TECHNOLOGY THAT CAN HELP PREVENT MEDICAL ERRORS

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Trevor Bromley talks to Dr Sanjaya Kumar, MD, author of the recently released book Fatal Care, chief executive officer and chief medical officer of Quantros, Inc., a leading US-based patient safety technology company, about the role of technology in the prevention of medical errors. (See Figure 1.)

Preventable medical errors are a global issue. Even in the sophisticated healthcare environments of Europe and the United States, preventable medical errors remain a chronic problem. The challenge, regardless of region of the world, revolves around finding a way to identify trends, and analyse and correct issues (known as near-misses) before they become actual medical errors. With the complex systems of today's medical care, there are broad and deep spectrums of variables that can contribute to an error.

The complexity and pervasive nature of preventable medical errors has seen a global body such as the World Health Organisation designating the Joint Commission and Joint Commission International as the world's first WHO Collaborating Centre wholly dedicated to patient safety. There are also many country-specific projects all putting initiatives in place to help improve the state of patient safety. The goal of all these organisations is to provide standardised means of data analysis to help in medical error prevention and increase public disclosure, in an effort to protect patients.

AN ENTERPRISE-WIDE MANAGEMENT PATIENT SAFETY EVENT REPORTING SYSTEM STREAMLINES THE ENTIRE PROCESS OF PREVENTABLE MEDICAL ERROR MANAGEMENT

This is where adverse management software can enter the picture. (See Figures 2-6.) Adverse event management software serves to aggregate data from both self-reported data and data being collected from other hospital-based systems to provide a means of mitigating risk through active intervention. In addition, these types of systems support the entire workflow surrounding actual medical errors that do take place. While historically this has been handled through manual processes, an electronic system provides a more efficient and predictable means of dealing with issues that do arise.

Figure 1: Dr Sanjaya Kumar, MD, CEO and chief medical officer of Quantros, Inc.

A true enterprise-wide management patient safety event reporting system streamlines the entire process of preventable medical error management. It makes it easier to identify trends, to classify those events, to report events to other organisations requiring disclosure and to track intervention performance. While a safety and risk management system makes healthcare organisations more efficient, more importantly it helps healthcare providers offer a safer care and work environment. This certainly applies to orthopaedics which, by its very nature, involves complex surgical procedures, with numerous manual and automated processes including patient hand-offs, written and verbal communications, anaesthesia, prescriptions, and environmental factors. In addition, there is always the risk that patients may acquire an infection in the course of these procedures. This multi-factorial environment makes orthopaedics a prime candidate for preventable medical errors.

A safety and risk management system, if it contains a standardised taxonomy, takes all the above areas into

