

ETHICS ROUNDS

Who Should Get the Last PICU Bed?

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Dr Wightman conceptualized and designed the study and drafted the initial manuscript; Ms Largent contributed substantially to the study conception and wrote and revised the manuscript; Drs Del Beccaro and Lantos conceptualized the study and helped draft and revise the manuscript; and all authors approved the final manuscript as submitted.

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abstract

Administrators sometimes face ethical dilemmas about the allocation of institutional resources. One such situation is when elective surgery cases require reserved ICU beds and the ICU is full. Such situations arise frequently in children's hospitals today. They are sometimes complicated by questions about whether every patient in the ICU belongs there. We present such a situation and responses from Mark Del Beccaro, Vice President for Medical Affairs at Seattle Children's Hospital; Aaron Wightman, a nephrology fellow and bioethicist at Seattle Children's Hospital; and Emily Largent, a doctoral student in the joint JD/PhD Program in Health Policy at Harvard University. *Pediatrics* 2014;133:907–912

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We present such a situation and responses from Mark Del Becarro, Vice-President for Medical Affairs at Seattle Children's Hospital; Aaron Wightman, a nephrology fellow and bioethicist at Seattle Children's Hospital; and Emily Largent, a doctoral student in the joint JD/PhD Program in Health Policy at Harvard University.

THE CASE

TN is a 12-year-old girl who is scheduled for an elective tonsillectomy and adenoidectomy. She has trisomy 21 and obesity. A year ago, she was noted to have episodes of snoring, choking, and apnea at night. Polysomnography demonstrated obstructive sleep apnea with periods of prolonged apnea and hypopnea and an elevated respiratory distress index. Attempts at dietary improvement have resulted in moderate weight loss but no improvement of apnea. Despite behavioral therapy, the patient has been unable to tolerate positive airway pressure therapy. Because of her complexity, postoperative management in the PICU has been recommended. Because of the high ICU census in the past 2 months, the patient's scheduled surgery has been cancelled several times. The delay has caused significant distress for the patient's family and concern from the medical team because the patient is at high risk for developing pulmonary hypertension.

BH is a 12-month-old boy. At 9 months of age he was noted to have an abnormal head shape and subsequently diagnosed

with scaphocephaly. The craniofacial team recommended corrective surgery by 12 months of age. After surgery, the patient would need to be observed in the ICU for 1 or 2 nights to manage pain and provide post-operative monitoring. BH has had surgery cancelled several times because of inadequate bed space in the ICU. This has been distressing to the family. The craniofacial team has also reported frustration.

The PICU contains 12 beds. One "crash bed" must be kept empty at all times for an emergency entering the hospital. Other beds are reserved for planned surgeries, transfers from outside hospitals, or occupied by critically ill children. Two children have been in the PICU for months.

LM is a 2-year-old girl with a progressive neurologic disorder of unclear etiology and respiratory failure. She was admitted to the ICU for neurocognitive decline and autonomic instability. She remains unresponsive to stimulation and her environment. She has had several episodes of extreme bradycardia and asystole, which have required 30 to 60 seconds of chest compressions. The PICU team has strongly recommended a do not resuscitate order be placed, but LM's mother has declined.

SC is a 9-week-old female with trisomy 18 and severe congenital heart disease. Her anatomy is not amenable to surgical repair, and her diagnosis of trisomy 18 precludes her from consideration for a cardiac transplant. The ICU team recommended a transition to palliative care, but her parents have repeatedly declined.

Recently, several other critically ill children have been diverted to PICUs at other hospitals because of limited bed space. Some staff members of the ICU have voiced concern at providing "futile" care to dying children while others are denied needed treatments.

The PICU director and the chief of surgery ask the ethics committee: Is it appropriate to consider resource allocation in deciding whether to withdraw life-sustaining treatment?

Dr Del Beccaro Responds

The central question asked by the ICU and surgical leadership in these case scenarios boils down to resource allocation. How should we fairly allocate limited intensive care resources?

