ended;
156 participants were encouraged to explore topics they considered relevant. Interviews were
157 audiotaped, transcribed, and anonymized.
158
159 Analysis: Data collection and analysis occurred concurrently. During data collection, emerging
160 findings were incorporated into ongoing interviews for further exploration to determine their
161 consistency, robustness, and salience. We continually self-reflected around our own lens (e.g.,
162 perspectives, assumptions, positionality) and how that might influence the research process and
163 interpretation. We paid careful attention to counterfactual data, which were used to inform
164 ongoing data collection, refine emerging themes, and enhance rigor. Respondents' diverse
165 perspectives provide a composite view of clinical care at each hospital. Though no one
166 respondent was able to fully explain or recognize what is attributable to hospital culture, analysis
167 of the corpus of interviews provided these broader insights[52].
168
169 The research team (ED, DD, JRC, JNB, TM) thematically coded a subset of interviews to create
170 an initial codebook.[53–55] We deductively and inductively generated codes through line-by-line
171 analysis and discussion and came to consensus on coding definitions.[55,56] 20% of the interviews
172 were subsequently double-coded by TM, LP, JNB, JB, and CB, which contributed to further
173 refinement of the codebook. Analysis was conducted using ATLAS.ti software. Disagreements
174 were resolved through discussion and clarification of code definitions until consensus was

175 achieved. Member-checking occurred through presentations, discussions, and review of
176 manuscript drafts with clinicians of similar background to the respondents. Additional interviews
177 were conducted following the initial drafts of this manuscript to finalize evolving hypotheses.
178
179 To characterize organizational similarities and differences among the three hospitals, we
180 examined thematic divergences and convergences among individual respondents within and
181 across each institution. The UCSF Institutional Review Board approved this study and
182 participants underwent a written or verbal consent process. Our IRB protocol called for
183 anonymization of respondents and hospitals.
184
185 **RESULTS**
186
187 ETable 2 describes the demographic characteristics of the 113 interviewees (66 in person, 47
188 via video-conferencing).The mean and median interview length was 47 minutes. During
189 analyses, we noted similarities between experiences at low and medium-intensity hospitals as
190 distinct from the high-intensity hospital. As such, we characterized the study sites as high-
191 intensity and "lower-intensity", which includes the low and medium-intensity hospitals.
192
193 ***Defaults of high-intensity care and consistency between Dartmouth Atlas-measured care***
194 ***intensity and respondents' accounts of hospital culture***
195 Potentially non-beneficial high-intensity life-sustaining treatments occurred at all hospitals
196 (Table 2, Quote 1-3) as well as defaults towards high-intensity care (Q4-6). Respondents noted
197 that this default reflected cultural norms in American society (Q7). However, respondents at
198 each of the three sites also described distinct hospital cultures around the intensity of end-of-life
199 care that differed between sites and were broadly consistent with the intensity indicated by the
200 Dartmouth Atlas data. High-intensity care was particularly notable at the high-intensity hospital

201 (Q3) as was the receptiveness towards palliative care and a mindset towards de-escalation at
202 the lower-intensity hospitals (Q8).
203
204 ***Consensus and coordination required to de-escalate***
205 In the absence of patient or surrogate preferences, respondents at all sites defaulted towards
206 ICU admission if the patient met criteria, regardless of whether it was beneficial. At the high-
207 intensity hospital, this led to persistent escalation whereas at lower-intensity hospitals, there
208 were multi-disciplinary efforts to engage in shared decision-making within the ICU setting to de-
209 escalate (Q9, 10). Institutional structures and hospital cultures at the lower-intensity hospitals
210 facilitated de-escalation; some respondents perceived it as relatively easy to de-escalate life-
211 sustaining treatments (Q11). Respondents at the lower-intensity hospitals but not at the high-
212 intensity hospital felt comfortable not offering or strongly recommending against non-beneficial
213 treatments including dialysis, pressors, and feeding tubes (Q12).
214
215 At all hospitals, consensus and coordination was required amongst clinicians and families to *de-*
216 *escalate* life-sustaining treatments (Q13). At the high-intensity hospital, respondents described
217 consensus around de-escalation to be challenging to achieve (Q14). Respondents at the lower-
218 intensity hospitals described alignment and teamwork amongst and within care teams to
219 achieve consensus to de-escalate and present a unified message to families. Potentially non-
220 beneficial high-intensity treatments at lower-intensity hospitals were discussed and sometimes
221 resisted (Q15-16). In contrast, consensus was not always required to *escalate* life-sustaining
222 treatments (Q17).
223
224 ***Cultural norms around crucial decision points***
225 At the lower-intensity hospitals, respondents noted that because multiple people were involved
226 in decision-making, there were multiple checks to ensure that treatments provided were

