

Largest Study of Critical Care Telehealth Reveals Improvements in Patient Outcomes and Reductions in Health Care Costs

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Results of landmark eICU study show lower mortality rates and shorter patient stays among hospitals using Philips telehealth programs

ANDOVER, Mass. – With critical care costs in the U.S. totaling roughly \$80-100 billion per year, new research published today in CHEST Journal's Online First highlights ICU telehealth as key to enabling hospitals and health systems to improve patient care at lower cost. The study, which examined the impact of Philips' remote Intensive Care Unit (eICU) Program on nearly 120,000 critical care patients, across 56 intensive care units (ICUs), 32 hospitals and 19 health systems over a five-year period, demonstrated reductions in both mortality and length of stay. The results were statistically significant on both an unadjusted and severity-adjusted basis.

The study, entitled "A Multi-center Study of ICU Telemedicine Reengineering of Adult Critical Care," was authored by Craig M. Lilly, MD, Professor of Medicine, Anesthesiology and Surgery at the University of Massachusetts Medical School and Director of the eICU Program at UMass Memorial Medical Center.

Participants were comprised of 19 healthcare systems using Philips' eICU program. The eICU program is a comprehensive technology and clinical reengineering program that enables health care professionals from a centralized eICU center to provide around-the-clock care for critically ill patients. The eICU program utilizes bi-directional audio/video technology, population management tools, proprietary clinical decision support, real-time and retrospective reporting tools and targeted process redesign.

The key findings of the study were that, compared to patients receiving usual ICU care, patients who received their ICU care from a hospital that utilized the eICU program were:

- 26% more likely to survive the ICU;
- Discharged from the ICU 20% faster;
- 16% more likely to survive hospitalization and be discharged;
- Discharged from the hospital 15% faster.

"This is the first large-scale study that ties ICU telehealth to both the improvement of patient outcomes and cost reduction through shorter length of stays in the ICU and hospital and identifies the processes that achieved greater efficiency," said Dr. Lilly. "These results point to a significant opportunity to better manage and treat our critical patients in this time of increasing pressure from healthcare reform to deliver high quality and cost-effective care."

The Role of eICU Telehealth

Health systems participating in the study each relied on eICU technology and program services from the Philips hospital to home portfolio, which include telehealth programs for the inpatient and ambulatory settings. The Philips eICU program allows critical care teams of nurses and intensivist physicians – who may be hundreds of miles away – to gain instant and real-time access to information required to intervene proactively before complications develop. These timely interventions lead to reduced mortality and length of stay.

Hospitals and health systems that saw the largest reduction in length of stay and mortality rates were those that excelled in certain components of the program – involving people, technology and processes. As a result, the study revealed the following program design elements common to the most successful ICU telehealth programs, including:

- Having an intensivist physician perform a remote review of the patient and care plan within one hour of ICU admission;
- Frequent collaborative review and use of performance data provided by the ICU telemedicine program;
- Faster response times to technology-based alerts and alarms for physiological and laboratory value instability;
- Increased rates of adherence to ICU best practices for those that are supported by the ICU telemedicine team;
- Interdisciplinary rounds;
- Institutional ICU committee effectiveness.

“Today, personnel accounts for 56 percent of the \$2.8 trillion healthcare spend in the U.S., and coupled with the current shortage of clinicians, many hospitals are unable to offer on-site intensivist physicians, 24 hours a day, seven days a week,” said Brian Rosenfeld, Vice President and Chief Medical Officer, Philips Healthcare Telehealth. “This study provides further evidence that health systems employing coordinated telehealth in their care models will increase provider productivity, while improving outcomes and reducing costs.”

In addition to publication in CHEST Journal Online First, the study will also appear in an early 2014 issue of CHEST, the official publication of the American College of Chest Physicians.

For more information on Philips coordinated telehealth programs, please visit:
<http://healthcaresolutions.philips.com/solution/hospital-to-home#clinical>

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