



Planning for Tele-ICUs in California

BACKGROUND

Intensive care units (ICUs) are a vitally important component of health care in the U.S., providing treatment for six million of the sickest and oldest patients in the country each year. Managing ICUs carries high stakes: ICUs have both the highest mortality and the highest costs in health care. In 2007, the death rate associated with ICU admission among Medicare patients averaged 17.6 percent in the U.S. and 22.6 percent in California, third highest in the nation. ICU costs account for nearly one-third of acute care hospital costs, or \$180 billion annually, representing seven percent of all national health expenditures.

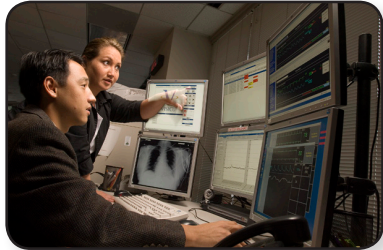
Adding to the complexity of ICU management decisions is the collision of two major trends: the increasing number and severity of critical care patients as the population ages, and the decreasing supply of critical care physicians (intensivists) available to manage this growing number of patients.

The goals of *Planning for Tele-ICUs in California* were two-fold: to identify regions of the state with the greatest need for expanding or improving critical care, and to identify financial, regulatory and policy barriers to tele-ICUs in California.

Tele-ICU, a telehealth technology, has the potential to address critical care challenges by enabling intensivists in a single tele-ICU command center or hub to remotely monitor, consult and care for multiple ICU patients in distant locations, primarily community hospitals. By increasing the number of ICU patients that critical care teams can manage, tele-ICUs effectively extend and leverage both the productivity and the reach of the critical care specialists.

FINDINGS

- **Critical care in California faces significant challenges**, including the state's high ICU mortality rate; an insufficient supply of intensivists and critical care nurses; insufficient access to critical care in rural areas; and strained capacity at ICUs in some regions.
- **Regional opportunities exist for improving critical care**, particularly in rural areas with little or no access to critical care specialists and urban centers where many ICUs operate at high capacity. The following geographic regions were identified as needing to improve or expand critical care:
 - Los Angeles County;
 - San Bernardino and Riverside Counties;
 - Santa Barbara and San Luis Obispo Counties;
 - Central Valley counties including San Joaquin, Stanislaus, Merced, Fresno, Kings, Tulare and Kern Counties; and
 - The rural Eastern Sierra region: Inyo, Mono and Alpine Counties.
- **Expansion of tele-ICUs is anticipated in California.** In spite of barriers such as lack of capital for start-up, potential physician resistance, competition for IT financing and lack of interoperability with existing EMRs, experts believe that telehealth-supported critical care will expand in California over the next five years in a variety of forms, including expansion of tele-ICUs.



Planning for Tele-ICUs in California examined the need and opportunity for tele-ICUs through an environmental scan of critical care in California.

Funded by the California HealthCare Foundation (CHCF), the project was conducted by NEHI in collaboration with the Center for Connected Health Policy from December 2010 through November 2011.



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About NEHI

NEHI is a national health policy institute focused on enabling innovation to improve health care quality and lower health care costs. In partnership with members from all across the health care system, NEHI conducts evidence-based research and stimulates policy change to improve the quality and the value of health care. Together with this unparalleled network of committed health care leaders, NEHI brings an objective, collaborative and fresh voice to health policy. For more information, visit www.nehi.net.

About CHCF

The California HealthCare Foundation works as a catalyst to fulfill the promise of better health care for all Californians. We support ideas and innovations that improve quality, increase efficiency, and lower the costs of care. For more information, visit <http://www.chcf.org>.

FINDINGS (CON'T)

- **Drivers of successful tele-ICU implementation** include effective communications and relationships among providers in community partner hospitals and hubs, IT system interoperability, and clarity about the potential for tele-ICU return on investment.
- **The policy environment is becoming more favorable for tele-ICU implementation**, including recent state and federal policies to improve telehealth availability, physician credentialing processes and payment reform. Other entities (such as the California TeleHealth Network) are creating the necessary infrastructure for telehealth across California. Together these policy developments are building the technical infrastructure and a more favorable administrative, financial and regulatory environment for tele-ICUs in California.

CONCLUSIONS

Planning for Tele-ICUs in California addressed barriers to tele-ICU adoption, focusing activities in areas of the state identified as regional targets for critical care improvement. This was accomplished by first establishing the need for improvement in the clinical outcomes of California's ICUs. We then convened informational forums in Los Angeles, San Bernardino and Riverside Counties, and in Sacramento; worked with targeted health systems to raise awareness about critical care challenges and the potential of tele-ICU technology to solve those challenges; collaborated with PricewaterhouseCoopers to estimate the revenue and return on investment potential of tele-ICUs in Southern California; fostered communication with and among providers, payers and purchasers about the clinical and financial potential of tele-ICUs; and examined policy and regulatory barriers and opportunities for tele-ICUs.

Further support for tele-ICU adoption will come from policy and regulatory developments now underway. For example, recent revisions to the Medicare regulations for Conditions of Participation for hospitals have made physician credentialing requirements for telehealth far less onerous than before. The telehealth reimbursement environment is also improving, particularly in California. There are also potential federal funds for rural tele-ICU expansion from the Centers for Medicare and Medicaid Services and the Center for Medicare and Medicaid Innovation.

Critical care physician and nurse shortages in California and across the U.S. will reach crisis levels unless solutions are created now. Growing evidence suggests that tele-ICU technology is a regional solution that will leverage intensivist reach and access to critical care while improving ICU capacity, efficiency, quality, outcomes and decreasing the cost of ICU care. Barriers addressed through *Planning for Tele-ICUs in California* will minimize roadblocks to creating tele-intensivist supported regional solutions to California's critical care crisis.

“Critical care in California faces a number of very real challenges that can be addressed through the use of tele-ICU technology.”

Wendy Everett, ScD
NEHI President