

PAPER

Reasons doctors provide futile treatment at the end of life: a qualitative study

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ABSTRACT

Objective Futile treatment, which by definition cannot benefit a patient, is undesirable. This research investigated why doctors believe that treatment that they consider to be futile is sometimes provided at the end of a patient's life.

Design Semistructured in-depth interviews.

Setting Three large tertiary public hospitals in Brisbane, Australia.

Participants 96 doctors from emergency, intensive care, palliative care, oncology, renal medicine, internal medicine, respiratory medicine, surgery, cardiology, geriatric medicine and medical administration departments. Participants were recruited using purposive maximum variation sampling.

Results Doctors attributed the provision of futile treatment to a wide range of inter-related factors. One was the characteristics of treating doctors, including their orientation towards curative treatment, discomfort or inexperience with death and dying, concerns about legal risk and poor communication skills. Second, the attributes of the patient and family, including their requests or demands for further treatment, prognostic uncertainty and lack of information about patient wishes. Third, there were hospital factors including a high degree of specialisation, the availability of routine tests and interventions, and organisational barriers to diverting a patient from a curative to a palliative pathway. Doctors nominated family or patient request and doctors being locked into a curative role as the *main* reasons for futile care.

Conclusions Doctors believe that a range of factors contribute to the provision of futile treatment.

A combination of strategies is necessary to reduce futile treatment, including better training for doctors who treat patients at the end of life, educating the community about the limits of medicine and the need to plan for death and dying, and structural reform at the hospital level.

INTRODUCTION

Futile treatment, its meaning and causes have been vigorously debated over some decades.^{1 2} Consensus as to how to define this concept is unlikely,^{1 3} but most definitions centre on the likelihood and degree of benefit to a patient.^{2 4 5} Despite a lack of consensus on the definition of futility, there is a growing body of international empirical evidence that doctors provide futile

What is already known on this topic

- Futile treatment at the end of life is an entrenched problem in Western industrialised healthcare systems that can cause harm to patients, moral distress to clinicians and that wastes scarce health resources.
- The empirical research on the drivers of futile treatment is limited, but suggests that patient and family request, concerns about legal risk, doctors' professional desire to cure patients and doctors' poor communication skills are all contributors.
- Existing findings are inconsistent regarding the main drivers of futility.

What this study adds

- Doctors rank their orientation to provide curative treatment equally with patient or family request for further treatment as the main drivers of futility.
- Hospital factors, particularly the high level of specialisation and organisational barriers hindering patient diversion from curative to palliative pathways, also contribute to futile treatment.

treatment^{6–12} (or, to use a broader concept, 'perceived inappropriate treatment')^{13–16} to adult patients at the end of life. One recent US survey found that critical care specialists perceived that 11% of patients in their unit received futile treatment, and a further 8.6% were probably given futile treatment.¹⁷ There have been consistent findings in other countries.^{6 10 11 18–21}

Futile treatment wastes scarce healthcare resources,^{17 22} can prolong or increase patient suffering,²¹ and causes moral distress to healthcare workers.²³ Therefore, an important policy goal for health services is to reduce the incidence of futile treatment given by doctors at the end of life. To achieve this, we must first understand the complex reasons why such treatment is provided. The literature points to a range of drivers of futile treatment at the end of life, emphasising family and



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patient request,^{6–11 13–16 19 24 25} poor communication with patients and families,^{6 7 9 11 15 19 21 24–26} lack of knowledge about patient wishes,^{12 13 15 24} conflict with colleagues^{10 11 13–15 24 25} and legal concerns.^{6 8–10 13 15 16 19 20} Some also suggest that doctors are responsible for futile treatment (although to a lesser degree than patients or families)^{7 11 15 19 21 24 27} and a few point to institutional reasons such as time pressure.^{16 24}

While some earlier sociological studies examined a wider range of specialties,^{26 28} most recent empirical studies on this issue are limited to the intensive care unit^{9 10 12–16 19 21} and use quantitative methods.^{8 10 11 13–16 19–21 24 25 27} Do these same reasons arise in other specialties that deal with end of life in hospitals? Is there consensus among doctors about what the main factors are? To date, there has been little empirical research designed to gain an in-depth understanding of the perceptions of doctors from a range of specialties about why futile treatment is provided at the end of life. This article reports on a research project undertaken in Australia that aimed to explore in detail doctors' perceptions of the key reasons why futile treatment is provided.