227 beneficial. . Respondents described a cultural norm that encouraged a shared desire towards
228 appropriate de-escalation (Q18-19). They recognized that defaults existed towards high-
229 intensity life-sustaining treatments and described intentional mindsets and actions to resist
230 which required time and effort (Q9). At the high-intensity hospital, respondents noted that the
231 involvement of multiple people in decision-making led to a diffusion of decision-making
232 responsibility that allowed for unchecked momentum towards a high-intensity care (Q20).
233

234 ***Efforts to de-escalate non-beneficial high-intensity*** *life-sustaining treatments* ***can be***
235 ***undermined***

236 Despite efforts to de-escalate, respondents described undermined attempts at de-escalation of
237 non-beneficial high-intensity life-sustaining treatments at all hospitals by external entities such
238 as consultants, ethics committees, or hospital administrators (Q21-23). In our respondent
239 sample, however, the theme of undermined de-escalation was particularly notable at high-
240 intensity hospitals (Q21-22). Transitions of care such as attending physician turnover were
241 described as occasions where re-escalation of high-intensity treatments occurred (Q24).
242

243 The ways that ethics committees made decisions and supported clinical teams appeared to be
244 aligned with measured end-of-lifecare intensity. At the high-intensity hospital, respondents
245 described the ethics committee's approach as favoring patient autonomy and placing additional
246 burdens on clinical teams seeking to de-escalate (Q25). At the lower-intensity hospitals,
247 respondents reported that the ethics committees worked with clinicians and institutional
248 leadership to support clinicians' clinical judgement (Q26). At one of the lower-intensity hospitals,
249 respondents reported that risk management encouraged clinicians to make decisions based on
250 the patient's best interest and supported them institutionally and legally to do so (Q27).

251 ***Institutional policies, protocols, practices, and resources shape hospital culture***

252 At the lower-intensity hospitals, protocolized approaches and hospital policies counteracted
253 momentum towards potentially non-beneficial high-intensity life-sustaining treatments.
254 Respondents felt that institutional structures (e.g., policies, protocols, practices, resources)
255 successfully created and sustained hospital cultures that supported goal-concordant end-of-life
256 care at these hospitals (Table 3, Q28-29). Respondents felt that palliative care services
257 demonstrated their value as important and trusted sources of support and education not only for
258 patients and families, but also for clinicians (Q30). At the lower-intensity hospitals, respondents
259 described consultants (Q16), social services (Q9), hospital leadership (Q31-32), ethics
260 committees (Q9, 26), risk management (Q27), and other entities as facilitating consensus rather
261 than undermining de-escalation efforts. These institutional entities actively encouraged
262 clinicians to de-escalate when ethically appropriate and deferred to clinician judgement (Q32).
263
264 ***The relational and emotional aspects of end-of-life care***
265 There was a notable emotional toll, especially at the high-intensity hospital, associated with
266 challenging cases which affected respondents' future willingness to attempt de-escalation.
267 Respondents described feeling powerlessness, particularly when institutional entities thwarted
268 attempts at de-escalation and asked them to provide potentially non-beneficial treatments. This
269 led to beliefs that their efforts were not worth the fight (Q33-34). Although emotionally fraught
270 and challenging cases that involved intense conflict were relatively infrequent, the specter of
271 these conflicts loomed large in a clinicians' minds long afterwards. Respondents noted that the
272 negative emotional valence surrounding prior efforts resulted in less willingness to expend effort
273 to de-escalate care in the future.
274
275 One theme that emerged only at the lower intensity hospitals was the way end-of-life decision-
276 making occurred. Respondents at these hospitals reported that they achieved de-escalation by
277 seeking nuance between the extremes, finding ethical middle grounds between providing all

