



INTENSIVE CARE UNIT PHYSICIAN STAFFING

DATA BY HOSPITAL ON NATIONALLY STANDARDIZED METRICS



FIGURE 1

LESS THAN HALF OF HOSPITALS MEET LEAPFROG'S STANDARD FOR ICU PHYSICIAN STAFFING

47%

of hospitals reported that their ICU physicians



Are certified intensivists



Are present eight hours per day, seven days a week



Respond to pages within five minutes

The sickest patients in hospitals are often cared for in intensive care units (ICUs). These units deliver specialized medical care such as mechanical ventilation and invasive cardiac monitoring. Research has shown that when ICU patients are cared for by physicians who are specially trained and certified in critical care (intensivists), those patients experience reductions in length-of-stay and health care-associated infections,¹ as well as 40% decreases in ICU mortality.^{2,3}

Despite this evidence, cost barriers or lack of available expertise prevent hospitals from employing full-time intensivists (staffed eight hours a day, seven days a week). Instead, hospitalists, or general in-patient physicians, care for patients in the ICU.

Leapfrog's ICU physician staffing standard has been a core element of the Leapfrog Hospital Survey since its inception in 2001, asking hospitals to staff their ICUs with intensivists during daytime hours and provide timely responses to patients during off hours. The latest results, from the 2015 Survey, indicate that fewer than half of hospitals meet this standard.

ICUS TREAT ONE-QUARTER OF ADULT HOSPITAL PATIENTS

ICUs in the U.S. treat 4.6 million adult patients annually, accounting for 27% of all adult hospitalizations.⁴ On average, 10% of these patients will die in the ICU.⁵ Given the prevalence of ICU admissions and the potential for mortality, quality of care is particularly important in this setting.

Leapfrog established the ICU physician staffing standard for its Hospital Survey based on the guidance of national quality improvement experts, a thorough review of published research,

and consultation with intensive care experts. In order to fully meet its standard, Leapfrog asks hospitals to assure all of the following:

1. One or more board-certified intensivists manage or co-manage all patients
2. Intensivists are present during daytime hours for eight hours per day, seven days per week, and provide care exclusively in one ICU during that time
3. Intensivists return pages within five minutes, at least 95% of the time when not present on site or via telemedicine, and arrange for a physician or other clinical staff to reach ICU patients within five minutes

Hospitals can earn partial credit by having intensivists available via telemedicine 24 hours per day, 7 days per week with onsite care planning done by an intensivist, hospitalist, anesthesiologist, or a physician trained in emergency medicine.

In studies of ICU physician staffing, most successful interventions involved implementing these response and hours requirements using on site intensivists.^{6,7} Telemedicine intensivist staffing can reduce mortality by 15-30%^{8,9}, a less significant impact than on-site intensivist staffing.

HALF OF REPORTING HOSPITALS FAIL TO MEET LEAPFROG'S STANDARD

In 2015, 47% of reporting hospitals met Leapfrog's standard for ICU physician staffing, meaning that more than half of reporting hospitals lack ICU physician staffing practices that conform to all criteria in Leapfrog's standard (Figure 1).

Hospitals' adoption of ICU physician staffing standards varies by state. The percentage of hospitals meeting Leapfrog's standard was highest in Arizona, where 87% of hospitals reporting in the state met the standard. Six other states had at least 60% of hospitals meeting the standard. By contrast, there were ten states that had fewer than 30% of hospitals meeting the standard, including South Carolina, in which 26% of hospitals met the standard. There was no state in which 90% or more of hospitals met the standard. Of states with more

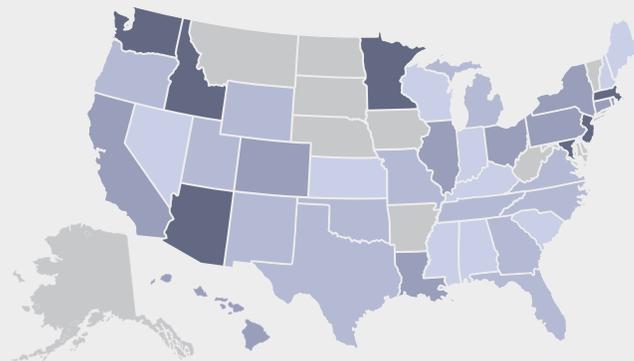
than five hospitals reporting, there were 23 states in which fewer than half of reporting hospitals met Leapfrog's standard (Figure 2).

FIGURE 2

ADOPTION OF ICU PHYSICIAN STAFFING STANDARDS VARIES WIDELY BY STATE

THE PERCENTAGE OF REPORTING HOSPITALS MEETING LEAPFROG'S STANDARD FOR ICU PHYSICIAN STAFFING

-  Fewer than five hospitals reporting in 2015
-  10-29%
-  30-49%
-  50-59%
-  60-87%



Visit www.leapfroggroup.org/compare-hospitals to view performance by hospital.

