



# The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

## Final Copy of Case Study

YEAR:  
*2012*

STATUS:  
*Laureate*

**Organization:**  
Texas Health Resource

**Organization URL:**  
[www.texashealth.org](http://www.texashealth.org)

**Project Name:**  
Reducing VTE Using Clinical Decision Support

**What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?**

A Venous Thromboembolism (VTE) is a blood clot that forms within a vein. VTE is the most common preventable cause of hospital death (AHRQ 2008). Nationwide more people die from VTE than AIDS, breast cancer and highway fatalities combined. Clinical trials provide irrefutable evidence that thromboprophylaxis (using mechanical methods to promote venous outflow from the legs and antithrombotic drugs) reduces VTE. The Joint Commission, which accredits and certifies more than 18,000 health care organization/programs in the United States, has developed a VTE prophylaxis measures. VTE prophylaxis measures are also a part of Meaningful Use, a provision of the ARRA legislation that rewards hospitals and physician practices for implementing an electronic health record (EHR) and demonstrating its use is: improving quality, safety, efficiency, care coordination, population and public health; reducing health disparities; engaging patients and their families; and ensuring adequate privacy and security protections for personal health information.

**Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.**

The vast majority of hospitals have unique paper-based risk assessment tools and order sets. Texas Health is no exception. Formed thirteen years ago by the merging of hospitals, disparate

information systems and hospital-specific workflow processes to document care created significant disparities in operations. The implementation of a new electronic health record (EHR) across all hospitals was coupled with months of formal, structured workflow analysis and development processes. By working with multidisciplinary teams, Texas Health was able to adopt a standardized VTE risk assessment tool, which was converted to an electronic format. This enabled Texas Health to extend the EHR by having real-time information from the EHR auto-populate the VTE risk assessment tool, demonstrating meaningful use. Rather than having a variety of paper-based VTE assessments that require manual entry and computation, Texas Health now has an automated, standardized VTE risk assessment tool. By using existing technology that includes MS SQL, ASP, APSx, and HL7, this tool is accessible from within the patient context of the EHR. Approximately 25% of risk factors auto-populate from information provided within the EHR. Work is ongoing to increase the number of risk factors that auto-populate.

**Please list the specific humanitarian benefits the project has yielded so far.**

Texas Health's ability to improve the quality of healthcare and patient safety efforts by preventing hospital-acquired VTE by early identification of patients at risk and appropriate timely intervention strategies. After its introduction, Texas Health has reduced post-operative pulmonary embolism/deep vein thrombosis by over 20%.

**Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.**

Texas Health's ability to improve the quality of healthcare and patient safety efforts by preventing hospital acquired VTE by early identification of patients at risk and appropriate timely intervention strategies. After its introduction, Texas Health has reduced post-operative pulmonary embolism/deep vein thrombosis by over 20%. Encouraging collaborative information sharing and common practices: Since VTE risk assessment results are stored back into the EHR, this information is accessible by any other clinician who is treating the patient. Texas Health's stakeholder satisfaction is enhanced by: providing physicians and other care givers tools that are populated with real-time information stored on patients and plugging it into a VTE calculator. Providing best practices alerts based on the patient risk assessment This is exemplified by responses from physicians such as "Love it! Should be a hard stop." Texas Health's financial performance is enhanced by: demonstrating Meaningful Use. Integrating the VTE risk assessment with our EHR illustrates our ability to improve quality with health information technology, which helps Texas Health qualify for increased incentives from ARRA legislation. Improving efficiencies: No longer are clinicians manually completing paper assessments and manually computing scores. It is done automatically. Since the VTE risk assessment is auto-populated with patient data and calculations are made electronically, time is saved.