278 possible treatments and unilaterally not offering non-beneficial high-intensity life-sustaining
279 treatments. Respondents described focusing on relationship building and aligning with the
280 family. They recognized the potentially traumatic and burdensome nature of these decisions.
281 Although an informed assent approach, where clinicians explicitly offer the choice to defer to
282 clinicians' judgement about withdrawing or withholding life-sustaining treatments, was an
283 accepted norm at the lower-intensity hospitals, it was used within a context of empathetic,
284 values-oriented goals of care discussions. Respondents frequently noted that this approach
285 sometimes took more time but was the right thing to do (Q35-36).
286

287 **DISCUSSION**

288 At the three hospitals we studied, hospital culture appeared to recursively shape and reflect
289 institutional structure, as manifested by its policies, practices, protocols, and resource allocation.
290 Each hospital's culture and institutional structure either supported or undermined attempts to
291 de-escalate against the default of high-intensity life-sustaining treatments in American medicine.
292 A clinicians' attempt to de-escalate appeared to be more effective if they operated within a
293 hospital culture that discouraged high-intensity life-sustaining treatments. The aggregate effects
294 of a hospital's culture and institutional structures appeared to coalesce into an institutionally
295 specific equilibrium which create and reproduce hospital culture. Overall, these observed
296 patterns were consistent with our conceptual model (Figure 1) with regards to how hospital
297 culture and institutional structures recursively reproduce and strengthen one another.
298

299 In Figure 2, we illustrate a prototypical patient trajectory of how recursive reproduction and
300 strengthening between institutional structures and hospital cultures might impact the ease of de-
301 escalation. A default towards high intensity treatments occurred unless every element of a
302 hospital's culture, as manifested by specific structural and procedural factors (i.e., institutional
303 structures), were aligned to resist this default. We described in our results instances where

304 hospital leaders, administrators, subspecialty consultants, and ethics committees undermined
305 de-escalation. As such, successful de-escalation of non-beneficial high-intensity life-sustaining
306 treatments required every individual involved to be aligned towards de-escalation. If one
307 individual undermined an attempted de-escalation, respondents reported that the care trajectory
308 regressed to the default of high-intensity treatments.
309
310 It is well known that the US is an outlier in its default towards high-intensity treatments[57,58].
311 Respondents at all sites needed to employ active and concerted efforts to de-escalate non-
312 beneficial high-intensity life-sustaining treatments. The tendency across hospitals was to
313 escalate treatments unless there was explicit agreement with all relevant decision-makers to de-
314 escalate. A relevant concept is that of clinical momentum, or clinical practice norms and
315 patterns of usual care that promote the accumulation of multiple interventions over time[59]. Even
316 when clinicians, patients, or families resisted this default towards high-intensity care, multiple
317 overlapping institutional structures (e.g., clinical practices of the primary/consultant, hospital
318 policies) made it challenging to do so.
319
320 It was notable that dynamics that encouraged escalation at the high-intensity institution were
321 similar to dynamics that facilitated *de*-escalation at lower-intensity hospitals. As we described in
322 our results (e.g., Q20), respondents at the high-intensity hospital described a diffusion of
323 decision-making responsibility to multiple clinicians as encouraging escalation. Respondents at
324 lower-intensity institutions described (e.g., Q16,18) similar involvements multiple decision-
325 makers and teams as positive checks and balances which facilitated multiple opportunities to
326 raise concerns. Another example of similar dynamics resulting in divergent clinical practice
327 patterns occurred when respondents at the high-intensity hospital (e.g., Q22) described
328 consultants as undermining de-escalation, whereas consultants helped mitigate unchecked
329 clinical momentum at the lower-intensity hospitals (e.g., Q15). Studies examining clinical

