Who needs to be in an ICU? It's hard for doctors to tell

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Credit: AI-generated image (disclaimer)

You might think the only people who wind up in a hospital's intensive care unit (ICU) are at the brink of death and in dire need of specialized care. ICUs are designed to look after patients who need ventilators, medications to support blood pressure, high-tech treatments and close monitoring from doctors and nurses trained in critical care in order to

survive.

In practice, that's not what actually happens. One study suggests that more than half the patients admitted to the ICU have an exceedingly low risk of dying during their hospital stay.

For patients healthy enough to be treated in general hospital wards, going to the ICU can be bothersome, painful and potentially dangerous. Patients in the ICU are more likely to undergo possibly harmful procedures and may be exposed to dangerous infections. In addition, using the ICU for people who don't need to be there is a key source of excess and inefficiency in our health care system.

Obviously, hospitals and physicians want to make sure that ICU care is reserved for the people who truly need it. Conventional wisdom suggests that the best way to prevent ICU overuse is to limit the number of ICU beds in a hospital. Having fewer available ICU beds would force doctors to be more selective about whom they admit to the ICU – in theory, using ICU beds for the sickest patients, while keeping others in the general wards. But that assumes that if the number of ICU beds were restricted, doctors would always know exactly which patients to send there. It also presumes that the only factor that determines if a patient goes to the ICU is how sick he or she is.

Based on our analysis of over a million patient records, it's just not that simple.

Winding up in the ICU – or not

We looked at the health records of over one million Americans aged 65 years or older hospitalized with pneumonia.

We decided to look at people with pneumonia because it is the second-

most common cause of hospitalization in the U.S., landing 1.1 million people in the hospital each year, and as many as one in five patients hospitalized with pneumonia will require a stay in the intensive care unit.

Prior studies show that hospitals vary a lot in how many pneumonia patients go to the ICU. Some hospitals admit only 2 percent of patients with pneumonia to the ICU, while others admit nearly 86 percent of similar patients. This means that ICU admission isn't just about how sick a person is; sometimes it's much more about what facilities are available – or not – at your hospital.

Indeed, in our study, almost 13 percent of patients hospitalized with pneumonia were admitted to the ICU solely because they happened to live near a hospital that used the ICU frequently. These patients had a moderate risk of death and did not have obvious ICU needs. Our results suggest that, when it's not a straightforward decision, doctors have trouble identifying who might benefit from the ICU.

These borderline patients with pneumonia who went to the ICU were 6 percent more likely to survive than similar patients admitted to the general ward.

This suggests that there may be some patients who might not look like they need to be in the ICU, but would really benefit from being there.

Even though ICU care is notoriously expensive, borderline patients in the ICU had comparable hospital costs to similar patients admitted to the general ward. That could be because for these patients with pneumonia, aggressive ICU care early in the hospitalization could prevent complications that might lead to longer, more complex, and costly hospital stays.

It could also mean that hospitals are being forced to utilize the ICU as a

safety net, in response to poor-quality emergency room or general floor care.

Since many factors play into why some hospitals send lots of pneumonia patients to the ICU and why other hospitals send fewer, blanket reductions in the number of ICU beds might not do a good enough job of ensuring that only the patients who need ICU care get it and may not save as much money as we had thought.

Curing ICU inefficiency

We clearly need to find better ways to help doctors identify the patients who need different care than the general ward can provide.

Rather than transferring all sick patients to the ICU, we could move certain treatments to those in need. Many of the therapies provided to lower-risk patients in the ICU, such as closer nursing attention, can be delivered at any level of the hospital. And specific locations in the hospital such as intermediate care, a place equipped to take care of patients who might be too sick for general care but not sick enough for the ICU, could also be better utilized.

Finally, no conversation about improving the use of the ICU is complete without considering the ICU's role in end-of-life care, since nearly one in five Americans will die during or shortly after a stay in an ICU. Aligning treatment with patient desires at the end of life improves satisfaction with care while also reducing health care costs.

While doctors typically make the decision to admit a patient to the ICU, patients and families can play a key role in advocating for high-quality care during a hospitalization. The ICU is not the best place for all patients, but patients and families should feel comfortable asking their doctors if it might be.

We must find ways to use the ICU more efficiently, while also ensuring that patients who need this kind of advanced care are not overlooked. Even though too much ICU use may promote waste, too little ICU use may harm a substantial number of people. For patients with pneumonia, at least, more aggressive use of the ICU may be a way to save lives without breaking the bank.

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