IMPLEMENTATION OF ICU PHYSICIAN STAFFING HAS INCREASED STEADILY

Over the past decade, the percentage of hospitals meeting Leapfrog's standard for ICU physician staffing has increased by over 50%. In 2007, only 30% of hospitals had ICU physician staffing that met Leapfrog's standards. By 2015, that rate had increased to 47%. In most years, there have been slow but steady increases of one-to-four percentage points each year (Figure 3).

FIGURE 3

ADOPTION OF LEAPFROG'S ICU PHYSICIAN STAFFING STANDARD HAS INCREASED OVER TIME

THE PERCENTAGE OF REPORTING HOSPITALS MEETING LEAPFROG'S STANDARD FOR ICU PHYSICIAN STAFFING



While progress over time has been substantial, the rate of reporting hospitals meeting Leapfrog's standard has yet to reach 50%. Furthermore, there has been an increase in the proportion of hospitals that respond to the Leapfrog survey, but decline to report their ICU physician staffing. While this percentage hovered below 1% for most of the past decade, it has increased above that rate since 2012, reaching about 3% in the 2015 survey.

MORE TRANSPARENCY AND QUALITY IMPROVEMENT ARE NEEDED

Moreover, some hospitals decline to report their data at all. Without Leapfrog's independent, evidence-based survey, there would be limited national data on ICU physician staffing and other critical information on hospital safety and quality. Given that less than half of hospitals reported meeting Leapfrog's standard for ICU physician staffing, continued reporting will show whether more hospitals put intensivist staffing in place to meet this standard in future years. An increase in the number of hospitals reporting to the Leapfrog Hospital Survey can help enable patients to make more informed decisions when seeking care, and can help providers to benchmark their own progress in achieving appropriate standards of care.

METHODS

The Leapfrog Group annually invites all adult general acute-care and free-standing pediatric hospitals in the United States to voluntarily report on topics such as high-risk procedures, maternity care, health care-associated infections, medication safety, nursing safety, Never Events, and ICU physician staffing through its annual hospital survey. In 2015, a record 1,750 hospitals submitted a survey, representing 46% of hospitals nationwide and 60% of U.S. hospital beds. This report uses final hospital data from the 2015 Leapfrog Hospital Survey (data submitted through December 31, 2015).

The Leapfrog Hospital Survey includes measures that are endorsed by the National Quality Forum (NQF) and/or aligned with those of other significant

data-collection entities, including the Centers for Medicare and Medicaid Services (CMS) and The Joint Commission. Leapfrog partners with the Armstrong Institute for Patient Safety and Quality at Johns Hopkins Medicine to review survey measures and standards, and updates them annually to reflect the latest science. Additionally, panels of volunteer experts meet regularly to review the survey measures and recommend performance standards for each subject area covered in the Leapfrog Hospital Survey. The full list of survey measures included in the 2015 survey is available [here](#).

This is the fifth in a series of reports Castlight Health is preparing based on its analysis of data from the 2015 Leapfrog Hospital Survey.

1. Quality improvement and cost savings after implementation of the Leapfrog intensive care unit physician staffing standard at a community teaching hospital, *Critical Care Medicine*, October 2012.
2. Do intensivist staffing patterns influence hospital mortality following ICU admission? A systematic review and meta-analyses, *Critical Care Medicine*, October 2013.
3. Association between ICU physician staffing and outcomes: a systematic review, *Critical Care Medicine*, December 1999.
4. Healthcare Cost and Utilization Project Statistical Brief #185: Utilization of Intensive Care Services, 2011, Agency for Healthcare Research and Quality, December 2014.
5. Changes in hospital mortality for United States intensive care unit admissions from 1988 to 2012, *Critical Care*, April 2013.
6. Organizational characteristics of intensive care units related to outcomes of abdominal aortic surgery, *JAMA*, April 1999.
7. Quality improvement, *Critical Care*, 2012.
8. Critical care, critical choice: The case for teleICUs in intensive care, Massachusetts Technology Collaborative and New England Healthcare Institute, December 2010.
9. Association of health information technology and teleintensivist coverage with decreased mortality and ventilator use in critically ill patients, *Archives of Internal Medicine*, April 2010.

About The Leapfrog Group: Founded in 2000 by large employers and other purchasers, [The Leapfrog Group](#) is a national nonprofit organization driving a movement for giant leaps forward in the quality and safety of American health care. The flagship [Leapfrog Hospital Survey](#) collects and transparently reports hospital performance, empowering purchasers to find the highest-value care and giving consumers the lifesaving information they need to make informed decisions. [Hospital Safety Score](#), Leapfrog's other main initiative, assigns letter grades to hospitals based on their record of patient safety, helping consumers protect themselves and their families from errors, injuries, accidents, and infections.

About Castlight Health: Our mission is to empower people to make the best choices for their health and to help companies make the most of their health benefits. We offer a health benefits platform that engages employees to make better healthcare decisions and guide them to the right program, care, and provider. The platform also enables benefit leaders to communicate and measure their programs while driving employee engagement with targeted, relevant communications. Castlight has partnered with enterprise customers, spanning millions of lives, to improve healthcare outcomes, lower costs, and increase benefits satisfaction.

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