330 practice patterns often focus on team dynamics and inter-team structures[60,61]. Our results
331 suggest that hospital culture should also be considered. Hospital culture manifests in many
332 ways, such as the convergence of ethical perspectives around appropriate care amongst all
333 members of the multi-disciplinary team, or a preponderance of clinicians willing to attempt de-
334 escalation.
335
336 These findings provide insights into the recursive relationship between institutional policies and
337 practices designed to mitigate potentially non-beneficial high-intensity life-sustaining treatments
338 and institutional culture by creating feedback loops. Deliberate hospital policies and protocols
339 that encourage thoughtful pauses around treatment escalation decisions help mitigate
340 unchecked clinical momentum. The "comfort care huddle" described at one of the lower-
341 intensity hospitals allows for all members of the team to convene at regular intervals to discuss
342 treatment de-escalation opportunities. This is reminiscent of a protocolized process in France
343 ("limitation et arrêt des traitements") which we had previously described as beneficial in their
344 ability to align team members towards a unified message with family[46]. The ways these
345 interventions, policies, and practices cyclically reinforce and are reinforced by hospital culture to
346 influence care intensity is an example of the recursiveness of social processes.
347
348 Though extreme and rare, our results demonstrate that challenging clinical cases had an
349 outsized impact on clinicians' perceptions and willingness to engage in future difficult cases.
350 This is another example of recursion, but in this case between the individual and the hospital's
351 culture. Shared beliefs and experiences recursively reproduce cultural orientations to strengthen
352 hospital culture. This "feedback – feedforward" reproductive process is a general feature of
353 social life as noted by Antony Giddens' Structuration Theory[44] whereby individuals' experiences
354 and subsequent actions are influenced by institutional constraints in ways that reinforce hospital
355 culture.

Limitations

This study is limited in its ability to ascribe causation from hospital cultures to care intensity. While this study helps elucidate the dynamics between hospital culture, institutional structures, and care intensity, there may be other differences between hospitals such as uptake of palliative care, economic incentives, and patient population demographics that influence care intensity. While broader macro-sociological, political, and economic forces influence individuals and institutions, we were not able to specifically examine those phenomena in this manuscript beyond a general perception by respondents that these forces contributed to a default of high-intensity care. Our observations were based on three urban academic medical centers and may not generalize to community hospitals.

Conclusion

We describe the significance of hospital culture and institutional structures in resisting the default towards high-intensity life-sustaining treatments. This study highlights the importance of the deliberate design of institutional structures – policies, practices, protocols, and resource allocation – to mitigate the harmful impact of entrenched societal forces and defaults within the American healthcare system. These efforts should include purposeful consideration of how institutional values might reflect and be reinforced by specific policies and procedures, such as ethics committee decision-making processes and the structure of co-management and consultation services. We also suggest careful attention to the relational aspects of care including risk management values, thoughtful and consistent dialogue between institutional leaders and clinical teams, and attention to the nature of administrator oversight in relation to high-stakes clinical decisions in extreme cases. While these entities' values and structures may appear to be relatively distant to day-to-day clinical decision-making, their impact can have potential wide-ranging intended and unintended consequences.

382

383 This study illustrates how hospital culture might undermine the impact of interventions that
384 narrowly target individuals or groups of individuals (e.g., team dynamics, communications,
385 decision-making). Consideration of hospital culture and its impact on individuals and clinical
386 practice patterns should be incorporated into institutional policies, practices, and interventions.
387 The design of institutional policies, protocols, practices, and resource allocation have the
388 potential to be a powerful shaper of hospital culture and, thereby, individual clinician behavior
389 and patient and family experiences.

390

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397

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406

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553 **Table 1:** Hospital selection based upon Dartmouth Atlas indices around intensities of end-of-life
554 care[42]
555

Variable	High Intensity	Medium Intensity	Low Intensity
Inpatient Medicare Reimbursements per Patient during Last Two Years of Life	107130	97534	39170
Hospital Days per Patient during Last Six Months of Life	17.4	14.3	8.6
Total ICU days per Patient during Last Six Months of Life	11.1	3	2.5
Percent of deaths which included ICU admission	30	18.7	34.3
Percent of deaths occurring in hospital	43	32	31.5
Number of Different Physicians Seen per Decedent in Last Six Months of Life	16.8	13.6	10.9
Hospital Care Intensity Index	0.98	0.72	0.09

556 *Hospital Care Intensity Index = Based upon number of days patient spent in the hospital and the number
557 of physician encounters they experienced as inpatients, and constitutes the ratio of a given hospital's
558 utilization rate compared to the national average.
559

