Hospital Secure Messaging:
7 Lessons Learned

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island health

As I was going through the metal detector at the airport, I tossed my pager in the bin. The security official looked at me and said, "You work in healthcare, don't you?"

I asked, "Why do you say that?"

She said, "No one else uses pagers except for people in healthcare."

Her comment struck me; I thought, Wow. She is totally right.

This seemingly small exchange back in 2008 turned out to be the stimulus that pushed us down the path of transforming the way clinicians and pharmacists communicate at Island Health.

The Need: Effective Communication for Quality Care

At Island Health, our pharmacists are in both high demand and short supply. It was frustrating for me when a staff pharmacist would page a physician and then have to wait by a landline – a corded phone – for a return call.

The pharmacist would always be waiting a long while. This is because physicians are busy, and there was no way for the physician to know the urgency of the page. At some point the pharmacist would turn to a unit clerk or someone else and say, "Hey, when Dr. ABC calls back, can you tell them about this important drug issue we have with this patient."

I thought this whole indirect approach to communicating such critical information was inappropriate and could be detrimental to the quality and safety of patient care.

## Applying Scientific Rigor to Solving Communication

We set out to study the effect of integrated smartphone communication technology on the efficiency of communication between hospital clinicians. The technology we chose was the Vocera Collaboration Suite application, and our hypothesis was that implementing this technology would improve patient care.

We conducted a trial and study, which demonstrated that smartphones reduced the time required for pharmacists to answer drug information questions and improved pharmacists' confidence and ability to resolve drug therapy problems.

I'm a pharmacist. All my training has been in clinical trial design and evaluation. Everything I do in my clinical world is based on literature. All the literature on which I make my therapeutic decisions is based on drug A versus drug B. If I'm going to order drug A, I always ask myself first, what are the benefits and what are the harms of drug A over drug B? It was not obvious to me that this approach was common practice in the technology world.

I felt there would be a better, longer-standing impact and ability to extend and expand the smartphone program if we were to have objective data behind the implementation and not just say, "We really like it. It feels good."

As we moved into this study, we realized Island Health staff were using a variety of different technologies including personal and corporate smartphones, pagers, and hands-free Vocera Badges. Pagers were becoming obsolete. We also discovered an absence of a master directory of Island Health employees' mobile devices. This meant that if you called, texted, or paged a physician working with a patient, only your phone number would show up on the physician's phone's display. The physician wouldn't know who was contacting them or the urgency.
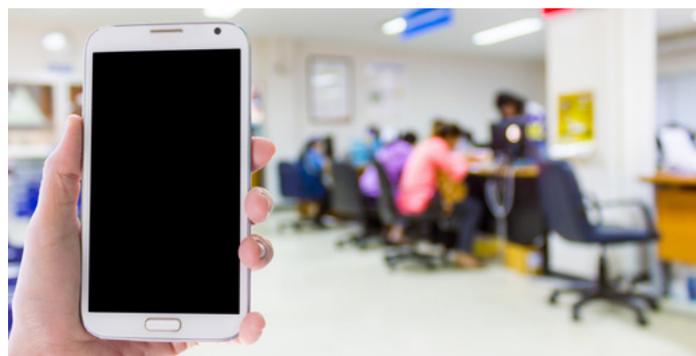
Enlisting Executive Support and Peer Engagement

The study was a strong collaboration between Island Health Pharmacy Services and our Information Management and Information Technology (IMIT) department; hospital physicians here in Victoria, Canada; as well as our senior executive with Island Health.

Our project leads envisioned that collaboration between the clinicians and IMIT would be a key to the success of this project. We secured IMIT endorsement before proceeding, and they delivered intensive support to implement the technology.

I'm not aware of a collaborative approach where you have pharmacists, physicians, nurses, and switch board operators all working together on a common project to improve patient care. We studied all those people in their real practice settings; we didn't give them a falsified world, we didn't give them smartphones to use just for the project. We built the system with the Vocera team to support them in their current practice. For the most part, 98% of the physicians use their own personal smartphones. We wanted to develop a system for their own personal smartphones because that's what they do in the real world.

