The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

YEAR:
2012

STATUS:
Laureate

Organization:
Continuum Health Partners

Organization URL:
http://www.wehealny.org/

Project Name:
Caregiver Collaboration using DNA

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

Improved communication, especially during system outages. The first metric was specifically measuring the percentage of users who had received the alert. Previous methodology employed phone chains, with the Help Desk contacting the hospital administrator on duty, who was responsible for contacting departments, leads, and so on. This process routinely identified only 20%-40% reach. The success of this technology and new approach was immediately evident. During the pilot phase, deploying the DNA to one hospital, we followed up in the traditional manner of phone calls. 100% of the call responses indicated they already were aware of the information, having read it from our DNA notification. The second metric was measuring the satisfaction of the content. This was important to improve the effect of the phone chain diminishing the message the farther into the chain it got. In many instances, people had completely wrong information the further they were from the top of the chain. Prior to the implementation of the technology, customer satisfaction was in the mid 80% (very satisfied) with the IT department. This technology has improved the customer satisfaction of our clinical community to 94%+ very satisfied. An unexpected confirmation of the success of this technology was received in the form of unsolicited end-user suggestions. We have initiated additional use cases for the DNA system, such as notifications during upgrades and planned downtime. Similar to unexpected downtimes, this allows staffing decisions to be made more intelligently, maintaining the highest patient care possible. The most interesting suggestion is to leverage this technology with predictive analytics, alerting appropriate caregivers of high-risk patients prior to the moment when proactive, preventive intervention can be administered. This technology has provided the

clinical community with communication regarding system availability and emergency notifications that are accurate, timely, and most importantly received.

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 IT organization set forth an initiative to develop a passive communication system that has since been named the "Desktop Notification Alert" system, or simply DNA. The goal was to communicate simultaneously with the entire computing community, avoiding telephone chain message distortion and alert fatigue. CHP developed a web-based widget which loads upon startup of any machine and places an icon into the desktop tray. The widget registers the machine's usage type and location to the SQL server. This enables the machine to receive alerts only pertinent to its location or usage types. This prevents alert fatigue and increases successful communication. The icon will be green when there is nothing to communicate. It will turn red when a message needs to be communicated, forcing a pop-up message box onto the screen, with message content composed by the CHP Help Desk. Upon closing the window, the DNA icon will remain red until there are no issues requiring user attention. If there is an update in the message, a new pop-up window will be launched. If at any time a user wishes to re-read a DNA notification, they simply have to click on the icon and the pop-up message window will reappear with all messages available sequentially. This is especially useful and important on shared workstations, where most users will not be available to read the initial pop-up window, but can read the message at their convenience. When there are no issues requiring communication, the icon will return to a green color. With approximately 11,000 devices workstations across our environment, we are able to communicate in real time with our clinical end users in a consistent and non-intrusive manner throughout our patient care areas. This supports our mission to provide accurate information at the right time.

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

There are two times when caregivers are placed under extra stress, making the goal of maintain the highest quality of care the most strenuous. These times are at shift change, which is a hectic, busy exchange of critical information between caregivers, and when systems used in care are unavailable. There are practiced and defined downtime procedures for the loss of any clinical system. Two things make downtimes especially stressful. First, all documentation previously done in a computer system designed for fast entry and retrieval of information must occur manually, which means slower response. Secondly, as a result of system availability percentages above 99.9%+, there is not much practice in the downtime procedures, which forces clinicians to re-learn these procedures to a degree when an outage occurs. Therefore the single time when caregivers are challenged most in maintaining the highest patient care is when a shift change occurs during a system outage. This is why staff needs to know the latest, most accurate information regarding system outages in advance of these times so they can plan additional staff appropriately so quality is maintained. While not eliminating the need for extra staffing, this technology has made the decisions of clinicians more informed with accurate information at the time it is needed, and that has significantly helped reduce the risk of less than the highest quality patient care. Improving clear and accurate communication regarding critical system outages used in patient care at the moment when the staff is most stressed and vulnerable goes far in improving the overall quality of patient care. It allows clinicians the ability to meet the challenges of the moment with the most information available, thereby insuring they are best positioned to maintain the quality of care.

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.

This technology has closed a gap between IT and the clinical community, ensuring that communication regarding system availability and business continuity activities and decisions are clear, meaningful, and timely. During the course of a year, many hospital initiatives contribute to the improvement of patient care. Therefore, it is difficult to attribute to any single initiative a percentage responsibility for that improvement. It is easy to conclude, however, that the increased and improved accuracy of communication regarding system outage and restoration during extremely stressed times has significantly contributed to improved quality of care, and therefore has improved the quality of people's lives when they are most in need. During our follow-up to the deployment of the technology, when we sampled clinicians about receiving information regarding outage communication and 100% of the clinicians indicated they had already been made aware via the DNA alert, we received the following statements: "This popup is wonderful." "I love this. I now know what is going on." "Finally you guys in IT are doing something right." "This is the first time anyone has ever communicated with us what is going on." "This is great. I have an idea on how to use this for something else. Who should I talk to?"