560 **Table 2:** Table of illustrative quotations
561

Hospital	Quotation	Quote number
Defaults of high-intensity care and consistency between Dartmouth Atlas-measured care intensity and respondents' accounts of hospital culture		
Medium Intensity	"Sometimes I feel like it's just gotten to the point where it's like bordering on true cruelty…I would say almost everything almost always gets offered…and then we're put in a situation of having to carry out all of these things that we don't really agree with and that can be a really distressing situation." (ICU MD6)	1
Low Intensity	"[Treatments are] very high intensity…we've had occasions where pretty much everybody agreed that the care that we were providing was inappropriate... the reality is that we have to work within a framework of the way our system operates." (ICU MD4)	2
High Intensity	"There is a culture from the top of the healthcare system down. We are going to go to eleven on every situation, appropriate or not. It's not explainable that each individual physician has independently arrived at this very aggressive practice pattern…I think it's the institution wants to be aggressive and so that just kind of steeps everyone in doing that kind of stuff." (ICU MD2)	3
High Intensity	"If…the son is freaking out and saying that you're killing and murdering her and that you need to code her, they're going to ask you to code her because that's the path of least resistance…you're probably going to end up coding her because [it's] the easier thing to do." (ICU Nurse) (*Details have been changed to preserve patient anonymity)	4
Medium Intensity	"[If] we don't have a family member…or some other form of documentation…the assumption [is] of full court press and do everything that we can." (ED MD1)	5
Low Intensity	"Until the family members or the patient [decides], then [care] will be typically intensive." (ICU MD2)	6
Low Intensity	"In the United States…everyone has the opportunity to receive full care to the maximum amount of our abilities until they say no, or until, essentially, their body tells us that they can no longer tolerate it…that is 'the right thing to do'….it is [an] American right…There's a lot of conversations about 'If you don't do this, I will report you. I'll bring you to the media'…'Sue you,' kind of thing. That conversation comes up with disgruntled family members here often. (ICU APP2)	7
Low Intensity	"I think it's almost like passive diffusion of the knowledge and style and vision of how palliative care. I see that there's a lot more palliative care consults happening…I think you can't help but learn their approach…some of that knowledge or management rubs off on the primary teams." (Hosp MD2)	8
Consensus and coordination required to de-escalate		
Low Intensity	"The default [for unbefriended patients] is the aggressive care pathway. But I think what ends up happening is we get to know them and their character…We try to reach out to case managers, to SNF providers… people in the community…but that takes time… [if] we are unable to track anyone down…we ultimately get our ethics	9

	committee involved and do a deeper dive into how we should proceed." (PC MD5)	
Low Intensity	"We are not interested in blocking or making the upfront decision-making hard to get into the ICU. We'd much prefer to be open to bringing people into the ICU and then do a good job with care decision-making there". (ICU MD 3)	10
Low Intensity	"I think in our institution, It's pretty easy to move to CMO (Comfort Measures Only)…and deescalate. That tends to be well-established. (ED MD2)	11
Low Intensity	"We don't have to offer certain things…we may in the course of discussions say, 'This is perhaps not the most appropriate patient to offer renal replacement therapy to.'" (ICU MD2)	12
Low Intensity	"Generally it's if there is not consensus between the teams, the default is to then allow whatever decision the family makes to just ride…we'll just go ahead and allow that to evolve." (Neuro ICU MD)	13
High Intensity	"I think it can be really distressing to see...[patients] suffering, and to see them getting treatments that you know that they wouldn't want…it's just really hard to see people getting forced into things that you know that they wouldn't want here. But you have essentially no control to stop it. Because if the doctors aren't going to say it, I can try, but then they may or may not listen to me, and then the family doesn't want to. I don't have a choice. I'm forced to do it." (ICU Nurse2)	14
Medium Intensity	"Most of the time when we say we're not going to offer a treatment such as dialysis, I can't remember a family pushing really hard to do it. Especially when we all come together as a team…There are usually multiple teams involved to reinforce that we don't think there's going to be any benefit from this." (ICU MD6)	15
Low Intensity	"I would say more often than not, it feels like the various teams are on the same page. There are a few instances in which nephrology is the team to raise the alarm bells of, 'Hey, we're being asked to offer this intervention and it just doesn't make sense. And we don't feel comfortable doing it.'…we have a discussion with our colleagues and we're all on the same page about what makes the most sense." (IM PGY-3)	16
Low Intensity	"I call it 'the system wins'…the system dictates where it goes…I can say, 'I don't want to do this. I don't think it's in best interest; I talk to the patient and the family.' The nocturnist who's cross covering, sees the labs and doesn't feel comfortable…and then next thing I know, they're like, 'I just decided that we should consult nephrology.'…I don't think our system's created in a way that unless everybody's fundamentally feeling it's futile, It's almost like a majority gets what they want for the patient." (Hospitalist MD2)	17
Cultural norms around crucial decision points		
Medium Intensity	"There's global input coming in from the [various] teams…looking at the whole global picture and saying, 'This is not right. We need to really start putting the brakes on this thing.'…It's interesting because you'll start to bring this up, and then you'll start to see the gearbox move, and then in a day or two you can start to see it swing. The idea is implanted. I think part of that clinical momentum is that if you don't	18