METHOD

Recruitment

Doctors were recruited from three tertiary public hospitals in Brisbane, Australia. Purposive maximum variation sampling was used and directed primarily towards the specialties that routinely deliver end-of-life care (intensive care, palliative care, oncology, renal medicine, internal medicine, respiratory medicine, cardiology and geriatrics) or where end-of-life decisions are often implicated (surgery and emergency).^{29–32} Medical administrators were also included as they deal with conflict about end-of-life care. The sample was developed in consultation with an experienced clinical reference group with an interest in futility at one of the participating hospitals. Minimum recruitment targets were set in various specialties to obtain as diverse views as possible, both within and between specialties. Doctors were recruited via word of mouth and through mass emails sent by heads of clinical departments seeking volunteers. Participants then contacted the research team directly.

Data collection

A semistructured interview guide (shown in the online supplementary material) was developed in consultation with the clinical reference group. The interview guide was piloted with two doctors with experience in end-of-life care and further revised by the research team, who contributed multidisciplinary perspectives. The convergent interviewing technique was used.^{33 34} Interviews were conducted between May and July 2013 by one of the authors (EC), with expertise in psychology and law.

The interviews began by asking doctors to describe a situation where "a person got treatment at the end of life you didn't think they should have had", encouraging participants to raise issues initially without prompting. In addition, they were asked to recall cases where futile treatment had been avoided and also cases where they regarded the treatment as beneficial but other clinicians did not. The interviewer asked doctors about their understanding of the concept of futile treatment, reasons for providing it (including the *main* reason(s) for it), ways to avoid and reduce it, and the impact of laws and policies on decision-making. Ongoing analysis occurred throughout the data collection phase, to look for convergence or divergence with themes raised in previous interviews on specific topics. Interviews

continued until saturation of ideas.³³ Most interviews lasted about 1 h, but ranged between 30 min and 2 h.

Analysis

Interviews were audio-recorded and transcribed verbatim. The transcripts were analysed using QSR International's NVivo qualitative data analysis software (V10) by one of the authors (NS), who iteratively discussed and refined the coding structure with two of the authors (LW, BPW). To gain insight into each participant's overall views, the framework approach to analysis was also used, combining thematic and case-based analysis.³⁵ The results of the preliminary analysis were presented to small groups of senior clinicians working in end-of-life care at each participating hospital, and to the clinical reference group, to validate the data. Another author (EC) then conducted a secondary analysis from the primary themes, examining the transcripts in detail to look for confirming and disconfirming cases. This provides a further way to ensure the rigour of the analysis.

Ethics

Multicentre ethics approval for all participating sites was obtained, and the research was approved by the human research ethics committees of the relevant universities. Participants were given the opportunity to review their transcript and request amendments. Due to the small size of the medical community from which the participants were drawn, extra care was taken with the use of direct quotes to ensure that no comment could be attributed to an individual.

RESULTS

Sample description

Ninety-six doctors were interviewed at the three participating hospitals (68 men and 28 women) from a range of specialties: emergency (15), intensive care (12), palliative care (10), oncology (10), renal medicine (9), internal medicine (9), respiratory medicine (9), surgery (8), cardiology (5), geriatric medicine (5) and medical administrators (4). The vast majority of doctors were consultants (87), with nine registrars interviewed. Their ages ranged from 30 to 72, with a mean age of 49 years. The average amount of time working as a doctor was 22 years (range 5–49 years).

Reasons that futile treatment is provided

Doctors reported that futile treatment was provided for a wide range of reasons, which we categorise as doctor-related, patient-related and hospital-related factors (table 1). At a broad level, participants nominated doctor-related factors as the key issue driving futile treatment, followed by patient-related, then hospital-related factors (table 1). The most common reason cited was that doctors are trained to treat; that is, they perceive their role as one of providing treatment aimed at cure. The second most common reason was that patients or families request treatment. These two factors were also the most commonly cited *main* reasons for providing futile treatment.

