

2009-2010
Summary of Scholarly Activities
Center for Strategic Health Innovation

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Shreve J, Van Den Bos J, Gray T, Halford M, Rustagi K, Ziemkiewicz E, Taylor C, contributor. The economic measurement of medical errors. Society of Actuaries' Health Section [Internet]. 2010 Jun [cited 2010 Aug 31]. Available from: <http://www.soa.org/files/pdf/research-econ-measurement.pdf>

Taylor C. The emerging role of global situational awareness 2.0 resources in disaster response. In: Carapezza EM, editor. Sensors, and command, control, communications, and intelligence (C31) technologies for homeland security and homeland defense IX. Proc SPIE 2010 May 5; 7666:766613 (8p.)

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Roach RD. Invited speaker. The role of the regional extension center. Rural Health Conference; 2010 Mar 24; Prattville, AL.

Roach RD. Invited speaker. Alabama Regional Extension Center. Alabama Hospital Association Rural Constituency Section Meeting; 2010 Apr 20; Montgomery, AL.

Roach RD. Invited speaker. Alabama Regional Extension Center. Alabama Primary Health Care Association 2010 Networking Forum; 2010 May 13; Montgomery, AL.

Roach RD. Invited speaker. Alabama Regional Extension Center. Medical Society State of Alabama Health Information Technology Committee Meeting; 2010 May 18; Montgomery, AL.

Roach RD. Invited speaker. Available technical assistance through REC. Alabama Hospital Association Training Webinar: Meaningful Use Objectives to Receive State and Federal Incentive Payments; 2010 Aug 19; Mobile, AL.

Taylor C. Invited speaker. The emerging role of global situational awareness 2.0 resources in disaster response. Asia Conference on Emerging Issues in Public Health; 2009 Nov 30; Hong Kong, China.

Taylor C. Invited speaker. On the road to business success or failure – the emerging role of netsourcing. Skema Business School; 2010 Mar 15; Sophia-Antipolis, France.

Taylor C. Invited speaker. The emerging role of global situational awareness 2.0 resources in disaster response. SPIE Defense, Security and Sensing 2010; 2010 Apr 6; Orlando, FL.

Taylor C. Invited speaker. Borderless healthcare: a patient-centric approach with the aid of technology. Institute of the Americas, The Future of Health Care in Mexico for Americans; 2010 Apr 21; San Diego, CA.

Taylor C. Invited speaker. Surge capacity and resource management. 2010 Tri-State Respiratory Care Conference; 2010 Aug 4; Biloxi, MS.

Wallace DL. Invited speaker. Business continuity planning for health centers. Alabama Primary Health Care Association 24th Annual Conference and Clinical Forum; 2009 Oct 1; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Dan Roach III, MD is the co-chair of the Technical Infrastructure Work Group for the Alabama Health Information Exchange and serves on the Alabama Health Information Exchange Advisory Commission.

Carl Taylor serves as a Broadband Ambassador to the Internet Innovation Alliance, a subject matter expert for the Office of the National Coordinator for Health Information Technology and served on the Governor's Broadband Advisory Board. He is a grant peer reviewer for the Health Resources and Services Administration, an evaluator for the Northwest Regional Telehealth Resource Center, and a member of the Institute for Health Technology Transformation's Telehealth and Remote Patient Monitoring Action Group. He served as an advisor to the New Zealand Trade and Enterprise's 2010 Focus on Health challenge and on the Center for Disease Control Team B Advisory Panel for the BP Oil Spill. He was a panelist at the Institute for Health Technology Transformation Spring Health IT Summit and the Innovation in Disaster Risk Assessment Understanding Risk Forum. He continues to serve on the Department of Health and Human Services Haiti Health Facilities Work Group and on the American Medical Association Disaster Preparedness Demonstration Project.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

In 2009-2010, the Center for Strategic Health Innovation (CSHI) enjoyed unprecedented success in our two primary focus areas: health technology innovation and medical informatics; and disaster preparedness teaching and training. CSHI was awarded \$7.9

million by the Office of the National Coordinator for Health Information Technology to lead Alabama in a nationwide effort to help providers select, implement, and meaningfully use electronic health records (EHR). This competitive grant is one of the largest in the University's history, and USA is one of only 60 nonprofit organizations selected nationwide by the U.S. Department of Health and Human Services to receive the Health Information Technology Regional Extension Center award. Funded by the American Recovery and Reinvestment Act of 2009, this two-year cooperative agreement establishes the Alabama Regional Extension Center, or ALREC, a consortium of partners led by USA that includes the Medical Association of the State of Alabama, Alabama Medicaid Agency, University of Alabama at Birmingham, Auburn University, Alabama Primary Healthcare Association, Management and Medical Consulting Services, Inc., and the JHD Group. ALREC will help primary care providers in Alabama transition to electronic health record systems as part of the national initiative to improve health care efficiency and patient outcomes.

In addition, CSHI received \$470,000.00 to purchase equipment needed to develop a Disaster Medical Response Simulation Theater. The simulation theater creates a live, simulated environment that immerses participants in a life-like scenario, and allows them to rehearse their response, test their plans, and to simulate the future impact of the disaster. Through this funding, CSHI also received designation as the National Center for Disaster Medical Response (NCMDR).