	have somebody else to look at that, then that idea never gets planted. (ICU MD5)	
Low Intensity	"I feel like there are a lot of checks in place to prevent untethered clinical momentum in the ICU…It just seems like things don't naturally just continue to accumulate and progress unchecked over time. We talk with our team members and with families pretty frequently about how things are going and then what makes the most sense to do next based on what has happened so far…Everyone's very thoughtful and thorough about making medical decisions and reassessing those decisions over time. (IM PGY3)	19
High Intensity	"[Doctors feel] it's not your job to decide whether or not someone's eligible and appropriate for a cath, it's the cardiologist's…We keep thinking that the sub-specialist is going to decide for us. And overwhelmingly [the] specialists want the primary [team], to decide before they call…all the specialists I talk to have a lot of grief about feelings about forced to do these procedures." (Palliative Care MD)	20
Efforts to de-escalate nonbeneficial high-intensity life-sustaining treatments can be undermined		
High Intensity	"Sometimes the ethics team will make a recommendation to make the patient a unilateral DNR if the patient has a poor prognosis…so we make [that recommendation]. The family then goes to the hospital leadership, and there are times when leadership has actually stopped us or stopped that unilateral DNR and said, 'Let's give it another week', which to be honest with you, it makes it challenging." (ICU Nurse)	21
High Intensity	"The family would not let go. She was dying for months and had no other treatment options left and [she] suffered horrendously…even though she had a DNR, I knew that it wouldn't be followed…Our attending said, 'She is no longer a candidate for [treatment] so if she decompensates… do not offer [treatment]…' So I stood in front of the room for hours, and every doctor that came in, I said, 'We're not offering [treatment]. Don't bring it up.'…Finally [the family started] to accept it…Later in the day, I came back and the [specialist] attending was in the room. The family said, 'Well she's not a candidate for [treatment].' [The [specialist] attending] then said, 'Well, Yes, we can do that [give treatment].' I was devastated. I'm not sure I've ever been so devastated in my whole life…[The attendings] got into a screaming match in the hallway…She eventually went back on [treatment], he coded and died. They did CPR on her." (ICU Nurse) (*Details have been changed to preserve patient anonymity)	22
Low Intensity	"The ethics committee was like, '[De-escalation is]…appropriate', but when they went to the hospital administration, they said, 'We can't. What if some family member emerges out of the background and then we made a decision to withdraw care. Let's just not escalate.'…even if all the clinicians agree, the institution puts a block on certain decisions because of their concerns around litigation." (PC MD 5)	23
High Intensity	"It made the whole system look like a fool. The whole ethics [committee] mechanism kind of fell apart before our eyes [in] that we brought this to [Ethics] Committee, [the] committee agreed with us,	24

	and then the next doctor was like, "Let's just trach and PEG and get them out of the ICU. This is not worth the fight." (ICU MD6)	
High Intensity	"Bringing [cases] to the Ethics Committee is not a small deal. It's made up of clinicians and community members, so you present the case and the family presents the case, but it almost seems like you're sitting in court. The members are asking you questions and questioning every single judgment and stuff like that…[the ethics chair] tells me that the ethics mechanism is supposed to be hard. It's a big deal to override a family, so you want to make sure that all your i's are dotted and all your t's are crossed." (ICU MD4)	25
Low Intensity	"There's still this discomfort around pushing against the aggressive care motto that we tend to default into. The ethics committee…can be this extra layer of support to clinicians to validate and verify the decisions that are being made…They liaise very closely with risk management because sometimes in these scenarios, a decision to not escalate or a decision to withdraw interventions can raise these flags for our institution…the ethics committee manages up and down and makes everyone feel like the decision is okay on multiple levels…They have a very low threshold to sort of get the institutional leadership involved…they have a good relationship and partnership with the administrators who also happen to be phenomenal clinicians themselves." (PC 5)	26
Medium Intensity	"The most surprising thing about the role that we play in risk management is the fact that unlike many risk managers we're often telling physicians "Please don't give care that's medically ineffective if it goes against your conscience or isn't in the best interest of the patient." It would be easier sometimes to just let it go on and on, but we advocate for people to please do the right thing, and that is not very common for a risk manager. The profession is reputationed as being more risk adverse so I think my approach and my office's approach is kind of different than a lot of risk managers." (Risk Administrator 2)	27