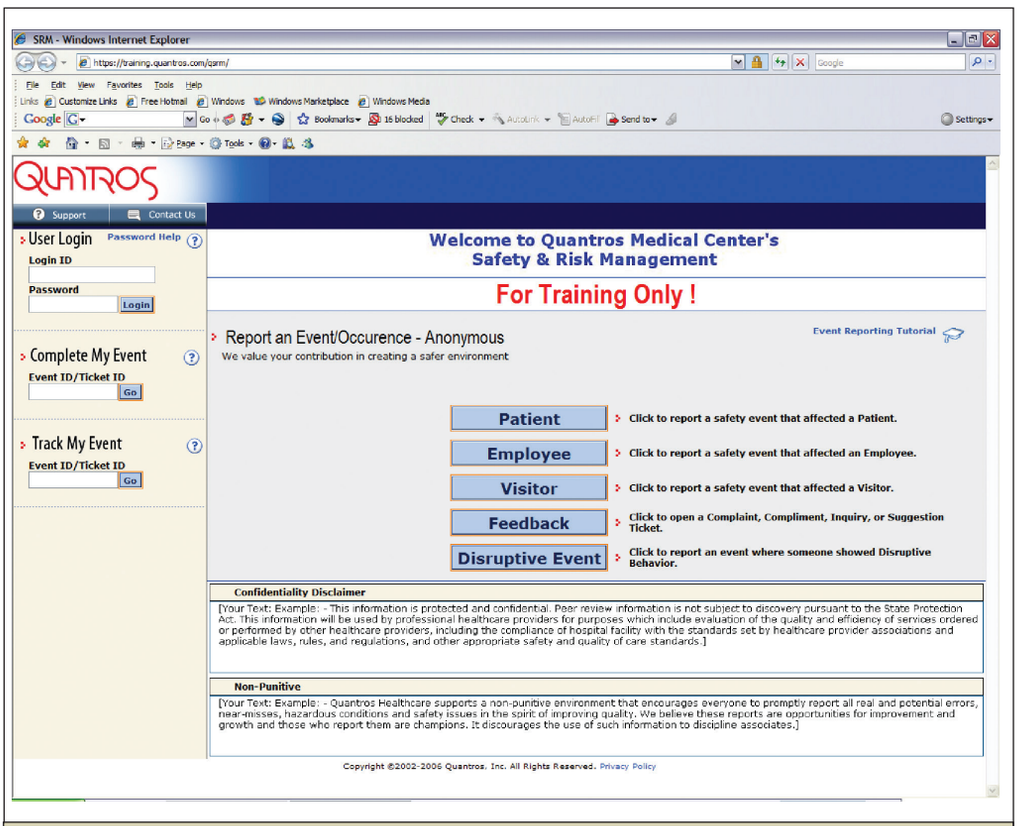

Figure 2: Anonymous reporting and log-in screen

consideration and monitors not just actual events but near-misses as well. Tracking and trending this near-miss data is critical for intervention identification.

For example, if a knee implant is taking place, healthcare providers want to ensure there are multiple checks in identifying the correct side for the procedure. One breakdown in documentation or identification can start a chain reaction leading to surgical revisions or even tragedy.

A safety and risk management system continually monitors any process breakdowns and looks to intervene so that the chain reaction is averted. Again, the vast complexity of care requires continual monitoring, and improvement is vital to protecting patients.

Today, most safety and risk management systems largely deal with voluntary, self-reported data. While this is a vital component of data collection, it only provides a portion of the available data required for centralised, accurate decision-support. There are multiple data sources such as laboratory, microbiology, and HIT (health information technology) systems that all contain vital data. Today this data stands in silos that are not being leveraged in the effort to provide a safer care environment.

Safety and risk management systems in the future must evolve into true decision-support systems that address the expanse of healthcare provider safety, quality and compliance issues. An integrated, cross-dimensional system that encompasses all these areas is needed to further the drive for safer, higher-quality care throughout the world's healthcare systems.

These issues are currently getting a lot of attention in the US, where multiple factors are driving hospitals towards more

