ICU
MANAGEMENT & PRACTICE

Variability in Interprofessional ICU Staffing

ICU staffing varies widely due to factors like physician work-hour limitations, increased use of advanced practice providers (NPs and PAs), telemedicine, and shortages of healthcare workers, including nurses and ICU physicians. There is limited and low-quality data to guide staffing decisions, with most research focusing on individual roles rather than the interprofessional teams that deliver ICU care.

A recent study explored staffing variations in adult ICUs, hypothesising significant variability in interprofessional ICU staffing. The study used a survey focused on ICU staffing before the COVID-19 pandemic and assessed the availability of 11 healthcare worker (HCW) types and their participation in clinical rounds.

The study examined ICU staffing models, grouping HCWs into categories such as attending physician support and advanced bedside nurse support. Statistical methods, including ordinal logistic regression, were used to identify ICU characteristics associated with staffing variations. Additionally, the study analysed participation in rounds by dietitians, rehabilitation specialists, and social support staff, recognising that their absence from rounds did not necessarily indicate non-involvement in patient care.

The survey was completed by 574 ICUs. Most ICUs (94%) were in metropolitan areas, 63% were teaching hospitals, and 74% had over 250 beds. About 66% of ICUs treated mixed patient populations, while 34% focused on a single patient type. The average ICU had 21 beds, and 27% used telemedicine.

Among 11 queried HCW types, intensivists, respiratory therapists, and pharmacists were nearly universal, with 88% of ICUs having all three. At least one-fourth of ICUs had each HCW type, but staffing models varied widely—167 unique configurations were identified. The most common model, present in 7% of ICUs, included 10 of 11 HCW types, excluding nurse aides.

Collapsing the 11 types into six categories (core HCWs and three support groups), 28 different combinations were identified. The most common model (38% of ICUs) included intensivists, respiratory therapists, pharmacists, and all three support HCW types. About 80% of ICUs had attending physician support and advanced bedside nurse support, while 75% had nurse aides. ICUs without any support HCW types (3%) were smaller and more likely to be in nonmetropolitan areas. Larger ICUs, larger hospitals, single-patient-type ICUs, and those without telemedicine had a greater likelihood of including all three support HCW types.

Most ICUs (96%) conducted rounds, with 77% holding them daily and 78% including weekends. Intensivists participated in 97% of weekday rounds, pharmacists in 85%, and respiratory therapists in 72%. Other HCWs participated less frequently, with dietitians in 62% of ICUs and speech pathologists in 16%. Weekend rounds saw lower HCW participation, except for intensivists.

Among all ICUs, nutrition practitioners participated in rounds in 60%, rehabilitation practitioners in 35%, and social support practitioners in 80%. The most common rounding patterns were either none of these groups participating (31% of ICUs) or all three participating (28%).

The survey found that, beyond bedside nurses, most ICUs consistently staffed intensivists, respiratory therapists, and pharmacists. However, there was significant variability in the presence of other HCWs, including house officers, nurse practitioners, physician assistants, clinical nurse specialists, nurse educators, resource nurses, dietitians, speech pathologists, social workers, physical and occupational therapists, and pastoral care. Larger ICUs in larger hospitals and those caring for a single patient type had more comprehensive interprofessional teams, while ICUs with fewer support staff were more likely to use telemedicine. Teaching hospital status and urban versus rural location were not significantly linked to staff composition.

The survey highlights significant variability in ICU team composition and the presence of staff during rounds. It adds to existing research on ICU nursing and physician staffing patterns, providing a contemporary view of interprofessional staffing models in ICUs. Given the critical role of care structures and processes in patient outcomes, these findings can help guide future efforts in healthcare workforce planning and addressing ongoing staffing challenges.

Source: Annals of the American Thoracic Society

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