

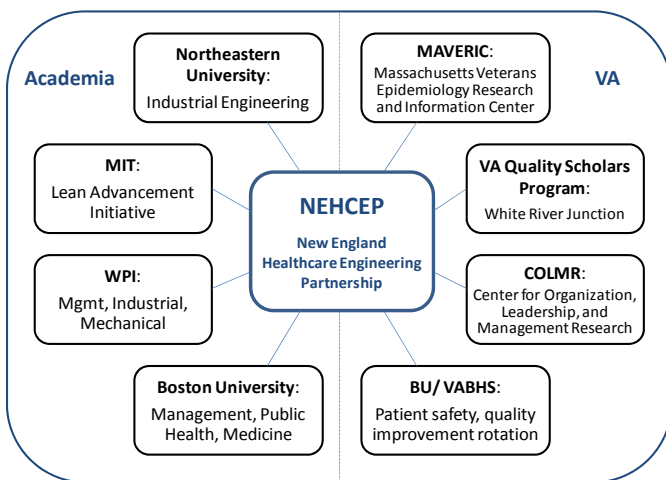
Northeastern leads VA multi-university partnership to improve healthcare processes



Northeastern University has partnered with the New England Veterans Affairs (VA) healthcare system to establish a new systems engineering center that hopes to dramatically improve quality and performance throughout VA hospitals. Funded by a total of \$3.4 million per year in grant and matching funding from the VA, the New England Healthcare Engineering Partnership (NEHCEP) is one of four new Veterans Engineering Research Centers, partnering with the Massachusetts Institute of Technology, Worcester Polytechnic Institute, and several VA centers of excellence in order to design improved processes throughout the VA and U.S. healthcare system - the largest single industry in the United States yet saddled with inefficiency, performance, and quality issues. NEHCEP’s mission is to develop and apply systems and industrial engineering methods similar to those used successfully in automotive, electronic, and other industries in order to create highly efficient, safe, effective, and reliable processes.

“There is an urgent need to improve patient safety and healthcare delivery across the U.S. and worldwide, and this unique healthcare-engineering partnership is designed to provide an approach that will significantly improve healthcare systems through engineering-based solutions,” says Professor James Benneyan, NEHCEP executive director and professor of industrial and mechanical engineering at Northeastern. “The center’s two overall long-term goals are to embed engineering improvement methods and principles into the fabric of the VA healthcare system and to develop the infrastructure and cross-trained healthcare-engineering workforce pipeline to help lead the United States in transforming health care, leveraging broad expertise across our partnership, exceptional staff and leadership within the VA, and our combined undergraduate, graduate, and cooperative education programs in these areas.”

Housed within the Boston VA Healthcare System, the NEHCEP center will serve the entire New England network of 8 medical centers and 37 community-based outpatient clinics, together providing care to approximately 1.2 million veterans, as well as spread innovative industrial engineering solutions nationwide



to other VA facilities and throughout the U.S. private healthcare system. To help accomplish this far-reaching mission, the center also is developing new innovative interdisciplinary academic programs to cross-educate engineers and healthcare professionals so that they can work effectively together to improve healthcare.

“Through these integrated efforts, we expect nothing less than to build a pervasive culture of improvement that will engage all of our staff, from top to bottom, in this fundamentally important work,” adds Dr. Michael Mayo-Smith, network director of the overall VA New England Healthcare System.

Industrial engineering methods include the Toyota Production System, GE six-sigma and Lean manufacturing tools, and various more advanced mathematical and computer modeling methods used to analyze, improve, and optimize any types of processes. In healthcare, these methods can radically improve such concerns as access, waits and delays, safety, optimal care, efficiency, equity, and effectiveness – the six national healthcare priorities recently identified by the U.S. Institute of Medicine and National Academy of Engineering. Dr. Benneyan is nationally known for his pioneering work in these areas, is former senior systems engineer at Harvard Community Health Plan, and fellow at the Institute for Healthcare Improvement. As the largest healthcare system in the U.S. and with deep leadership commitment, the VA is an ideal environment for developing, demonstrating, and disseminating healthcare engineering solutions nationwide via this approach.