

## ***On a Mission to Improve CPOE Safety: A Conversation with Dr. Gordon Schiff***

**From John Novack, Clinical Café coordinator:** *Clinical Café is pleased to announce the second in a series of conversations with newsmakers in the field of patient safety and quality. I spoke recently with [Gordon Schiff, MD](#), recently on the eve of the official start of a research project led by Schiff's organization, the [Center for Patient Safety Research and Practice](#). The National Patient Safety Foundation (NPSF) awarded a highly competitive research grant to the Center to research errors reported as being associated with computerized prescriber order entry (CPOE). [Quantros](#), which manages the [MEDMARX](#) medication adverse event database, will partner with the Center on the year-long project.*



*The Center is the premier convener of patient safety scientists and investigators from academia, government, industry and healthcare. Based at Boston's Brigham and Women's Hospital and Harvard Medical School, the Center is a multi-institutional organization that works to improve the overall quality of healthcare through scientifically proven systems, methods and practices. The Center is led by Executive Director David Westfall Bates, MD, MSc, Schiff, and Project Director Carol Keohane, RN. Schiff and Bates recently published a column in the New England Journal of Medicine, [Can Electronic Clinical Documentation Help Prevent Diagnostic Errors?](#)*

*What follows is an edited transcript of my recent conversation with Schiff:*

Q: What is the primary objective of this research project?

A: The overriding goal is to take the technology that has been proven to improve medication safety and see what the potential problems are. Once we identify the problems we then want to uproot them in the best possible ways. Another very important goal is to learn from the experiences of people out on the front lines who are using CPOE systems to hear from that about what are some of the problems they are experiencing, so that their efforts in reporting, which is a very important part of our patient safety infrastructure, are tied in with aggregating data and analyzing that data.

Q: As a researcher, it must be frustrating when you see data collected from the field not leveraged for the greatest impact.

A: I actually would speak from the more the perspective as being part of the patient safety community in saying that there are so many people who care so deeply about improving care and it would be a shame if their energies are squandered in the least. Their efforts need to be fully leveraged and optimized in terms of listening hard and deeply from what people on the front lines are reporting. As a researcher, MEDMARX is a very valuable database and there are important lessons and statistical correlations and new knowledge buried in this data that we hope to uncover in doing this analysis. We owe it to the people who took the time to document these problems, and learn everything we can from them, not to mention

the patients who have experienced problems. We owe it to them to make sure that future patients don't experience similar problems.

Q: Are many physicians resistant to CPOE because of fears of medical errors, or is that an outdated notion?

A: We've certainly moved from the era from physicians being characterized as being stubborn and backward-thinking, and they need to be dragged kicking and screaming into the modern era. I think that view really was and is inaccurate on many levels. First of all, we have a new generation of physicians who have been using computers almost since they were in the crib. But even older doctors are using hand-held devices, and iPhones, and Google, and email. So I think the whole idea of physician resistance in general to new technology is not a very accurate characterization of the barriers.

Q: So what are the more significant and legitimate barriers?

A: One is the usability of these different CPOE products. Some of these error reports are going to give us insight into usability issues. Many of the systems could be much simpler, with many fewer mouse clicks, and should be a lot more efficient. Usability issues can create frustrations for physicians leading them to feel that it's not worth moving over to those systems. We hope that by identifying some of those problems that we can actually improve the usability and ultimately the acceptability of these systems for those putting information in and extracting data, including prescriptions, out

Q. Is your focus solely on physicians?

A. I suspect we're not just going to find reports related to physician order entry problems, even though that's the category we're focusing on. In these reports we will also hear from pharmacists and nurses and other people who enter medication orders as well and who contributed to some of these reports. I think that by shining a spotlight on some of these problems will create more accountability at all levels, especially for more accountability from the commercial vendors.

Q: And other barriers to widespread adoption?

A: A lack of standardization. People are looking at different screens, screen that look differently from one system to the next, and people get confused. We have to move toward more standardized systems, rather than the proliferation of the different look and feel and behavior of systems. It's been one of the factors that have held people back from purchasing these systems, that they feel there are way too many different systems out there to choose from, and they're all different, so it's hard to commit yourself to one versus another.

Q: So in those cases the outcome is that there's no selection of any CPOE system.

A: Yes, I'd say that they take a wait and see attitude, which may or may not be wise. After all every day there are patients whose prescriptions are being written on paper whose safety might be compromised. Hopefully, this research can help accelerate making the software better and more usable and attractive.

Q: You have a prior history with MEDMARX, right?

A: I was involved in the initial conceptualization of MEDMARX as a volunteer with USP and a member of their Drug Information Division Executive Committee during the period of the initial development of this pioneering reporting system. So for me personally, this is gratifying. It's like we planted seeds a decade ago, and now it's going to be very nice to harvest some of the fruits.

Q: Can you talk in more specifics about how your research will unfold?

A: We're going to take each of these reports and study it in detail. We will then try to create generic cases and test the vulnerability of different software products that are out there to these reported errors. Thus we're not coming up with theoretic errors, that there's a possibility that this may cause that. Rather we're testing actual documented cases where somebody put in oxycodone rather than oxybutynin. Of course, one is a drug for urinary incontinence and the other is narcotic analgesic. If somebody pulls these down from a pull-down menu and it's easy to just flip your finger on the wrong one, that's obviously a serious issue. Thus we're going actually go out and kick the tires of all these different systems to see how vulnerable they are to these reported errors. We will use both experienced users as well as with ordinary users. Thus that is phase two of the research testing the reported types of errors against real, current systems. Hopefully we'll learn some lessons from there as well. It's probably the case in a lot of these issues there is a large amount of variability. It depends on the implementation, the particular product, the particular hospital. So we'll be working to identify the more general lessons on which we can make recommendations and give feedback to improve the software and the way that people use the products.

Q. Where do you see your project fitting in terms of patient safety research since around the time of the [first IOM report](#)?

A. There has been considerable effort put into patient safety reporting in the first decade of the patient safety movement. Some people feel we put too much effort into that, some people felt we didn't put enough effort into reporting. In either case, I believe we've come a long way in creating a culture where people, instead of hiding errors and being afraid to report errors, to a culture where it is the expectation that that information is shared as widely as possible. We know that many of the errors still go unreported and we want to make it as easy as possible as for those errors that do get reported to be shared as widely as possible with as much with as much in depth learning as possible. This means that reporting is not just as an exercise to satisfy some regulatory requirement, but rather becomes a meaningful part of practicing medicine and being a part of a community that is making healthcare safer all the time.

*(Endnote: Watch for the next installment in the series of Clinical Café conversations with patient safety and quality leaders. If you'd like to suggest someone we should interview, or a topic we should cover, email me at [jnovack@quantros.com](mailto:jnovack@quantros.com). If you're not a member of Clinical Café, go to [www.clinicalcafe.com/register](http://www.clinicalcafe.com/register).)*