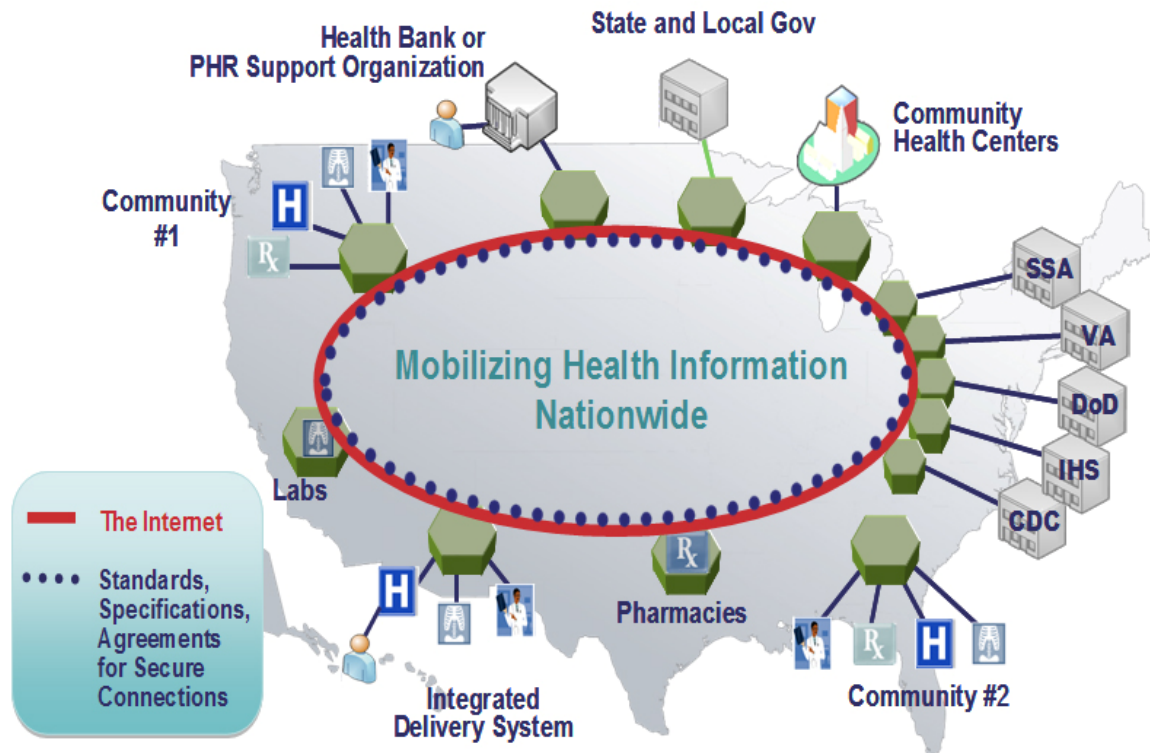


**TATRC Highlighted Research News Article:  
“Healthcare of the Future (Medical IM/IT)”**

**Projects Strengthen Nationwide Health Information Network and Improve Usability of Electronic Health Records**



*“During the 2005 Hurricane Katrina evacuation, most people had access to their bank information—but not to their health information. That’s just one example of why harnessing information technology in the service of healthcare has become a national priority.”*

NHIN – Nationwide Health Information Network

EHR – electronic health record

AHLTA – the Department of Defense’s EHR system

VLER – Virtual Lifetime Electronic Record

The U.S. Army Medical Research and Materiel Command’s Telemedicine and Advanced Technology Research Center recently gathered a panel of national experts to review a number of emerging healthcare information technology prototypes that will strengthen existing services or build new services in the Nationwide Health Information Network.

The panel also reviewed projects focused on improving the usability of electronic health records.

The TATRC Advanced Information Technology Group, under the leadership of LCDR Steve Steffensen, MC, USN, serves as the Military Health System's arm for researching emerging healthcare information technologies. It works closely with the Military Health System Chief Information Officer, TRICARE Management Activity, to transition mature technologies to production. Steffensen is a board-certified neurologist with a keen interest in applying healthcare IT to improve healthcare access, availability, acceptability, continuity, cost effectiveness and quality.

### **Understanding the NHIN**

The NHIN arose out of a 2004 executive order from President Bush that directed the federal government to create standards and incentives to promote the adoption of electronic health records. The NHIN is a set of standards, services and policies that enable secure health information exchange over the Internet.

Having health information readily available will contribute to improved continuity of care and the possibility of reducing redundant services. This can help improve patient safety and lower healthcare costs.

