Critical Care Outreach to Rural and Community Hospitals

ORGANIZATIONS
• Avera Health
• Saint Luke's Health System
• MaineHealth

BACKGROUND
Faced with a nationwide shortage of intensive care specialists, a growing number of health systems are establishing eICU® Programs to enhance the care of critically ill patients. Studies demonstrate that these programs are achieving improvements in quality of care indicators, including severity adjusted mortality rates, and financial ones, such as severity-adjusted lengths of stay.

Telemedicine programs and clinical transformation initiatives, such as the eICU Program, can require a strategic investment to launch and operate. As a result, these often are initiated by large, urban-based health systems encompassing multiple facilities. Yet rural and community hospitals, which have even greater difficulty attracting intensivists and other specialist physicians, also can benefit from eICU Programs. The experiences of the U.S. military in the Pacific Rim and other healthcare providers show that eICU Programs save lives and deliver financial benefits to geographically remote locations.¹ ²

Some are using eICU Program Outreach to bridge the gap by extending their services to remote hospitals within and beyond their traditional coverage areas. In the process, they are defraying some of their eICU Program operating expenses and creating new opportunities for their health systems.

SOLUTION
Use of eICU® Program Outreach as a new business model to market eICU critical care services to remote healthcare facilities.

Avera Health
Avera eICU®CARE provides coverage for 67 intensive care beds at 12 Avera hospitals and three non-affiliated hospitals on a contract basis. The vision to offer outreach services to surrounding rural communities has been integral to the implementation of their eICU Program. Avera plans to add an additional nine sites to their coverage in the near future. The coverage area currently spans four states in the rural Midwest, extending 300 square miles from Sioux Falls.

Saint Luke's
Saint Luke's eICU Program focused entirely on its own four hospitals until the system was contacted in 2006 by Hays Medical Center (HMC) in Kansas, six hours away. HMC now contracts with Saint Luke's for 19 hours of coverage each day, with another non-affiliated hospital in Missouri planning to come on board soon.

MaineHealth
MaineHealth’s eICU Program, known as MaineHealth VitalNetwork, expanded as...
part of a statewide initiative to improve healthcare access for rural residents. It currently provides eICU Program services to 84 ICU beds at four MaineHealth hospitals and one non-affiliated hospital. They will soon be adding four more outreach facilities with plans to continue expanding coverage across the state. MaineHealth works closely with potential outreach facilities to help secure government grants for their telemedicine initiatives.

**RESULTS**

Avera Health, Saint Luke’s and MaineHealth have leveraged their eICU Programs to extend improvements in patient outcomes and critical care services to rural communities.

**Outcome Improvements**

Pat Herr, RN, Program Director for Avera eICU®CARE, notes that the program has been key to helping rural facilities achieve high-quality outcomes for critically ill patients. Since implementing eICU®CARE, Avera has realized a:

- 29 percent reduction in severity-adjusted mortality
- 46 percent reduction in severity-adjusted lengths of stay

Herr notes that the system also provides a safety net in severe weather. For example, one patient located many miles from the nearest critical care facility suffered an acute myocardial infarction during a blizzard. With the help of Avera’s eICU Program, he received critical care at a local hospital until the storm passed and he could be transferred to another facility for specialized services.

Saint Luke’s reports that its outreach arrangement with HMC has helped the rural facility manage rising acuity levels that previously challenged its capacity to handle critical cases. “In supplementing the coverage provided by HMC’s two intensivists, the eICU Program provides a viable alternative to adding new clinical resources,” says Jennifer Ball, eICU Operations Director for Saint Luke’s. “We have had several emergency situations in the middle of the night where the nursing staff has requested our help.”

The eICU Program at Saint Luke’s Health System has led to significant improvements in critical care outcomes. Compared with APACHE® III predicted values, the program has helped achieve a:

- 50 percent drop in ICU mortality
- 18 percent decrease in ICU length of stay

Similar quality improvements also are being realized in Maine, which has an acute need for intensive care services with a higher-than-average population age 65 and older (14.6 percent, compared to the 12.4 percent nationwide). Post-implementation data compiled by MaineHealth over a year’s time demonstrates a dramatically improved survival rate, translating to an additional 60 lives saved in one year. MaineHealth has also noted decreased patient lengths of stay.

“Our eICU Program reflects our all-inclusive outreach strategy in the state,” says Sue Goran, RN, MSN, Operations Director for MaineHealth VitalNetwork. “We have an open-door policy by which we include any facility that wants help. When we have the state of Maine covered by the program, we will look to expand to other states that may also benefit from the service we provide.”

**Other Benefits**

Health systems that offer eICU outreach services prefer to keep financial details confidential for competitive reasons. It is clear, however, that outreach initiatives can help defer operating expenses associated with ongoing maintenance of eICU Programs.

eICU Program Outreach enables host facilities to expand their clinical reach, increasing referrals and forming new patient and physician relationships. One of Saint Luke’s nephrologists, for example, now manages dialysis for all intensive care patients at Hays Medical Center.

**CONCLUSION**

Healthcare organizations are finding that the eICU remote outreach solution provides a cost-effective strategy for leveraging limited resources, improving patient care in remote communities, and producing better outcomes for critically ill patients. As MaineHealth’s Goran says, eICU Programs are likely to transform the ‘culture of care’ for healthcare providers within their own regions—and beyond.

Health systems that are implementing eICU Program Outreach not only provide a public service by enhancing the quality of critical care in remote areas, they are also increasing the return on their technology investments by allocating costs and generating new revenue streams.

**REFERENCES:**

1) eICU Case Study M.03.01.071205, “Building a Sustainable Rural eICU Model”
2) eICU Case Study M.03.05.080104, “Reducing Emergency Air Evacuations”

**FOR MORE INFORMATION:**

VISICU: 866-484-7428; www.VISICU.com