I am the Vice President for Medical Affairs for our hospital. In that role, I work with our hospital's leadership (including nursing, physicians, and support services) to deal with bed shortage issues. I know that children's hospital resources are frequently limited. Thus, we need criteria to decide how they should be allocated. One of the most common and straightforward criteria is first come, first served. The problem with first come, first served is that, in some situations, a patient with minimal need for those resources will access the bed ahead of someone else purely by proximity to the hospital or by their provider knowing how to access the services over others who are not as connected.¹ On the other hand, if an ICU or hospital allows beds to be "saved" for prescheduled admissions, then those admissions are implicitly given priority for those resources.

Another way to prioritize resources is to use the principles of military field triage. When faced with overwhelming acute need, the military refined a system to determine who was essentially beyond help and therefore did not use their overtaxed resources. They prioritize resources to the patients who could benefit most. In civilian disaster responses, the same concept is applied. During the 2005 Katrina hurricane or the 2010 Haitian earthquake, resources were allocated using the principles of military triage. Are there lessons or similarities in the scenario that is played out in ICUs on a frequent basis?

At our institution, as in any children's hospital, we strive to treat all children who need our care. However, we frequently face months of chronic ICU bed shortages. We have created a set of criteria to guide how we allocate these resources.

At the top of the list are the most complex patients who really cannot get care elsewhere in our extended region (which covers 4 states). These include oncology and transplant patients, complex congenital defect patients who need urgent surgery, or patients who need extracorporeal membrane oxygenation. Next are children with special health care needs. Lowest on the priority list are uncomplicated patients with acute problems. These patients, we feel, can be safely cared for in other regional ICUs.

Using these criteria, we have allocated beds based on severity or complexity of illness. This is similar to a mass casualty setting in which the less severely injured are placed in other care settings.

So when does it become acceptable or even justified to allocate resources based on a presumed futility of that high-end care and a parent or guardian's unwillingness to agree that ICU level care is inappropriate?

The crucial question is whether the long-term outcome of the patients who are waiting for a bed will be worsened by a delay in treatment. If we knew where that tipping point is, we could, perhaps, justify a decision to prioritize that patient for surgery. Unfortunately, such prognostication is difficult. I have not been able to find any data that directly answer that question. Without such data, it could be construed that we are basing our decision on other motives, such as profitability of the surgeries being postponed.²

What Would I Recommend, Then, in This Situation?

There are 2 separate courses of action that should be undertaken. One is more immediate and involves the family. The

providers must make sure every avenue has been explored to communicate the medical futility with the family.³ It is also imperative that before we as providers move patients based on the perceived lack of beds that we do everything to maximize the correct and efficient use of current beds. To achieve this, we should do the following:

1. Use the ICU/emergency department/specialty services (eg, neurosurgery), nursing, respiratory therapy teams, and others to develop clear field triage to lessen demand (ie, who can be safely cared for in other institutions including adult facilities).
2. Try to level load the ICU admissions as much as possible (ie, can the surgery demand be spread out over the 7 days of the week and not clumped in the middle of the week?).
3. Where possible, develop clear evidence-based or consensus criteria for admission to the ICU for medical and surgical patients as well as for criteria for transfer out of the ICU.
4. Add 24-7 attending, nursing, and support services on both the medical/surgical floors and the ICUs to continually advance care and lessen the demand for ICU beds. This includes teams to spot precursor events that could lead to severe clinical deterioration and a need for an ICU bed.
5. Develop the ability to hold surgeries in the postoperative area until an ICU bed opens.

We have instituted all of these interventions plus increased our ICU beds (obviously a longer-term solution). We still have an insufficient supply of ICU beds for planned surgical procedures. However we at least know we have worked to make sure that we as providers were using these resources appropriately.

