

ICU Physician Staffing (IPS)

NQF#: Not NQF Endorsed

Developer: The Leapfrog Group

Data Source: Leapfrog Hospital Survey; AHA Annual Survey

Description: Hospitals fulfilling the IPS Standard will operate adult or pediatric general medical and/or surgical ICUs and neuro ICUs that are managed or co-managed by intensivists who:

- Are present during daytime hours and provide clinical care exclusively in the ICU at least 8 hours per day, 7 days per week or present via telemedicine 24 hours per day, 7 days per week, with some on-site intensivist time and,
- When not present on site or via telemedicine, returns pages at least 95% of the time, (i) within five minutes and (ii) arranges for a physician, physician assistance, nurse practitioner, or a FCCS-certified nurse to reach ICU patients within five minutes, and
- When not present on-site or via telemedicine in the ICU or not able to physically reach an ICU patient within 5 minutes, another physician, physician assistant, nurse practitioner or FCCS-certified nurse “effector” is on site at the hospital and able to reach ICU patients within five minutes in more than 95% of the cases

Rationale: More than two million patients are admitted to urban intensive care units (ICUs) each year in the U.S. Mortality rates for patients admitted to the ICU average 10-20% in most hospitals. Overall, approximately 200,000 patients die in U.S. ICUs each year. Given the high stakes involved, quality of care in ICUs is particularly important. Unfortunately, evidence suggests that quality varies widely across hospitals. A growing body of evidence suggests that quality of care in hospital ICUs is strongly influenced by (i) whether “intensivists” are providing care and (ii) the staff organization in the ICU. Intensivists are familiar with the complications that can occur in the ICU and, thus are better equipped to minimize errors. Mortality rates are significantly lower in hospitals with closed ICUs managed exclusively by board certified intensivists. A systematic review of the existing literature regarding ICU physician staffing and quality found that high intensity staffing is associated with a 30% reduction in hospital mortality and a 40% reduction in ICU mortality. This data suggests that over 54,855 deaths that occur in ICUs could be avoided if this IPS Safety Standard were implemented in all urban hospitals with ICUs across the U.S.

Evidence for Rationale:

- Knaus WA, Wagner DP, Zimmerman JE, Draper EA. Variations in mortality and length of stay in intensive care units. *Ann Int Med.* 1993;118:753-61.
- Lwin AK, Shepard DS. Estimating lives and dollars saved from universal adoption of the Leapfrog Safety and Quality Standards: 2008 update. The Leapfrog Group. Washington, DC: 2008.
- Pronovost PJ, Angus DC, Dorman T, Robinson KA, Dremsizov TT, Young TL. Physician staffing patterns and clinical outcomes in critically ill patients: A systematic review. *JAMA.* 2002;288:2151-62.
- Zimmerman JE, Wagner DP, Draper EA, Wright L, Alzola C, Knaus WA. Evaluation of acute physiology and chronic health evaluation III predictions of hospital mortality in an independent database. *Crit Care Med.* 1998;26:1317-26.

Impact:

- Affects large numbers of patients
- More than 2 million patients are admitted to urban ICUs each year.
- Mortality rates in patients admitted to the ICU average 10-20% in most hospitals.
- Overall, approximately 200,000 patients die in U.S. ICUs each year.
- Data suggests that over 54,855 deaths that occur in the ICU could be avoided if the Leapfrog Group ICU Physician Staffing Standard were implemented in all urban hospitals with ICUs across the U.S.

Evidence of High Impact:

- Lwin AK, Shepard DS. Estimating lives and dollars saved from universal adoption of the Leapfrog Safety and Quality Standards: 2008 update. The Leapfrog Group. Washington, DC: 2008.
- Pronovost PJ, Angus DC, Dorman T, Robinson KA, Dremsizov TT, Young TL. Physician staffing patterns and clinical outcomes in critically ill patients: A systematic review. *JAMA.* 2002;288:2151-62.
- Zimmerman JE, Wagner DP, Draper EA, Wright L, Alzola C, Knaus WA. Evaluation of acute physiology and chronic health evaluation III predictions of hospital mortality in an independent database. *Crit Care Med.* 1998;26:1317-26.

Opportunity:

- The 2017 Leapfrog survey reflects that only 56.2% of responding hospitals fully meet Leapfrog's ICU Physician Staffing Standard.
- Opportunity for improvement exists, as demonstrated by the coefficient of variation for the measure.

Citations for Opportunity:

- The Leapfrog Group. Factsheet: ICU Physician Staffing (IPS). Washington (DC): The Leapfrog Group; 2017.

Evidence:

- Evidence ratings vary from level III to IV.

Citations for Evidence:

- Divatia JV, Baronia AK, Bhagwati A, et al. Critical care delivery in intensive care units in India: Defining the functions, roles and responsibilities of a consultant intensivist. *Ind J of Crit Care Med.* 2006;10(1):53-63.