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Contact: Keely Savoie

ksavoie@thoracic.org

212-305-8620

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Patients in US 5 times more likely to spend last days in ICU than patients in England

Patients who die in the hospital in the United States are almost five times as likely to have spent part of their last hospital stay in the ICU than patients in England. What's more, over the age of 85, ICU usage among terminal patients is eight times higher in the U.S. than in England, according to new research from Columbia University that compared the two countries' use of intensive care services during final hospitalizations.

"Evaluating the use of intensive care services is particularly important because it is costly, resource intensive, and often traumatic for patients and families, especially for those at the end of life" said Hannah Wunsch, M.D., M.Sc., assistant professor of anesthesiology and critical care medicine, of Columbia University, lead author of the study. "We found far greater use of intensive care services in the United States during terminal hospitalizations, especially among medical patients and the elderly."

Their findings were published in the November 1 issue of the *American Journal of Respiratory and Critical Care Medicine*, published by the American Thoracic Society.

Dr. Wunsch and colleagues wanted to examine the differences in ICU usage in England and the U.S., because the countries' similar life expectancies and population demographics enabled a comparison of fundamentally different healthcare systems.

England has one-sixth the number of intensive care beds available per capita that are available in the U.S. Furthermore, medical decisions in England are generally considered to be the direct responsibility of the physician, rather than that of the patient or the patient's surrogate decision-maker(s) as it is in the U.S.

"In England, there is universal health care through the National Health Service, and there is also much lower per-capita expenditure on intensive care services when compared to the U.S.," said Dr. Wunsch. "The use of intensive care in England is limited by supply to a greater degree than

it is in the U.S., and there are consequently implicit and explicit decisions regarding who gets those limited services. We wished to examine what different decisions are made."

Dr. Wunsch and colleagues examined data from the Hospital Episodes Statistics database (in England) and all hospital discharge databases of seven states (FL, MA, NJ, NY, TX, VA, WA) in the U.S. They found that of all hospital discharges, only 2.2 percent in England received intensive care, compared to 19.3 percent in the U.S.

They also found that hospital mortality among those who received intensive care was almost three times higher in England than in the U.S. (19.6 percent vs. 7.4 percent). But when examining deaths overall, only 10.6 of hospital deaths in England involved the ICU, whereas 47.1 in the U.S. did. Of those over 85, only 1.3 percent received ICU care in England vs. 11 percent in the U.S. But young adults and children received ICU services at similar rates in both countries. "These numbers need to be interpreted with caution," explains Dr. Wunsch, "as the differences in mortality for ICU patients likely reflect the higher severity of illness of patients admitted in the first place in England. The data do bring up the interesting question of how much intensive care is beneficial. Doing more may not always be better."

While these findings highlight important differences within the two countries' use of intensive care services, the research was not designed to determine the direct impact of these differences. Past surveys have suggested that the majority of people would prefer not to die in the hospital, but given that so many do, questions about use of intensive interventions remain.

"Whether less intensive care for very elderly patients who are dying is a form of rationing, or is actually better recognition of what constitutes appropriate care at the end of life warrants further research," said Dr. Wunsch. "These findings highlight the urgent need to understand whether there is over-use of intensive care in the U.S., or under-use in England."

Furthermore, future research must further investigate not just the origins, but the implications of these differences. "Faced with a provocative finding of cross-national difference, the scientific community faces a choice between at least two paths," wrote Theodore Iwashyna, M.D., Ph.D., and Julia Lynch, Ph.D., in an editorial in the same issue of the journal. "One path leads to carefully unpacking the origins of this difference and teaching us something generally true about how critical care systems develop. The other path leads into the hospitals, using observational data to imagine new ways to organize care and generate the equipoise necessary for careful interventional studies of such interventions. The first path helps us shape national

policy levers. The latter path helps us redesign care organizations to bring change to patients. Both are necessary."

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