Doctor-related factors

Doctors reported that factors relating to their attitudes, communication skills and personal background contributed to the provision of futile treatment. Doctors' comments, categorised under the factors listed in table 1, appear in box 1. (Expanded and additional quotes are given in the online supplementary material.) Doctors perceived their role as one that was "trained to treat" (#10, geriatric medicine consultant) and so pursued a cure rather than shifting to appropriate palliative treatment for

Table 1 Reasons doctors said contributed to the provision of futile treatment

Reason	Number of doctors citing reason	Proportion of total sample (n=96) (%)	Number of doctors citing a main reason*	Proportion of those citing a main reason* (n=80) (%)
Doctor-related factors	92	96	44	55
Trained to treat	81	84	31	39
Inexperience with death and dying	42	44	3	4
Don't want to give up hope	38	40	4	5
Aversion to death	37	39	4	5
Worries about legal risk	29	30	6	8
Poor communication	28	29	14	18
Doing everything possible	23	24	3	4
Emotional attachment to patients	19	20	0	0
Personality, personal experiences or religion	12	13	0	0
Patient-related factors	87	91	51	64
Family or patient request	63	66	33	41
Prognostic uncertainty	47	49	17	21
Lack of information about patient wishes	36	38	7	9
Hospital-related factors	65	68	12	15
Specialisation	27	28	5	6
Medical hierarchy	26	27	1	1
Hospitals designed to provide acute care so it does	25	26	4	5
Hard to stop once started	22	23	0	0
Time pressure	18	19	3	4
After-hours care	10	10	0	0

*Some doctors provided more than one main reason.

dying patients. Some doctors saw “every death as a failure” (#41, internal medicine consultant). These sentiments and attitudes are consistent with a general cultural aversion to death as well as a lack of medical experience with it. Many doctors said they were more likely to provide futile treatment in the earlier stages of their careers, when they had less experience with end-of-life decision-making.

Doctors described wanting to help the patient and not give up hope that a treatment might provide some benefit. Doctors also said that emotional attachment to the patient made it difficult to decide that further treatment was futile. This theme was identified as most often arising in specialties that saw patients on an ongoing basis, such as oncology, renal medicine and respiratory medicine.

Communication issues with patients and families were also emphasised as a driver of futile treatment. This was attributed to avoidance and discomfort with a conversation about dying. Providing a smorgasbord of treatment options, rather than offering only those reasonably likely to benefit the patient, was described by many doctors as a problematic communication strategy. Doctors said it often took several conversations to negotiate how and when to withdraw futile treatment from dying patients and that they were comfortable providing futile treatment for a limited time to allow this to occur.

Doctors also mentioned that personality, religious background and one's own experiences with death and dying could contribute to the provision of futile treatment. They said it was in the personality of some doctors to be “hanger-on-ers” (#84, intensive care consultant) and that more “emotive” doctors “tend to push for more futile treatment” because they have a harder time accepting death (#91, cardiology consultant). There were mixed views about the role of religious beliefs. Some doctors said that more religious doctors were more likely to provide futile treatment, whereas others disputed that religion played a role.

Doctors who had witnessed bad deaths due to futile treatment or had experienced the death of a family member said those events made them less likely to persist with treatment that would not result in a good quality of life for the patient.

A number of doctors said that a driver of futile treatment was the desire to satisfy patients, families and medical professionals themselves that everything possible had been done. This so-called “therapeutic imperative” (#39, intensive care consultant) to do whatever you can was related to the ease of ordering blood tests, scans, X-rays and other investigations in a tertiary hospital, regardless of whether the tests will alter treatment. Some doctors, however, regarded such practice as unwarranted. Doctors reported doing everything possible to manage family expectations. Continued treatment gave the family time to accept the patient as dying and the medical team time to negotiate withdrawal of active measures. This theme typically arose in the context of providing low-cost treatments, like fluids and antibiotics, which doctors perceived were futile, but which did not harm the patient.