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564 **Table 3:** Table of illustrative quotations
565

Institutional policies, protocols, practices, and resources shape hospital culture		
Medium Intensity	"It's just part of our culture to consider palliative care…there are changes in the ICU like the comfort care huddle to have a more systematic approach…before meeting with the family to make sure that [everyone is] on board…Have we explored all the options? Do we all feel that there's consensus on a particular recommendation?" (ICU MD4)	28
Low Intensity	"There are now little checkpoints for teams who have previously been on the train that keeps going and doesn't stop…We have this [automated] algorithm that says make sure that if patients meet these criteria that you consult palliative care…within the first 24 hours." (PC MD 5)	29
Low Intensity	"death rounds [is where the]…palliative team provides for our residents to talk about really difficult cases or deaths…it's really important that they provide that space for the resident team…it was just so traumatizing. They would also just be present within our COVID ICU…[to] check in with our team and offer debrief sessions…that kind of support…was really important for our team as a whole." (ICU APP2)	30
Medium Intensity	"I have never experienced a time when medical administration has in any way got involved in any of these decisions. I wouldn't say that I've ever felt financial pressure or press pressure…it's just absent at this institution..." (Ethics Consult)	31
Low Intensity	"And it's normally not a 'you shouldn't do this.' [from hospital leadership], it's usually, 'our suggestion right now would be to wait or like to give more time'…it's a supportive culture…[for] decision making…it's mostly on our team." (ICU APP2)	32
The relational and emotional aspects of end-of-life care		
High Intensity	"I think it takes away a piece of your soul. You feel horrible about it because you're not accomplishing anything good in the long run, which is why I think a lot of physicians don't call ethics. They don't even fight that battle. Why fight that battle? Just do your shift and move on" (ICU MD5)	33
High Intensity	"It's like an exercise in futility almost…I think those cases are few. It's just that when they occur it just takes so much time, and energy, and work. Sometimes I wonder…is it worth it to even go through that whole process?" (ICU MD5)	34
Low Intensity	"I really value ending the situation on the same team as the family or the patient… I've got to align with this family. That's my number one priority…if I am at odds with the patient or the family and they feel like they're not getting the care that they want, I feel like that's a much bigger loss in my mind than someone getting CPR when they're 85 years old…it's just far sadder to me when they say, 'Those doctors didn't care' or 'they didn't try to save my mom'." (PC MD1)	35
Medium Intensity	"I think I'm aligned with the culture here...I don't know anybody who would disagree with the fundamental principles of building relationships…I really try to reserve unilateral decision-making as a last resort. As physicians we're making the final sacrifice to do what we think is best for the patient. But there's so much struggle and	36

	suffering that is going to continue after a patient dies with the family…if we can align with the families…I'm willing to wait and go the extra mile to try to achieve that." (Hospitalist MD1)	

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Figure 1: Conceptual framework for the influence and interactions between hospital and national cultures and policies with illustrative examples from the data. (Adapted from Dzeng, 2022)[47]