If after all these interventions the medical staff still cannot access ICU

beds for patients who (1) are clearly best cared for in our ICU and (2) whose continued delay in accessing the ICU will adversely affect their outcome, then I would ask the Ethics Committee to come up with a process to have futility of care as part of the decision matrix for accessing ICU care.

Families of both current patients and patients who are scheduled for future surgeries should have access to an advocate who can help them articulate their child's needs for therapy. The advocate's role should also be to help parents understand our institution does not have unlimited resources and must sometimes make difficult prioritization decisions. Sometimes, that may involve denying ICU resources to a patient who will not benefit from such resources. In those cases, the institution should then make available the highest level of palliative or comfort care possible for any child who would be moved out of the ICU.

Dr Wightman Responds

This case illustrates a troubling but widespread trend in medicine. There has been an increase in ICU beds, but this has not met the even greater increase in number of children needing those beds.⁴ An expansion of the ICU and the development of an ICU step-down unit could address the issue of bed space scarcity; however, the same issues will arise when the larger ICU and step-down units become full.

The bioethics task force of the American Thoracic Society has identified 3 primary goals for an ICU: (1) to preserve meaningful human life by protecting and sustaining patients in a caring manner when they are threatened by an acute critical illness or injury or as a consequence of medical or surgical therapy; (2) to provide specialized rehabilitative care to ICU patients as they begin to recover from critical illness or injury; and (3) for those previously

admitted for full ICU treatment but with illnesses that prove to be overwhelming, or for whom it is decided not to continue life support, the ICU is to provide compassionate and attentive care to the dying and their families and to ensure that patient suffering during their final hours is alleviated.⁵ In settings of resource scarcity, these goals may come into conflict.

When confronted with similar situations, many have argued that the relationship between patient and provider should be central and exclusive of outside interests. Veatch has described the Hippocratic tradition as “relentlessly militantly individualistic, as if in all the world there was only one physician and one patient.”⁶ For such a physician, any consideration of resource allocation would violate the physician’s role as the patient’s advocate. Unilateral withdrawal of life-sustaining treatment in response to resource shortage could also be perceived as abandonment or a violation of the family’s autonomy as it would be done without their formal consent.

Yet many physicians consider resource allocation in many decisions, such as choosing to add an additional patient to their schedule even though it might result in delays for other patients, or delaying a diagnostic test so that a sicker child may have one first. Viewed in this light, the fiduciary relationship between the physician and individual patient is not absolute.

In the past, groups have attempted to use utilitarian and Rawlsian concepts of justice to guide how to act in these situations. The AMA Council on Ethical and Judicial Affairs has proposed 5 factors that may be taken into account in allocating of a scarce resource, such as an ICU bed: (1) likelihood of benefit to the patient, (2) impact of treatment in improving the quality of life of the patient, (3) duration of benefit, (4) the urgency of treatment, and (5) the amount of

resources required for successful treatment.⁷ In settings in which the calculus proved equal, the council favored a first come, first served approach. By using this approach, it is clear that the 2 children needing surgery would have a higher likelihood of benefit from treatment, higher improvement in quality of life, and greater duration of benefit. It is more difficult to claim the urgency of an “elective” surgery, but both children are at risk for lifelong morbidity (pulmonary hypertension, increased intracranial pressure) without intervention. This calculus favors prioritization of the 2 children needing surgery over the 2 dying children who will not recover or improve from ICU therapies. Applying Rawls’s concept of justice provides a similar answer.⁸ After surgery, the 2 children needing ICU beds would be characterized as having a relatively high risk of life-threatening complications. This would place them at a higher priority for bed space than children whose likelihood of survival is so low that additional intensive care may be considered futile or of minimal benefit.