Doctors reported that they (or their colleagues) provided futile treatment because of worries about legal consequences for refusing patient or family demands. This was related to patient and family dynamics (discussed below), but also to doctors' individual degree of risk tolerance. Participants perceived that more risk-averse doctors were more likely to provide futile treatment out of this fear (whether or not they had ever had experience with legal proceedings or complaints in the past). Some doctors believed that these fears were valid concerns, while others thought they were exaggerated.

Patient-related factors

Doctors reported that patient-related factors played a role in deciding to provide futile treatment. Comments of doctors, categorised under the factors listed in [table 1](#), appear in [box 2](#).

Box 1 Doctor-related factors leading to futile treatment at the end of life**TRAINED TO TREAT**

"... they're trained to treat. You don't learn—you learn how to treat and it's easy to treat. It's much easier to treat than to have those high level discussions where you talk about end of life and not treating. So the default is to keep treating". (#10, geriatric medicine consultant)

"...you do a procedure because it can be done, even if it doesn't change the outcome. ... recently ... we did a big operation to take out most of his cancer. But because it was only most of it, it's not actually going to change anything. If we'd thought that through beforehand, we would've not done that treatment". (#71, surgery consultant)

AVERSION TO DEATH

"Some doctors really do believe that they did medicine to never give up on a patient. ... the whole symbolism in our society of fighting and battling illness and cancer. ... it's almost like the patients who elect to stop treatments are being derided". (#24, palliative medicine consultant)

INEXPERIENCE WITH DEATH AND DYING

"I think that what you do see very often is junior doctors making those sorts of decisions when it should be done at consultant level".

(#28, emergency medicine consultant)

DON'T WANT TO GIVE UP HOPE

"I think most surgeons see it that if there's a small chance then you've got nothing to lose and you give it a try. ... There's always scope to ... get a result which is better than death". (#67, surgery consultant)

EMOTIONAL ATTACHMENT TO THE PATIENT

"... the biggest problem ... it's ... not wanting to let them down, particularly when you start out being able to promise a lot and usually you can". (#72, cardiology consultant)

POOR COMMUNICATION

"So if you give a smorgasbord to the patient's family and say, do you want everything done, the answer is always going to be yes. If you're going to address the issue like, everything reasonable will be done, do you want x, y and z, it's a slightly different issue". (#3, intensive care consultant)

PERSONALITY, PERSONAL EXPERIENCES AND RELIGION

"... I see it all the time. ... When those doctors, devout doctors, who have a strong right to life, when they are practising on their own without any integration with any other doctors, then they can go on clearly without any interference on their futile way". (#92, surgery consultant)

DOING EVERYTHING POSSIBLE

"My colleagues tend to leave no stone unturned with things that might be, quote, unquote, potentially reversible. ... It's because they don't have the clinical confidence to say well that's true. But death is not potentially reversible, and that's the trajectory we're on". (#37, emergency medicine consultant)

WORRIES ABOUT LEGAL RISK

"... if you don't have a system you can hang your hat on to say this is how we've come to this decision, this is our system, these are our guidelines, we've complied with our guidelines, we're safe then you're out there exposed. So you need courage and this isn't a system that encourages or rewards courage". (#73, medical administrator)

(Expanded and additional quotes are given in the online supplementary material.) Patient and/or family requests for further treatment were identified as the primary patient-related factor. This was particularly likely where doctors thought complaints or legal proceedings might arise from non-treatment. Some doctors believed it was easier to tread "the path of least resistance" (#24, palliative care consultant) and provide care to placate families.

Doctors also said that prognostic uncertainty contributed to the provision of futile treatment because of the difficulty in assessing futility in some cases. Doctors reported wanting to give patients the "benefit of the doubt" (#48, respiratory medicine consultant; #66, oncology consultant; #85, geriatric medicine consultant) and were motivated to continue treating out of fear of making the wrong decision. Doctors described learning from these decisions and becoming more confident in their assessments with experience. Other doctors were less accepting of this as a justifiable ground for providing futile treatment and thought doctors should be more willing to make a difficult call to stop treating.