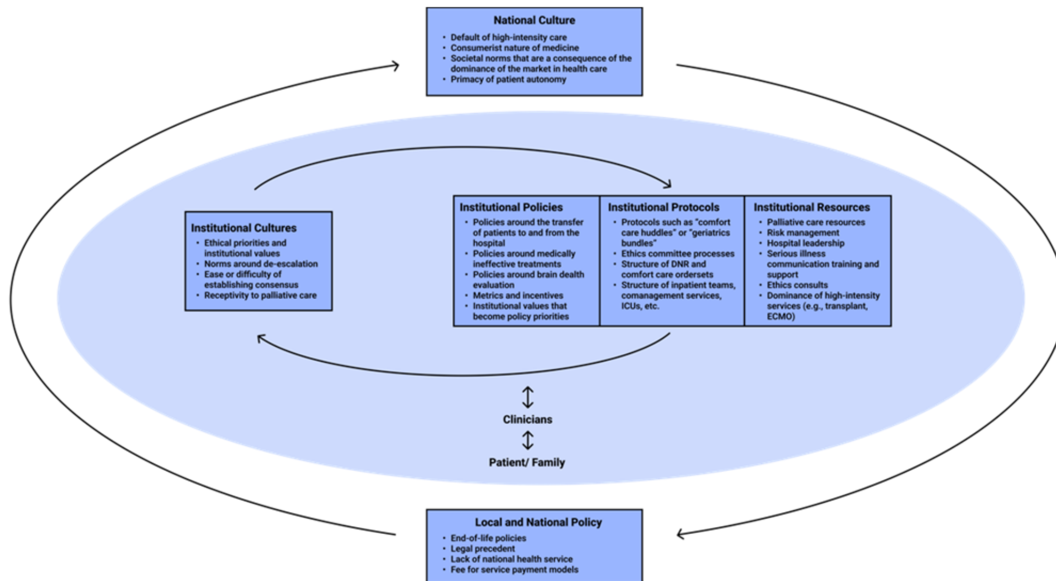
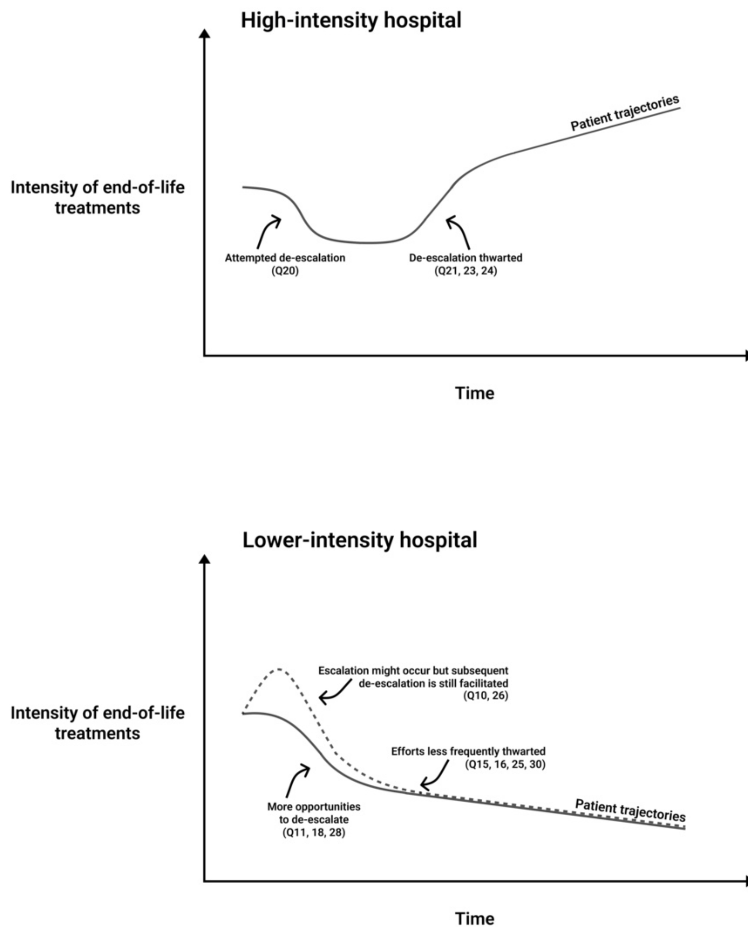


Figure 2: Model describing a prototypical patient trajectory for how institutional structures (e.g., policies, protocols, practices, and resource allocation) might impact the ease of de-escalation of non-beneficial high-intensity life-sustaining treatments.



All individuals and structures need to be aligned towards de-escalation for low-intensity cultures to succeed. Any one entity within the hospital can thwart de-escalation. As such, there are multiple ways to achieve high-intensity care but one pathway where all entities are aligned towards de-escalation for de-escalation to succeed.