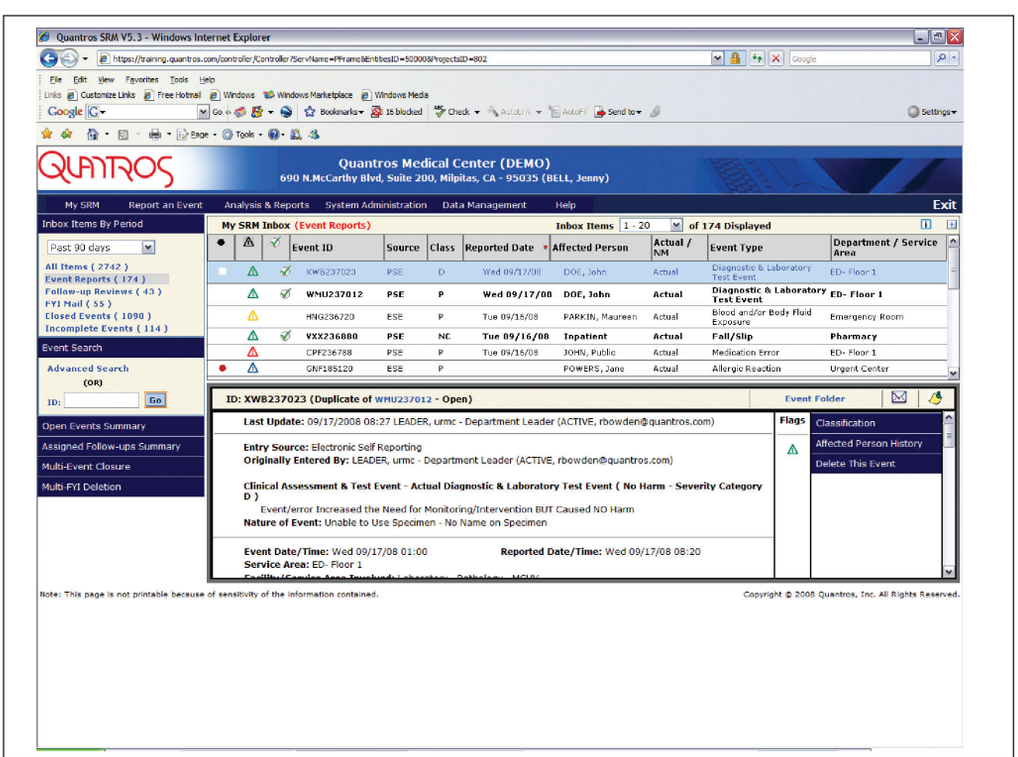

Figure 3: The Quantros inbox

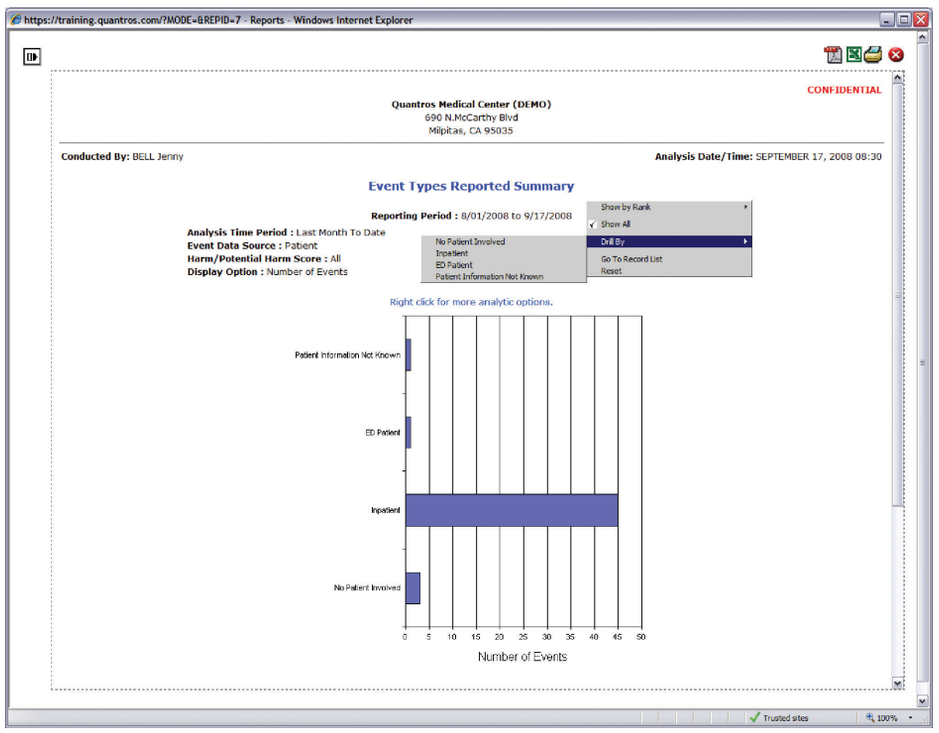

Figure 4: Event types summary with drill down, enabling the user to go deeper into the data

sophisticated safety and risk management systems, including the increasing cost of preventable medical errors. Preventable medical errors are a multi-billion dollar problem for healthcare providers. Payers such as the Center for Medicare and Medicaid Service (CMS) are no longer reimbursing providers for preventable medical errors including hospital acquired infections. The cost of investigation and defence of claims is enormous.

Also, patients have alternatives as to which hospital they choose for their treatment. This means that publicised preventable medical errors lead to fewer admissions and reduced revenue. All these factors drive the need for a patient safety and risk management system.

National government initiatives play a part, too. The United States has enacted the Patient Safety Office (PSO) as a means of creating a national database of adverse events. This new system is an attempt to support an improved culture of patient safety and provide aggregated data for safety performance improvement. An electronic safety and risk management system provides a streamlined way of providing this data without adding undue resource burden.

As well as this, there are state government initiatives. More and more states have been requiring that data on serious preventable medical errors be reported. More than half of the states within the union have such laws. Again, an electronic safety and risk management system provides a streamlined way of providing this data without adding undue resource burden.

Finally, with the pervasive nature of the Internet, patients now expect to see more and more data concerning hospital performance. They are taking a more proactive approach to their own care and they want disclosure. With the