Another patient-related factor contributing to futile treatment was lack of knowledge about patients' wishes. Lack of

information was a particular issue for emergency doctors who were required to provide treatment in an urgent context without knowing a patient's history. This also arose when there was no substitute decision maker or the substitute decision maker did not know the patient's wishes. Doctors were surprised that families were not aware of elderly relatives' end-of-life preferences, especially in the case of residential aged care facility residents. Lack of information delayed decision-making, which meant that futile treatment would be provided, at least as an interim measure.

Hospital-related factors

Doctors identified a range of hospital-related factors that contributed to futile treatment. Their comments, categorised under the factors listed in [table 1](#), appear in [box 3](#). (Expanded and additional quotes are given in the online supplementary material.) Specialisation was the most common hospital-related factor identified. These doctors felt that the development of specialties and subspecialties within medicine meant that more people were involved in a patient's care, but that care was focused on a particular organ or body system, rather than on the whole person. A failure to consider the combined effects of

Box 2 Patient-related factors leading to futile treatment at the end of life**PATIENT OR FAMILY REQUEST**

"Patients' families often have unrealistic expectations. ... [The provision of futile treatment] will probably come down to how forthright or aggressive the family are and also come down to the doctor's ability to deal with that. Their confidence or their courage of conviction". (#79, cardiology consultant)

PROGNOSTIC UNCERTAINTY

"I think there was a chance it could have reversed, and I think that's where the difficulty comes in with a lot of this stuff. ... You don't know if something is going to fail or succeed until you try it". (#13, oncology consultant)

"... these things aren't always predictable. So there are certainly some things where you know what the prognosis is. ... mostly you have to in medicine go with the odds. If the odds are very much swayed in the fact that this isn't going to help the person, this person is going to die almost no matter what I do, then you've got to expect that that's what is going to happen. It's wrong to try and build false hope in people when really there is very little ... hope there". (#56, geriatric medicine consultant)

LACK OF INFORMATION ABOUT PATIENT WISHES

"I know a scenario that used to come up a lot, so I'll talk about it in general, is where elderly people, often with dementia, lots of chronic diseases, present in ED and there isn't a surrogate decision maker easily contactable and the treating doctors feel that they should do all treatment unless somebody can tell them not to". (#10, internal medicine consultant)

the various comorbidities may mean that a single intervention to address just one of many conditions is futile. Additionally, the "siloeled" (#28, emergency medicine consultant) nature of specialties in tertiary centres compounded communication issues between teams in different departments and was a barrier to coordinated care.

Some doctors felt that because hospitals were designed to provide acute care, this became the default treatment pathway, even for patients dying from chronic disease, for whom a palliative approach was warranted. Doctors also said it was hard to stop active treatment once it was started. Coming into hospital was likened to being on a "treadmill" (#67, surgery consultant) or on an "express train that only goes in one direction" (#28, emergency medicine consultant) where a patient once admitted receives a "chain reaction" of interventions (#86, internal medicine consultant). These hospital-related factors mean that once a treatment trajectory has been set it takes more effort to redirect it to a palliative approach than to "let the system flow" (#6, emergency medicine consultant).

Time pressure was another factor that doctors believed contributed to futile treatment. Doctors said they might become aware that an end-of-life conversation was needed, but due to a heavy caseload would avoid it in the hope that someone else might have it. When this conversation did not occur, some doctors reported seeing patients with advanced terminal illness who were unaware that they were dying or that their current treatment regimen was not curative. Other doctors commented that an investment of their time early in the patient's dying process would save time overall as many issues could be resolved by discussions.