“Think about it: During the 2005 Hurricane Katrina evacuation, most people had access to their bank information—but not to their health information. That’s just one example of why harnessing information technology in the service of healthcare has become a national priority,” said Steffensen.

### **NHIN Is Important to the Military**

Dr. Steffensen explained that the NHIN is important to the Department of Defense because almost two thirds of the healthcare for military members and their families is provided by the civilian sector. This fact is made all the more pertinent when one considers that the nation's 9.6 million military beneficiaries are one of the largest and most mobile patient populations. So, although the DoD has a worldwide electronic health record for beneficiaries seen at military facilities, this does not address the majority who are seen in the civilian sector. Using the standards and policies established by the NHIN will eventually enable providers to access patient records more efficiently and ensure more complete information is available wherever the patient is receiving care.

Steffensen noted, “As a planet, we collected more data in the last year than we have in the history of mankind! We tend to collect data because it is technically possible without understanding if it is necessary—and healthcare is no exception. We are drowning in data but starving for knowledge. TATRC's interoperability efforts on the NHIN will help us better understand the connections between data and knowledge as well as the standards and policies that govern health information exchange.”

### **TATRC Contribution to the NHIN's Development**

One of the key NHIN-related Congressional Special Interest projects overseen by TATRC was led by Mr. John Hargreaves, project manager at Conemaugh Valley Memorial Hospital in Pennsylvania. Conemaugh, in cooperation with several contracted developers, established a robust Military Interoperable Digital Hospital Testbed to help the TATRC Advanced Concept Team develop the NHIN CONNECT federal adapter. This adapter can be used to connect electronic health records and other healthcare information systems to the NHIN in support of the Virtual Lifetime Electronic Record initiative between DoD and VA.

All of the above software has been made available to the national CONNECT initiative, which is an open source effort managed by the Federal Health Architecture group under the Office of the National Coordinator for Health IT. The CONNECT software can be used freely by federal and civilian institutions to promote interoperability between health information systems on the NHIN.

Hargreaves said, "I am a personal example of why connecting public and private electronic health data is important. Because I am retired military, I see a private doctor. Yet none of that health information gets to the military medical center that I would use for hospitalization. My doctor has no access to my active duty health record. The work we have contributed to the NHIN hopes to overcome this problem."

### **Additional Health IT Projects Reviewed by the Panel**

- Healthwise, Inc., reviewed their research to create an HL7 Infobutton standard service on the NHIN, which can deliver patient education material at the point of care.
- Dr. James Keel, Mission Hospital, Asheville, N.C., and Dr. Jiajie Zhang, University of Texas Health Science Center, Houston, Texas, presented their research on AHLTA (the military electronic health record) and Cerner EHR usability, and the impact of computerized physician order entry on patient care.
- Dr. David Durand, Children's Hospital, Oakland, Calif., presented his work to date in selecting an EHR that is intended to improve nutrition management in children, and that may eventually connect with a local health information exchange under development.
- Dr. Leon Haley, Grady Memorial Hospital, Atlanta, Ga., spoke about his efforts to implement an Epic, Inc., EHR that will be used to improve treatment provided to head injury patients in one of the world's busiest emergency rooms.

- Brian Willison, Parsons Institute for Information Mapping, spoke about his team's effort to redesign the graphical user interface for DoD's electronic health record using heuristic design principles and modern web technologies.

#### **Other TATRC NHIN Successes**

TATRC has also worked with several of its Congressional partners to accomplish the following:

- Coordinated program management oversight and software development for the NHIN production pilot to exchange a C32 Summary of Care document among Naval Medical Center San Diego, La Jolla VA Medical Center and Kaiser Permanente. This pilot was an important step in the development of the health component of the DoD/VA VLER, a program under the leadership of the Assistant Secretary of Defense for Personnel and Readiness.
- Created Patient Ancillary Web Services as a robust means of providing military electronic health record data to numerous third-party applications.
- Funded a laboratory data exchange between Naval Hospital, Pensacola, Fla., and Sacred Heart Health System to avoid duplicate testing and prove the benefits of NHIN information exchange.
- Prototyped the connection of the McKesson Relay Health Secure Messaging and Personal Health Record as a service on the NHIN.
- Established a Common Development Environment to provide for the developing and testing of innovative applications and services that can work with the NHIN and AHLTA.

For additional information concerning these projects, please contact Robert E. Connors, FACHE, PMP, Executive Health manager, TATRC, at [robert.connors@tatrc.org](mailto:robert.connors@tatrc.org).