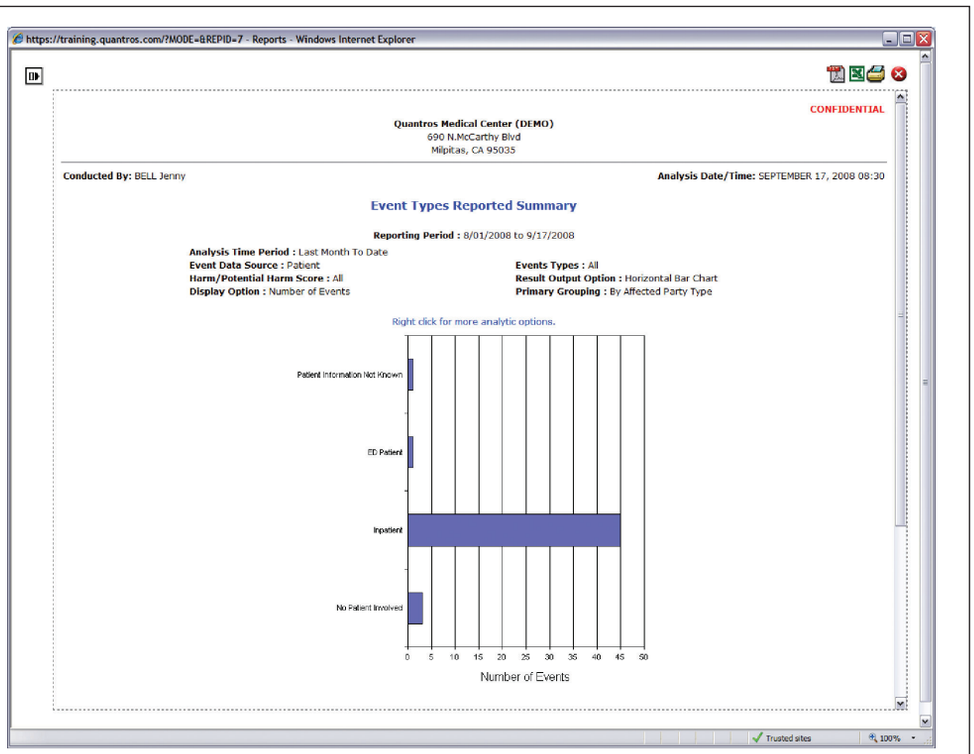

Figure 5: Event types summary without drill down

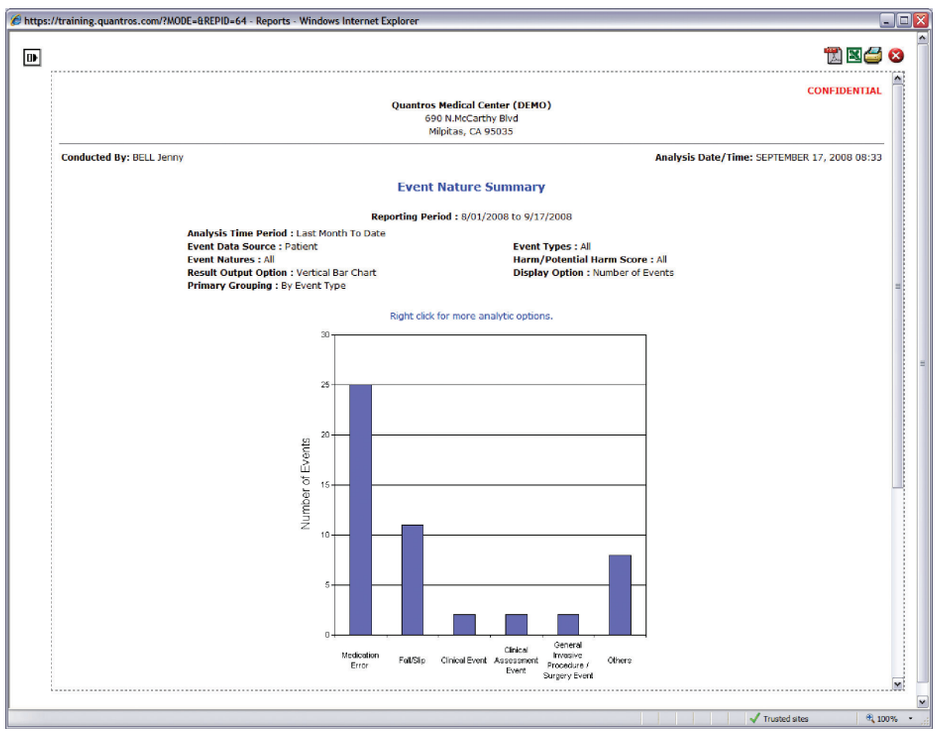

Figure 6: Event nature summary

mandates of governmental bodies mentioned above, more and more data is being made publicly available. An electronic system for safety and risk management is a needed component in efficiently providing this data, but even more importantly it is a way to identify interventions that can help hospitals dramatically reduce the occurrence of these errors.

A CULTURE OF PATIENT SAFETY RECOGNISES THAT IMPROVED SAFETY IS FOR A GREATER GOOD BEYOND ANY ONE PERSON OR PROCESS

Each and every healthcare provider has a care environment wrapped around three areas: people, process, and technology.

Simply put, a culture of patient safety provides recognition that the people and processes used are not perfect and that improved safety is for a greater good beyond any one person or process. A good culture of patient safety notes that the people involved are there because they want to provide the best possible care. When a near-miss or an actual event does take place, there is no malice but rather a breakdown in some critical process that can be rectified if reported. A good culture of patient safety does not look to punish, but rather to learn from these breakdowns and ensure they do not happen in the future. If the people in your organisation feel safe in this regard, they will provide the data needed to make improvements. Even the best safety and risk management systems are dependent on data to work.

Implementation of such systems should be coupled with a safety culture assessment. There are several, including the Agency for Healthcare Research and Quality (AHRQ) Patient Safety Culture Survey run by the US Department of Health and Human Services, to measure and monitor the attitude of staff towards disclosure of errors.

By providing a safety and risk management system that allows anonymous reporting, healthcare providers are making a statement that they trust their employees and are more concerned with improvement than with punishment. Remember, we are not talking about wilful harm here which would, by definition, be a legal issue rather than an improvement endeavour. ■

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