Box 3 Hospital-related factors leading to futile treatment at the end of life**SPECIALISATION AND FRAGMENTATION**

"... there were too many specialists looking after this patient and no one overlooking—it's fragmented care. Rather than someone taking responsibility for the whole of the patient's care ...". (#11, internal medicine consultant)

DESIGNED TO PROVIDE ACUTE CARE SO IT DOES

"In ... an acute tertiary hospital seeing some of the most severe and difficult cases ... We certainly get exposed to a lot of life threatening illnesses, a lot of terminally ill patients who are then referred from other places to an acute tertiary hospital. The whole culture of an acute tertiary hospital is to try our very best—this isn't me speaking". (#24, palliative medicine consultant)

HARD TO STOP ONCE STARTED

"... once you start dialysis, you continue until the end, because to pull out is a much greater decision. ... to say, I no longer want it, when you know death will follow ... is a much more difficult decision". (#8, renal medicine consultant)

TIME PRESSURES

"... it's easier to continue rather than say to the patient let's stop. That's a harder thing to say and it takes a longer consultation in a busy clinic. It's easiest to continue for the time being". (#17, oncology consultant)

MEDICAL HIERARCHY

"... with the hierarchy of the medical team, there are consultants that have been around for many, many years and they have reputations for being very fixed on what they think should be done, even if it clear to everyone else involved that it is inappropriate". (#12, internal medicine registrar)

AFTER-HOURS CARE

"I think it's because the team who looked after her for that 24 hours period was not the regular team. It's the weekend. So they made a call based on patient's need, but didn't look at the whole picture and didn't look into account that the patient was not for any interventions or anything". (#35, internal medicine consultant)

The hierarchical organisation of medicine was another hospital-related factor. Consultants who make treatment decisions spend relatively little time with patients, and therefore may be unaware that the treatment being proposed was not consistent with the patient's treatment goals. Also, staff on duty at nights or over the weekend are less likely to be familiar with the patients and have less medical experience, and therefore tend to err on the side of overtreatment.

DISCUSSION**Principal findings**

This study identified and explored the complexities surrounding the provision of futile treatment at the end of life in acute tertiary hospitals. Doctors from a range of specialties nominated doctor-related, patient-related and hospital-related factors that contributed to futile treatment. This research confirms the reasons for futile treatment identified in other studies, such as patient or family request for treatment,^{6-11 13-16 19 24 25} clinician practices (including poor communication skills^{6 7 9 11 15 19 21 24-26} and failure to diagnose end of life),^{11 21 24} fears of legal consequences,^{6 8-10 13 15 16 19 20} and

institutional fragmentation and specialisation.^{9–11 13–15 19 21 24} It also reveals deeper insights into these causes. First, our study points to a greater range of doctor-related factors than in the existing literature, including the routine offer of treatment, emotional attachment to patients and doctors' own personal experiences. It also builds upon early sociological studies regarding the significance of physicians' religious beliefs.²⁸ Second, and consistent with the early findings of Crane,²⁸ the view that futile treatment is predominantly driven by patient and family request was disputed by some doctors who believed that the emphasis was much more about doctors' persistent offers of treatment and own attitudes towards death and dying. Both patient-related and doctor-related factors were cited as the *main* drivers of futile treatment. Third, this research identified additional institutional drivers. As well as specialisation, doctors perceive the medical hierarchy and after-hours care to contribute to overtreatment. Hospital systems were also identified as making treatment hard to stop once it has been started. Fourth, our study provides greater insights into prognostic uncertainty as a reason that futile treatment is provided. As Fox contends, the field of medicine is innately unknowable due to the current gaps in, and ever-expanding nature of, medical knowledge.³⁶ This uncertainty, coupled with concern about the negative impact on patient morale of an adverse diagnosis and the desire to avoid difficult conversations, has led some doctors to optimistically temper their prognoses of terminal patients, a practice that has been criticised by Christakis.³⁷ In our study, some doctors expressed the view that prognostic uncertainty is sometimes used as an excuse to avoid making difficult end-of-life decisions. The latter group may be more tolerant of the inevitability of medical error in practice (the concept of an 'acceptable miss') advocated by Hoffman *et al.*³⁸ Finally, our study also demonstrates that the concepts raised in Oerlemans *et al.*¹² of the technological (or treatment) imperative ("what is possible should be done") and anticipated decision regret ("the fact that people tend to use the concern they will later regret not having intervened as a motivation for intervention") are perceived by doctors outside the intensive care unit to drive futile treatment at the end of life.

