Biomedical and Health Informatics Lecture Series

Tuesday, October 14, 2008
Room RR-134, 12:00-12:50 p.m.

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"Computer Identification of Patients with and at High Risk for Venous Thrombolytic Events"

Peripherally inserted central catheters (PICCs) are considered a safe method to provide long-term antibiotic therapy, chemotherapy and nutrition support. Deep venous thrombosis (DVT) is a complication that requires early PICC removal, may extend hospitalization and can result in pulmonary embolism. PICC insertion teams strive to understand risk factors and develop methods to prevent DVTs. However, they can only manage what they can measure. At LDS Hospital, identification of PICC associated DVTs was dependent on verbal notification or manual surveillance of more than a thousand free-text vascular reports. Accurate DVT rates were not known which hindered prevention. We describe the development of a computer application (PICC-DVT monitor) to identify PICC associated DVTs each day. A one-year evaluation of the monitor by the PICC team and a review of 445 random vascular reports found a positive predictive value of 98%, sensitivity of 94%, specificity of 100% and a PICC team associated DVT rate of 2.8%.

Dr. R. Scott Evans received his BS degree in Zoology and MS degree in Microbiology/Parasitology from Brigham Young University. He received his PhD in Medical Biophysics & Computing from the University of Utah. He is a member of the American Medical Informatics Association and is a Fellow in the American College of Medical Informatics. He is on the Editorial Boards of the Journal of American Medical Informatics Association and the Annals of Pharmacotherapy and was on the Institute of Medicine's committee for the "Identification and Prevention of Medication Errors." In 1992 he won the "Best Paper Award" at the annual American Medical Informatics Association meeting. In 1993 he received the "Priscilla M. Mayden Award" for outstanding contribution in the field of Medical Informatics and in 1997 received the "Oslers Cloak" award for excellence in caring and curing from Intermountain Health Care. He received the "Distinguished Poster Award" in 2005 from the American Medical Informatics Association.

His major experience and interests have been in the design, development, and evaluation of computerized decision support tools for the selection and management of anti-infective agents, computer methods to identify and reduce adverse drug events, adverse medical device events and venous thrombolytic events, computerized methods to identify patients needing isolation, and computerized methods to identify and reduce hospital-acquired infections and report notifiable diseases. A number of these computerized tools are clinically operational at over 20 hospitals at Intermountain Healthcare. He has published over 90 articles, most on topics involving Medical Informatics, in peer reviewed journals from the Medical Informatics literature and a number of clinical journals including the New England Journal of Medicine and JAMA.