The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

YEAR:
2012

STATUS:
Laureate

Organization:
Christiana Care Health System

Organization URL:
www.christianacare.org

Project Name:
Insight - The Patient Symptom Self-Assessment Tool

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

Patients perceiving poor symptom control report lower quality of life and less satisfaction with care providers, and require more frequent hospital admissions, which is associated with increased costs of care. A team of Christiana Care Health System clinicians and technologists came together to address the issue and designed a custom software program which captures and assesses patient symptoms in consistent, detailed, and useful formats. The system, named Insight, is a way for patients to quickly and easily report distressing symptoms, symptom intensity, and impact on quality of life in a tablet-based, clinician-friendly format. Insight is unique in that patient feedback was used to create an intuitive, rapid symptom assessment tool which tracks changes over time, quantifies intensity of symptoms, and alerts clinicians to problems of high intensity and importance to the patient. Patients were involved in the formatting of the questions and responses, the hardware selected, and testing. The goals of the project were to improve reporting of symptoms in hopes of achieving timely and helpful interventions, and to increase patient satisfaction. These were measured through patient surveys to determine the project's success. In addition, other key outcomes were realized, including: increased patient reporting of symptom severity, which demonstrates more clearly to the clinician the impact and importance of the symptom, rather than merely its presence or absence; increased physician awareness of nutritional concerns, emotional distress and impairments of function, to allow further assessment and/or referrals to supportive care services (psychology, dietician, physical therapy, etc.); improved patient awareness of important symptoms in management of their chronic illness, which can lead to better self-care and better communication with their physicians; enhanced

physician/clinician ability to monitor changes in symptoms in response to treatment, and changes occurring with the natural course of the chronic illness; improved quality of care.

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 software used in the implementation was Windows Server 2003, IIS, ASP.NET, Microsoft SQL Server 2005, and SQL Server Reporting Services. Hardware used includes touch-screen tablets, desktop computers, servers, and color printers. These technologies were deployed in an innovative way, as they were the health system's first time putting tablets in the hands of patients, and the first time having staff manage a web-based system with tablets. In addition, different assessments have customized rules for auto-printing, printing in color, randomizing question order, and asking patient satisfaction questions at the end.

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

539 patients have participated to date, with over 1,713 assessments completed. The assessment is designed in such a way that it takes the average patient less than four minutes to complete a series of 25 questions. 38,376 symptoms have been self-assessed with referrals to dieticians and psychology increased due to patient symptom reports. Physicians report improved awareness of symptom intensity and impact, and patients report satisfaction with the assessment system. At Christiana Care, we follow a tradition of Focusing on Excellence and making Christiana Care a Great Place to Work. Our Focus on Excellence is represented with our diamond, which is a symbol of our desire to be excellent in all aspects of our work. Below are the facets of our diamond and how we measured success internally: Safety First Patients are now more likely to report symptoms when given time to consider responses. Patients gain a greater understanding of symptoms which are related to their chronic disease management. Clinical Excellence Clinicians can now easily see trends in patient symptoms on the automated printout, and can easily focus attention to high-severity concerns. Think of Yourself as a Patient Insight reduces paperwork and handwriting for patients. A computer interface is less threatening when initially reporting mood and anxiety concerns. Great Place to Work: It's customizable; the question panel can be changed with minimal effort to adapt to multiple uses, including other chronic disease programs such as diabetes, COPD, bariatrics, etc., or more general patient satisfaction assessments, and can be utilized in office or hospital environments. Financial Strength: It was built in house at a fraction of cost of vendor software programs.

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.

The system has shown an impact on both patients and physicians. Patients reported: "It's a great idea, and easy." "I like it better than filling out paperwork." "There's nothing I would change." "It was better than filling out paper; sometimes I get lost with all the questions and pages of paperwork." Physicians reported: "Insight makes it easier for the patient and the doctor to have a conversation about more sensitive issues or symptoms they might not otherwise volunteer. The patient's ratings give 'insight' into their distress, their function and independence and their well-being. Patients seem more comfortable discussing feelings of anxiety and depression after using this tool." - Dr. Theresa Gillis, Medical Director, Oncology Pain and Symptom Management and Rehabilitation Services. "There were limited tools that we had as clinicians, prior to our development of Insight, to provide a means to not only capture important and often under-reported symptoms but also provide the spark for important conversations regarding sensitive clinical issues. I rely on the data that is captured using Insight to have meaningful discussions

with my patients and the longitudinal nature of the data is critical for identifying trends in the patients' clinical course." - Dr. Mitchell Saltzberg, Medical Director, Heart Failure Program.