Implications for practice

Doctors perceived that futile treatment is provided because of a range of inter-related factors about how clinicians think and behave, patient and family engagement, and how hospitals operate. Doctors also reported a range of behaviours, many being driven by the treatment imperative and inclined to provide treatment. Others may regard treatment to be futile, but are persuaded to continue due to external pressure from patients or their families or fear of legal repercussions. Attempts to reduce futile treatment will need to approach the problem on multiple levels targeting clinicians (recognising that they may be motivated to act in particular ways by different factors), organisational issues and the community more broadly.

Doctors' conception of their role needs to evolve to recognise that optimal treatment of a dying person may include a palliative path. Clinicians (and medical students) need to be educated to diagnose dying, to improve communication with patients and families about death and dying, to ensure that patients are aware of the curative/palliative distinction, and to be aware of and regularly review their patients' treatment goals.³⁹ Education could occur both in structured settings such as lectures and through less formal avenues such as clinical supervision, mentoring or discussion forums. There are powerful cultural constraints on talking about dying that must be managed, and

doctors need to be equipped to facilitate such discussions. Doctors also need to be better prepared to resist pressure from patients and families to provide treatment that lacks patient benefit. An understanding that requests to continue treatment can be motivated by emotion rather than reason, and the provision of training to deal with such situations may assist. Recent Australian research has shown that there are significant gaps in doctors' knowledge of the laws relevant to the end of life.³⁰ Knowing that they are not legally required to provide futile treatment may assist them to resist pressure to treat.

There also needs to be an attitudinal shift within the broader community so that people have discussions about death and plan for it. As part of this dialogue, the public should be educated to understand the limits of medicine and the potentially adverse consequences of invasive treatment as they approach the end of life. Finally, hospital administrators may need to consider how the contemporary hospital can better meet the needs and expectations of the dying and their relatives. Patient and family requests for treatment may be driven by grief and by a misplaced understanding of what medical treatment can achieve. There must be an opportunity to stop or divert the 'one-way train' arising from the treatment imperative so that palliative options can be explored at an earlier point. Consideration should be given to whether the fragmentation that arises from specialisation may be overcome by adopting a different decision-making model that focuses on the needs of the patient as a whole person.^{40 41} At an organisational level, it is also critical to ensure that clinicians have enough time to spend with families to discuss end-of-life decisions. Clinicians' workloads need to take into account that time-consuming discussions with patients and family are necessary to prevent futile treatment. While length of stay in an emergency department^{42–45} or surgical waiting lists^{46–48} are measured and therefore drive clinicians' behaviour, complex discussions with patients and families are not generally valued in key performance indicators within health services.

CONCLUSION: ETHICAL, LEGAL AND PROFESSIONAL CONSIDERATIONS AND IMPLICATIONS

Reflecting on the results of this study and their implications for policy and practice highlights a number of important historical, social and ethical issues. We believe that these should be made more explicit than is often the case in the literature concerning futile treatment. Some treatment described by doctors as futile in this study consists of limited continued treatment that does not harm the patient but provides a space for negotiation with families in pursuit of the withdrawal of active measures or the accomplishment of very short-term goals. Nevertheless, many cases do not fall within that category and the literature has pointed to social and ethical problems including the waste of scarce healthcare resources,^{17 22} the initiation and prolonging of patient suffering²¹ and moral distress to healthcare workers.²³ Thus, the reasons behind futile treatment must be examined closely.

The current study points to a greater range of doctor-related factors underpinning futile treatment than has previously appeared in the literature, and the identification of such factors as significant drivers. It is noteworthy that this identification is made by practising clinicians, not by external critics of the medical profession. It is important to observe that individual members of the medical profession are still identifying patient harm resulting from futile treatment at individual and systemic levels of the profession and healthcare institutions, many years after challenges began to be issued to the profession by the

nascent bioethics movement concerning overtreatment and the inappropriate prolongation of life.^{49 50} This may point to a degree of resistance by the organised profession to fully integrate treatment limitation with the curative model of care in cases where harm can occur from continuing treatment. A number of participants in this study stated that it was hard to stop active treatment once it had started. For example, one participant stated that “It’s much easier to treat than to have those high level discussions where you talk about end of life and not treating” (#10, geriatric medicine consultant). Another said, “So you need courage and this isn’t a system that encourages or rewards courage” (#73, medical administrator).

