Virtual ICU for Rural Maryland
Maryland eCare

Program/Project Description.

CHALLENGES FACED:
In 2006, a group of independent hospitals joined together to find a solution to the critical care physician shortage, leveraging their combined resources to enhance care for their communities. Each faced similar challenges including: a critical care physician shortage straining staff and dominating on-call needs; ICU patient volume too small to create tele-ICU alone and insufficient funds to act independently; and a desire to improve quality indicators, increase ICU volume and ultimately achieve cost savings. Further, due to a current and worsening shortage of critical care physicians, it was challenging to have these specialized physicians on-site 24 hours a day.

BASELINE DATA
Studies show tele-ICU technology reduces mortality and co-morbidity rates as well as length of stay and achieves cost savings in care provided. Additionally, hospitals using tele-ICUs demonstrate increased compliance with emerging best practices. By implementing the tele-ICU, all eCare hospitals would also begin receiving regular updates of key data such as severity-adjusted mortality (pre tele-ICU vs post), severity-adjusted length of stay (pre tele-ICU vs post), complications, ICU best practices and patient/family satisfaction.

GOALS:
To improve patient outcomes and quality of life for ICU physicians and nurses while saving health care dollars.

Process.
Looking to address shared challenges and achieve a common goal, six independent hospitals explored the benefits and costs of tele-ICU options. Committing to the concept as a viable solution, the hospitals formed a board-run LLC called Maryland eCare and allocated sharing the investment, risk and benefits. After extensive review, Maryland eCare selected Christiana Care Health System in Wilmington, Del. as the remote, critical care team for its tele-ICU. Since 2005, Christiana Care has used this technology in two hospitals with a total of four ICUs. eCare selected Philips-VISICU's eICU Program as the technology used.

eCare approached and partnered with area insurer CareFirst who provided a $3 million grant to help cover costs. Still, this is a substantial investment for participating hospitals. They will collectively invest over $7 million.

Solution.

SOLUTION: tele-ICU allowing patients to stay closer to home for their care. Christiana Care is a tertiary care referral center whose care team is now part of the eCare hospitals’ ICU team.

IMPLEMENTATION:
It takes each hospital roughly nine months to achieve full implementation allowing for data line assessments, system testing and internal staff training.

The eCare program is designed to help reduce patient complications and improve outcomes in the ICU while enhancing the work environment for health care providers. The tele-ICU technology enables the intensivist-led care team based at Christiana Care in Delaware to continuously monitor, assess and when needed, intervene. Sophisticated software closely monitors patients for evolving trends and abnormalities fostering proactive care. Information technology tools are used to flag problems, improve ICU workflow and track performance. Remote critical care nurses monitor patients 24 hours a day. Experienced physicians are available to review lab data and other items that become available during off hours including weekends and holidays. eCare also assists in the education of residents, nurses and others while maintaining patient safety.

Measurable Outcomes.
Maryland eCare has helped almost 6,000 patients. It began tracking data in April 2009 but there will not be comprehensive, statistically valid data until Summer 2011. That said, there is anecdotal evidence of ICU patients whose condition changed quickly but symptoms were caught and treated early before a medical crisis occurred. Further, preliminary data point to shortened length of stay and lives saved. The immediate benefit has been overwhelming satisfaction from both physicians and nurses who feel the eCare program enhances the quality of care provided and improves their quality of life.
Sustainability.
A strong shared commitment from participating hospitals ensures eCare will remain a part of each hospital's ICU care. Working closely with the remote care team and collaboratively with fellow hospitals has allowed eCare hospitals to implement best practices, compare blinded data to identify areas for improvement and continually assess and, when needed, address key outcomes.

Role of Collaboration and Leadership.
Collaboration and teamwork have been essential to eCare's success. The initiative is an excellent example of employing collaboration to achieve what could not be achieved independently. eCare remains a potentially great solution for hospitals interested in supporting their physicians and nurses to reduce stress and improve staff quality of life while improving care for critically ill patients.

Active and regular participation from all eCare hospitals through the group's board provides for a shared vision and shared commitment to the effort as well as group decisions on key internal components such as staff training, common approaches and protocol. Hospital CEOs, CIOs and medical leadership are involved in eCare's implementation and remain engaged - both at the local level and as a broader group - after the tele-ICU is operating in their facilities.

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