The Realtime Medical Electronic Data Exchange (RMEDE™), our patient-centric health record and claims management system, continued growth in 2009-2010. Through our efforts, total patient records managed remained constant at 1.1 million in 2009-2010, and total patients participating in our in-home monitoring project grew to 638 patients, representing a 27% increase from last year. In addition to these successes, CSHI continued to serve as a key player in State disaster preparedness and response. We extended our outreach by presenting our Advanced Regional Response Training not only in the Advanced Regional Response Training Center (ARRTC) in Mobile and but also in forty-four ARRTC Road Shows at hospitals and other facilities throughout the state. We continue to link more than 778 healthcare, public health and emergency response facilities using Alabama Incident Management System (AIMS), our web-based surge capacity management tool.

Technology Development and Deployment: CSHI continually endeavors to use emerging health technologies to improve the quality, cost, care, and access to healthcare within our state and beyond. One of the keys to our success is Realtime Medical Electronic Data Exchange (RMEDE™), a secure web-based life-state management system including in-home monitoring of patients with chronic disease and an interventional informatics reporting system. In 2009-2010, CSHI continued its critical partnership with the Alabama Medicaid Patient 1st program and the Alabama Department of Public Health for the delivery of in-home monitoring of patients using RMEDE™. In this program, patients suffering from chronic illnesses such as diabetes, congestive heart

failure, and hypertension are monitored for significant changes by using an innovative Interactive Voice Response (IVR) system. Patients are instructed to dial-in their key physiological parameters, and an ADPH Life Care Nurse is assigned to monitor the results and submit reports to the patient's provider. Currently, 628 patients are actively transmitting home monitoring information into RMEDE™, representing a 27% percent increase in participation from last year. Preliminary data shows a reduction in the number of Patient 1st emergency department visits, which translates to improved quality and decreased costs. CSHI's RMEDE™ also partnered with the Medicaid Maternity Program in their quest for Better Birth Outcomes and lower Infant Mortality rates. RMEDE™ is used to develop a data collection system with reporting capabilities utilizing recipient information gathered from enrollment activities to evaluate compliance with accepted national standards of practice. RMEDE™ provides Medicaid and their contractors the ability to enter and view the data online. Data is utilized by Medicaid to determine benchmarks for compliance and comparisons.

In a collaborative effort with The Mobile County Health Department, a recipient of the Robert Wood Johnson Foundation grant, "Finding Answers: Disparities Research for Change," CSHI's RMEDE™ was utilized to implement and evaluate a blood glucose tele-monitoring intervention. One hundred eighty-three (183) patients measured their blood glucose level with glucometers and input their blood glucose values via telephone into RMEDE™. If a glucose value was out of range, RMEDE™ sent an automatic alert to the patient's nurse for follow-up. The goal of the Finding Answers project was "to identify and evaluate interventions which are effective in eliminating racial and ethnic health care disparities in local communities, and which can be replicated and sustained throughout the United States."

Another successful technology developed in-house by CSHI is the Alabama Incident Management System (AIMS). AIMS is management information software designed to capture Hospital Emergency Incident Command System (HEICS) reported surge data, or information regarding the real-time status of a hospital's ability to triage, treat, and transfer victims of a disaster in a timely manner. Critical data such as available beds, supplies, staffing, and equipment is entered into a database at each participating healthcare facility and then transmitted and displayed at the local or regional Emergency Operations Centers (EOC) for use making emergent decisions. CSHI boasts a total of 778 user facilities including: 18 Community Health Centers, 11 EMA facilities, 319 EMS providers, 1 EMS EOC facility, 12 ADPH EOC facilities, 5 Evacuee Shelters, 131 Hospitals, 25 Medical Needs Shelters, and 256 Nursing Homes. Under contract with the Alabama Department of Public Health Center for Emergency Preparedness (ADPH CEP), CSHI continues to promote AIMS as a daily use tool for health facilities across the state, as well as to develop and promote cross border links in AIMS.

Enhancements and upgrades to AIMS include development and deployment of an Influenza Module to collect H1N1-related data to enhance the situational awareness of ADPH, development of social networking capabilities to encourage the establishment of local response regions among health facilities in the same region, and creation of a NIMS compliance module to enable assessment of hospital disaster preparedness.

Training Programs: Now in its seventh year, ARRTC is regional response training designed to teach effective collaborative healthcare community response to all disasters, natural or man-made. This program is made possible by a grant from the Alabama Department of Public Health Center for Emergency Preparedness through a cooperative agreement from ASPR. This year, CSHI offered training on-site in Mobile (ARRTC Basic) and at regional hospitals throughout the state (ARRTC Road Show). ARRTC Basic is a 2-day course which provides regional response partners with basic, core disaster response training. Sessions are scheduled by hospital planning region, fostering interaction with regional response partners. ARRTC Road Show is a 1-day course which takes ARRTC training to healthcare facilities across the state, thereby allowing participation by more staff, and invites the participation of regional neighbors/response partners for the purpose of establishing and enhancing a common knowledge of the basics of disaster response for healthcare facilities. An additional ½ day training was available to those facilities requesting additional training or assistance in the completion of a hazard threat vulnerability assessment and disaster plan development. A combined total of 56 sessions were presented to participants which included representatives from public health, hospitals, nursing homes, community health centers (CHCs), and emergency management and response agencies. Attendee evaluation scores were consistently high, with 96% rating the program as “Excellent” or “Good.”