While our study points to multiple factors that doctors perceive as driving futile treatment, and their complex interaction, we also suggest that the medical profession should work constructively to bring about changes in practice. This goes beyond the various imperatives that we have described above, such as the need for improvements in education, legal knowledge, communication, and so on. These are crucial steps, but unless they occur as elements of a broad, conscious and courageous engagement by the medical profession, change is likely to continue to be slow and ad hoc. Patients will continue to be harmed despite the profession’s primary informing ethical principle of ‘Primum non nocere’.

The social status, authority and power of medicine have been the subject of a large critical literature over many decades.^{51–53} There have been changes to medical ethics and professional codes in response to various challenges to this position, and similarly, the law governing medical practice and professional regulation has been revised and considerably expanded. Many of these developments, however, having been externally initiated, have been resisted by the profession.⁵⁴ The doctors in our study identified the treatment imperative and institutional factors as drivers of futility, all of which point to continued resistance by the organised profession to changing practice. This is so notwithstanding that individual doctors have identified these as issues and acknowledge the relevant ethical shortcomings of the profession. For the pace of change to increase, and for the harm from futile treatment to decrease, requires the medical profession to better demonstrate its allegiance to the scientific method by ceasing to provide treatment that fails the test of evidence. It also requires strong and courageous professional leadership.⁵⁵ Our results suggest that individual doctors desire such change and will positively receive such leadership.

STRENGTHS AND WEAKNESSES IN RELATION TO OTHER STUDIES, DISCUSSING IMPORTANT DIFFERENCES IN RESULTS

There are few recent qualitative studies on why doctors provide futile treatment at the end of life to adult patients.^{6 7 9 12} While qualitative methodology cannot make claims about prevalence or the weight of various factors, it provides a deeper contextual understanding of the complex reasons futile treatment is provided. The inclusion of doctors from a wide range of specialties who treat patients at the end of life extends the current literature, which is primarily focused on medical staff from the intensive care unit,^{6 9 10 12–16 19 21} with only a few studies looking at more than one or two specialties,^{7 11} and most studies interviewing small numbers of doctors^{6 7 9 12} or considering a limited range of end-of-life treatments such as resuscitation.⁵⁶ Additionally, none of the qualitative studies investigated disconfirming cases and areas of controversy in participants’ responses. Other relevant studies have involved either surveys^{11 13–16 19 20 24} or chart audits^{8 10 21 27} and so do not allow for the

same in-depth exploration of these issues. Some of these studies have also focused only on one particular disease (eg, cancer^{21 24} or dementia²⁷).

This large-scale qualitative study helps to provide a nuanced understanding of how doctors perceived the causes of futile treatment. The validity of our findings is reinforced by the use of the convergent interviewing method to systematically test patterns of agreement and disagreement between participants across a large number of interviews. Patients in acute care facilities are not always treated by just one department, so the inclusion of doctors from a wide range of specialties meant that doctors’ perceptions about the role of other specialties could be interrogated. A limitation of this study is that it focused on the perceptions of 10 specialty groups in public metropolitan hospitals, and some findings, especially the hospital-related ones, may not be applicable to other specialty groups or other health professionals, including those working in private hospitals, or hospitals in rural or regional areas. Furthermore, we gathered data about perceptions of futile treatment as an issue, rather than perceptions about the doctors’ own practice. Future studies could usefully examine doctors’ self-perceptions, and thus could elucidate associations between factors that motivate individual doctors (like tendency to continue treatment) with external factors (like perceived pressure to treat).

These data deepen our understanding of the complex interplay of factors that contribute to futile treatment. A change of practice at the end of life is possible but will require an integrated and multipronged approach. Intervention should commence where it is most needed—improving doctors’ ability to diagnose and treat dying patients, and educating the community about the dying process and the limits on medical treatment to prevent death from occurring.

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Reasons doctors provide futile treatment at the end of life: a qualitative study

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