Others have suggested that ICUs should use strategies similar to the resource allocation that occurs in triage after a disaster or to those used in making decisions about the distribution of solid organs for transplantation. Both analogies fall short. In a disaster, first responders must quickly identify those sick enough to need intensive care but not so sick that they will die despite therapy. In that situation, there are overwhelming numbers of patients all needing urgent intervention, a situation that is not analogous to the scenario presented here. The first 2 children need surgeries but not immediately. Other options, such as transfer to another hospital, exist. Likewise, in solid organ allocation, there is 1 organ and many candidates stratified by previously agreed-on and publically

available criteria including HLA match, severity of current illness, and time on the wait list.

Truog and others have argued that making decisions based on scarcity of resources such as ICU bed space need not be unethical.⁹ “If explicit and ethical policies are developed by means of procedures that are open, informed, and fair, health care providers might be justified in limiting their treatments to patients in accordance with such policies. This would be within keeping with the long-standing concern of the health care professions with issues of justice and societal well-being as well as with patient autonomy and well-being.”¹⁰ Development of such policies would require broad agreement among physicians and the community. Unfortunately, these policies do not exist in many pediatric hospitals, and so removal of patients due to resource allocation issues is not as easily justified.

In the absence of such policies, the children currently in the ICU are better viewed individually, independent of those other children who could use their beds for possibly greater utility. The central question is whether ICU care provides benefit to either of the children who are dying in a way that is consistent with the mission of the ICU. If the answer is no, then the children should be discharged from the ICU. They are not being abandoned but simply transferred to a different unit with a lower capacity to deliver highly complex medical treatments.

I would encourage the ICU team to continue to work with each family to identify reasonable goals of treatment of their child and strategies to achieve those goals. This should be done for all patients independent of resource scarcity. An early focus on goals of care and involvement of palliative care providers may help decrease the time dying patients spend in an ICU.¹¹ Other children

may still have to wait for elective procedures. That may be a necessary price to pay to preserve the fiduciary relationship between providers and their patients.

Finally we need to develop clear policies to address providing care in the setting of limited resources. These policies must be open and equitable and involve significant community input.

Dr Largent Responds

There are 2 fundamental issues in play here. It is important to separate them. One is whether the treatment of LM and SC is futile. The other is whether it is ethically appropriate to consider prognosis in the allocation of scarce resources. I address these in turn.

The PICU clinicians believe that the treatment they are providing to LM and SC is futile. “Futile” is generally taken to mean that additional care is not in a patient’s best interests. LM’s and SC’s parents would surely dispute this characterization; otherwise, we would expect them to consent to the limitation or withdrawal of care. For the moment, however, let us focus on the clinicians’ implied belief that additional care holds no prospect of benefit for either LM or SC. The case suggests that some of the clinicians may not believe they are ethically obligated to provide care they consider to be futile, even when limiting or withdrawing such care is inconsistent with a patient’s or parents’ wishes.

It is controversial whether futility can provide an ethically coherent ground for limiting life-sustaining treatment.¹² If one takes the position that it cannot, then the characterization of LM’s and SC’s care as futile cannot justify limiting or withdrawing it. If one believes clinicians are under no obligation to provide futile care, PICU physicians can permissibly and unilaterally place do not resuscitate orders on LM’s chart and withdraw care in the case of SC. A foreseeable consequence of these

actions would, of course, be the freeing of PICU beds for patients like TN and BH, but the existence of TN and BH should be immaterial to determinations of futility because futility is not meant to be a comparative judgment.

The existence of TN and BH does, however, seem relevant in this case; why else would the PICU team express their concerns in terms of “providing ‘futile’ care to dying children while others are denied needed treatments”? In my view, the existence of these other patients does not just seem ethically relevant; it is relevant. No matter one’s stance on an obligation to provide futile care and regardless of whether one would classify LM’s and SC’s care as futile, this case demands that we explore the possibility that resource scarcity in and of itself justifies limiting or withdrawing care from patients like LM and SC.

