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NEW HOME-TO-HOSPITAL CONNECTED CRITICAL CARE PROGRAM AT MASS GENERAL'S PEDIATRIC INTENSIVE CARE UNIT PUTS ATTENDING DOCTORS AT PATIENT BEDSIDE 24/7

Innovative program launched by MassGeneral Hospital *for* Children and the Partners Center for Connected Health

BOSTON, FEBRUARY 2, 2010 – Young patients being treated in the Pediatric Intensive Care Unit (PICU) at MassGeneral Hospital *for* Children (MGHfC) often require ongoing and around-the-clock assessment and care management, coordinated among a team of residents, fellows, nurses, respiratory therapists and attending physicians. A new, pioneering home-to-hospital program, Connected Pediatric Critical Care, features real-time video communication, enabling the on-call attending physician, when at home, to personally examine the patient and communicate directly with the PICU staff, other specialists and even the child's parents.

Six PICU physicians from MGHfC now have videoconferencing units in their homes. When they are needed for a consult in the middle of the night or on weekends, they videoconference in from home, to a portable telemedicine station positioned at the patient's bedside. The attending physician can then see the patient, talk with clinicians on-site, personally evaluate the child's condition and make treatment decisions. Special cameras and scopes can also be attached to the hospital-based unit to allow for closer evaluation of the young patient.

At the Patient's Bedside, No Treatment Delay

In one recent case, an eleven-year-old girl was admitted to the PICU at 2am, with respiratory distress. From home, the on-call attending physician was able to evaluate the patient on video, identify the respiratory failure and discuss treatment with the nurse, PICU fellow and respiratory therapist at the patient's bedside. The on-call attending physician was also able to address the mother's concerns and supervise the patient's treatment, without having to wait for the on-call attending physician to travel back to the hospital.

"Since launching this program in May, we are already seeing that the Connected Pediatric Critical Care program is significantly improving the quality of care, team communication and staff responsiveness during evening hours and weekends when our attending physicians, ultimately responsible for patient care, have left the hospital to go home," said Natan Noviski, MD, chief, Pediatric Critical Care Medicine, MassGeneral Hospital *for* Children. "Because the attending physician can remotely examine the patient and communicate with the on-site staff directly, decision making can be enhanced and the quality of care improved."

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Overnight and weekends, on-call attending physicians were traditionally contacted via telephone by the covering fellow or resident in the PICU. The attending physician would provide guidance, via telephone, without input from the rest of the team and without personally seeing the patient. The attending would then decide if it was necessary to return to the hospital.

“Videoconferencing is not new, but the application of this technology – connecting at-home physicians with their patients and the hospital-based medical team – is a novel and important advance in critical care medicine,” added Joseph C. Kvedar, MD, director, Center for Connected Health. “We anticipate that other intensive care units, for both adult and pediatric patients, could benefit as well.”

The Connected Pediatric Critical Care program also creates a more robust teaching opportunity, allowing residents to be more involved in the team approach essential in an intensive care environment. Importantly, parents also feel more confident in their child’s care and more connected to the treating physician, giving parents the opportunity to interact directly with the attending doctor at home.

According to a study published in *Pediatrics* (1998; 102 (5); e58), the use of connected health to assess sick children has been shown to have both a high sensitivity (ability of the remote physician to detect abnormal findings) and a high specificity (ability of the remote physician to detect normal findings). For example, the observations of a remote pediatric critical care medicine physician matched those made by a pediatric emergency room physician 97% of the time. Assessment of physical signs requiring direct visualization, such as neurological status, made by the remote physician and the on-site emergency room doctor, were the same in 100% of the cases.

About the Center for Connected Health

The Center for Connected Health, a division of Partners HealthCare, is creating effective, new solutions and innovative interventions to deliver quality patient care outside of the traditional medical setting. Our programs use a combination of remote-monitoring technology, sensors, and online communications and intelligence to improve patient adherence, engagement and clinical outcomes. The Center also offers expert online second opinions, enhanced medical education and training, and engages in innovative research to discover new pathways to better care, including the use of virtual worlds and online coaching. Visit www.connected-health.org.

Boston-based Partners HealthCare is an integrated health system founded in 1994 by Brigham and Women’s Hospital and Massachusetts General Hospital. In addition to its two academic medical centers, the Partners system also includes community and specialty hospitals, community health centers, a physician network, home health and long-term care services, and other health-related entities. Partners is one of the nation’s leading biomedical research organizations and a principal teaching affiliate of Harvard Medical School. Partners is a non-profit organization. Visit www.partners.org.

About the Massachusetts General Hospital

Founded in 1811, the MGH is the third oldest general hospital in the United States and the oldest and largest in New England. The 900-bed medical center offers sophisticated diagnostic and therapeutic care in virtually every specialty and subspecialty of medicine and surgery. Each year the MGH admits more than 46,000 inpatients and handles nearly 1.5 million outpatient visits at its main campus and health centers. Its Emergency Department records nearly 80,000 visits annually. The surgical staff performs more than 35,000 operations and the MGH Vincent Obstetrics Service delivers more than 3,500 babies each year. The MGH conducts the largest hospital-based research program in the country, with an annual research budget of more than \$500 million. It is the oldest and largest teaching hospital of Harvard Medical School, where nearly all MGH staff physicians serve on the faculty. The MGH is consistently ranked among the nation's top hospitals by *US News and World Report*.

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