Can Integrated Systems Improve Medication Safety?

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Like many multi-hospital integrated delivery systems across the country, the Jefferson Health System in Philadelphia and surrounding suburbs has been working hard to improve medication safety. A system-wide taskforce directed by our Chief Medical Officer and composed of representatives from all of the constituent hospitals has met and is outlining a strategy for both improving the reporting, and reducing the rate of adverse drug events. I believe that our effort mirrors the national experience and, like other institutions, we have found it to be a tough challenge.

Periodically, reports appear in the literature about improving medication safety in multi-hospital integrated systems, and I am always intrigued by them. Like many readers, I approach these reports cautiously, hoping for one new insight or one new operational improvement. In a recent paper from the CareGroup in Boston and Eastern Massachusetts, I found a treasure trove of suggestions, good operational ideas, and most importantly, hope for the future.

A group calling itself The Massachusetts Coalition for the Prevention of Medical Error has worked in tandem with the well-known Institute for Healthcare Improvement (IHI)—the outfit led by Don Berwick in Boston. Together, these organizations identified 16 best practices to reduce adverse drug events. CareGroup, with stimulus provided by their system CEO, Dr. James Reinertsen, set the goal in July 1998 to become “the world’s standard for safety in medication administration.” I’d like to give you a status report based on one publication about their journey toward creating this new world standard.

CareGroup is a network of six very different hospitals ranging from small community hospitals to the big Beth Israel Deaconess Medical Center in downtown Boston. Like many systems, CareGroup has a long-term plan, which includes technological advances such as clinical order entry, computer systems in the pharmacy, dispensing stations on patient floors, and bedside bar coding. However, these plans are nearly two to four years away from actualization. CareGroup, under Reinertsen, wanted to raise the bar for patient safety and reduce the rate of adverse drug events today—they were not willing to wait for full implementation of the technological fix. In my reading of their early efforts, a few key issues jumped out at me.

Reinertsen made each of the participating hospital CEOs in charge of a particular aspect of improving the quality of care across the system. One CEO from Mount Auburn Hospital in Cambridge, Massachusetts, Jeanette Clough, was chosen to lead the effort to reduce adverse drug events. What a brilliant move! This automatically sent a message to everyone that the leaders are personally committed to reducing errors, and to use the jargon of venture capitalists, they put their own skin in the game.

Next, having identified very visible leadership, CareGroup hired consultants. But these consultants were not brought in to lead the effort while everyone else stood on the sidelines. Quite the contrary—these consultants were used to improve the ongoing process and to educate committees and individuals about statistical process improvement tools such as Pareto diagrams, flow charts, and so on. The consultants became internal educators, cheerleaders, and knowledge mentors, instead of leading the process. For example, they had educational sessions on the Plan Do Study and Act (PDSA) cycles, so crucial to the work of small teams devoted to reducing medical errors.

The teams focused on the dispensing and administration of drugs, rather than on the more complex arena of appropriate drug ordering by clinicians. They kept an internal scorecard and fostered healthy competition among the six member hospitals. The groups met regularly to assess their progress, both internally and in relation to one another. This healthy internal competition stimulated additional ideas and operational improvements. Although physician membership on the teams was encouraged, it did not become the rate-limiting reaction, slowing down all of the activities. In other words, if some physicians were not involved, the committees pushed ahead with their agenda, hoping that the physicians would eventually voice interest and participate directly.

The scorecard that CareGroup used was based, in part, on the aforementioned work of the Massachusetts Hospital Association and IHI. These best practices are not rocket science and include such practical ideas as creating chemotherapy protocols and preprinted orders, weight-based heparin protocols, unit dosing, having pharmacists appear on clinical rounds, and non-punitive error reporting. Each institution was encouraged to measure itself against this scorecard internally and then to share its results with the other constituents of CareGroup.

The system goal was to adopt and spread the first set of 16 best practices across the entire network within one year, rather than specifying a numerical reduction in adverse drug events. I believe this is the key aspect of the early success of this program. Rather than spending months arguing about what constitutes a medical error or how one can reduce it, the six institutions accepted the fact that these 16 best practices, when implemented, would improve performance. Early results indicate that, although incomplete, the adoption of the best practices increased 10-fold from six to 60 across the institutions in just 21 months. No extra capital outlays were necessary for the implementation of these improvement techniques.

The article goes on to describe several case reports in detail. These reports sound eerily familiar to me, and I am sure they will to our readers as well. For example, the case reports focused on faster therapeutic anticoagulation for patients receiving heparin, and the improvements in sharing information with the patients about their medications.

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One case report also looked at improved processing of the morning backlog in dispensing medications in the pharmacy. I won’t give more details about these reports, as they are available from the participants themselves.

Was CareGroup ever able to engage the physicians in this process? The answer is a guarded yes, and follows classical teaching; that is, CareGroup used several key clinical leaders or physician cheer-leaders to encourage other physicians to participate in the process. They reimbursed the physicians for their time spent on this endeavor, and publicized their early advances rapidly and thoroughly throughout their system.

CareGroup is enthusiastic about the future of this effort, and they anticipate continued progress for five principal reasons: 1) their teams have acquired new skills using tools like PDSA; 2) they are more facile with and less fearful of the whole process of measuring for improvement; 3) the early positive effects have remained in force for two years without additional committee work; 4) the reporting of near-misses has been validated and is now being spread throughout their system; and 5) their aggressive timetable to implement technological changes is continuing unabated.

I would certainly encourage every integrated delivery system to make a CEO-level commitment to improving medication safety, but as we all know, it is not sufficient for leaders to declare that change must occur and then walk away without participating in the hard work of implementation. We still don’t have all of the necessary incentives to garner greater physician participation, but we are learning how to make it happen.

I applaud CareGroup for its very public declaration of its desire to become among the safest systems in the U.S. I just hope that the rest of us do not stay on the sidelines watching them run across the playing field while we cheer them on. It’s time for all of us to put more skin into the game! As always, I am interested in your views. You can contact me at my email address: david.nash@mail.tju.edu.

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