The PICU director and the chief of surgery face a difficult rationing problem. There is an imbalance between the number of patients who need critical care beds and the number of beds available. These administrators must allocate beds between current PICU patients (like LM and SC) and future PICU patients. The identities of future patients may be known to them (TN and BH) or they may not be known. Who, for instance, will occupy the crash bed? Only 1 patient at a time can occupy a PICU bed. Beds are not single-use resources (as are platelets, for example). Assigning beds is an ongoing process of allocation and reallocation. PICU beds will generally be allocated on a first come, first served basis. The order in which patients present has normative implications; it is permissible and often obligatory for clinicians to give priority to current patients, even if this precludes a strictly utilitarian allocation strategy.¹³ The claim to priority is not, however, absolute. Being admitted first does not give a patient “an

ironclad right to further use of that benefit, nor does it imply that the caregivers have made a morally binding commitment to giving that benefit exclusively to him.”⁹

First come, first served allocation ignores relevant differences between patients.¹ The morally salient difference in this instance is prognosis. Although the order of arrival may be a reasonable means of allocating beds when patients have comparable prospects of benefit, it is considerably harder to justify when there is a gross imbalance between them. Saving lives is an important social good, and PICU beds are a scarce, commonly owned, and life-saving resource. It is, therefore, desirable to allocate beds as efficiently as possible while also promoting distributive justice. Clearly, it is more efficient in this case to redistribute a PICU bed from LM or SC to TN or BH. The determinative fact, however, is that the patient with a good prognosis who has not yet received any PICU resources surely has a stronger claim to a bed than the patient who has a poor prognosis despite currently receiving intensive care.

Administrators and clinicians should, as stewards of scarce resources, be permitted to limit or withdraw care from patients with sufficiently poor prognoses when redistribution would bring about dramatic gains in efficiency and promote distributive justice.

It is important to emphasize that the futility of treatment is not the factor that drives these decisions. There may be situations in which further treatment is not futile, and it may even be clearly in the patient’s best interest to continue to occupy a PICU bed but in which considerations of justice dictate that a bed should be allocated to another patient. This is a deliberately comparative assessment in which the previous claim to the bed is powerful but not all-powerful.

It is difficult to talk about rationing or to think that medical care should ever be rationed, but cases like this bring the uncomfortable implications of resource scarcity to the fore.

Alongside the need to make hard choices in the face of resource constraints, there is a concomitant need for explicit institutional guidelines that empower clinicians to make ethically defensible, transparent decisions about resource allocation. At a minimum, when a child is admitted to the PICU, her parents should be made aware of PICU policies regarding the allocation of PICU resources. As the patient's condition evolves, ongoing communication about her prognosis and the evolving goals of care is essential. In the absence of parental consent, the decision to limit or withdraw care should be made only after the clinical team has determined, based on the best available evidence, that the

prognosis is too poor to justify continuing care when others stand to benefit more. Finally, an appeals process should be available to patients and their families. Parents should be assisted in identifying alternative sources of care. Rationing may be necessary and ethically defensible, but it should only be undertaken within a system that guarantees transparency, due process, and accountability for decisions.

Dr Lantos Comments

The scenario here is not the most difficult resource allocation scenario. In this scenario, the patients who were waiting for PICU beds did not have conditions that were immediately life-threatening. The dilemma would be tougher if, as in organ allocation, it was clear that, for 1 person to live, another must die. But this one is hard enough.

Each respondent agrees that hospitals need policies. That recognition is a good first step. With such policies, however, the devil will inevitably be in the details. Any useful policy will have to explicitly acknowledge the ways in which we ration scarce resources. They should be clear that decisions are not made based on the family's ability to pay for treatment or on other measures of social worth. But beyond that, they would have to make some explicit judgments about the value of treatment of different patients. Explicit discussions of rationing have generally been taboo in American health policy and law, even as implicit rationing decisions are inevitable in this country as they are everywhere.¹⁴ If, as seems likely, such situations become more common, then clinicians and hospital administrators will have to decide whether the political costs of transparency are worth the moral benefits.

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