In order to do a project of this scale, it's essential to have executive support and buy in. When you look at engaging physicians, it's essential to have at least one key stakeholder, and we had 10 of them for this relatively small trial. I could go directly to these key stakeholders, who are department leaders. When we had challenges or barriers or issues come up, I could go to them for support.

Next Steps: Bridging Gaps Between Family Doctors and Hospital Physicians

We're using Vocera Collaboration Suite in our next project, which is in the early pilot phases right now. We're trying to bridge the gap between family doctors in the community and hospital-based clinicians, as patients transition between the community and the hospital, and from the hospital back to the community. The project will involve 250 to 300 people including physicians, pharmacists and switchboard operators.

We're looking at quality-adjusted work hours for the clinicians. If we can give them back X amount of time in their day through more efficient communication, what does that mean? Is it quality time? Can they do something meaningful with the time? We've developed a scale to evaluate if this technology allows clinicians to get back quality meaningful time, as opposed to just a few seconds.

We've launched the pre-pilot with about 30 people. We're regularly interacting with them to ask questions like, "How is this working for you? What do you need? Do you need to know this? Do you need to know that?"

We're developing frequently asked questions, we're going to develop videos, and then we're going to launch and evaluate how the product performs.
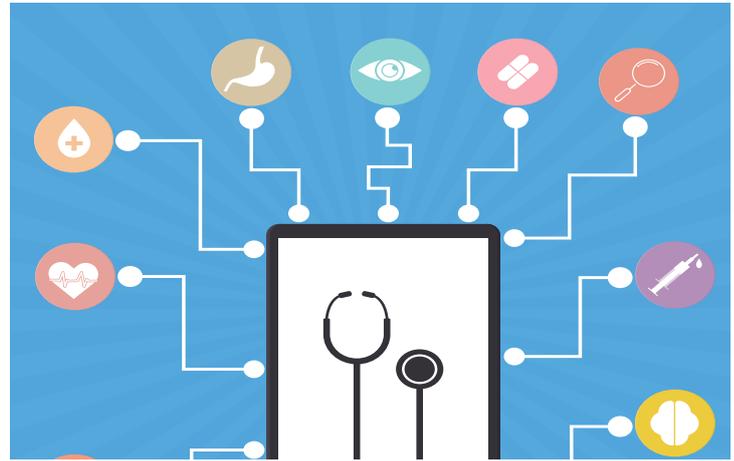
Introducing New Technologies – Lessons Learned

1 Use formal project protocol: It's essential to do a formal evaluation with a formal project protocol. Our project improved dramatically by going through a research and ethics board for approval.

2 Use scientific rigor: Once the project was underway, we realized we had to tweak our implementation in the ICU. For example, every nurse had their own sign-on. We ended up changing to a generic login for the whole ICU so everybody could communicate together. This underscores the value of scientific rigor; factors you don't think about come out when you implement using a formal process.

3 Involve key stakeholders: If you expect that you're going to have barriers or issues arise, it is important to involve and engage key stakeholders so you can rely on them to get through the issues.

4 Start small, keep it simple: For the new pilot project we're working on, we've heard loud and clear that we need to keep it simple and look at just a texting solution to get the physicians engaged in the project. Once they're engaged in the project and comfortable using the technology, we can look at the wealth of other available options.

5 Choose intuitive technology, and educate: Teaching and education are essential. People don't read long documents; having a two minute video to clearly walk them through how to set up and use the app is more user-friendly. I'm a firm believer that an app should be very intuitive, but there are some key things physicians and clinicians and users need to be aware of.

6 Measure, measure, measure: If we make a change during a pilot project, we can really see what it means because we measure it.

7 Publish and share: Publish the results in a peer review journal so others can learn from the experience. Welcome opportunities to present your research elsewhere, so others can learn from it.

To learn more, watch the Health Employers Association of British Columbia's video about the project.

Dr. Sean Spina is speaking at 9.30am on 13 Nov at the UAE eHealth Week on Improving Clinical Communications and Workflows. Visit our event website for more information now.

References

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