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Electronic Health Record Adoption: Seven Critical Success Factors

While some countries are moving faster than others, the need for a regional or national electronic health record (EHR) — a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting — is something that governments and healthcare IT groups around the world are all talking about. But there are some real barriers to achieving success.

The key barrier that I see is successful adoption by clinicians and healthcare providers. If you look at EHR systems, and at electronic patient record (EPR) systems that capture patient data during an encounter at a care delivery organisation, around the world there are not the number of healthcare providers using the systems that we would like — and system users are more likely to be administrative staff than clinicians.

I recently visited a large project suffering from this exact problem. The reasons seem to be twofold: systems do not present information in an intuitive and useful way. And the project sponsors fail to get the message across to their users about the extensive benefits of the EHR — so, buy-in is not achieved.

The reality is that clinicians are reluctant to adopt technology unless they see a benefit to themselves and to their patients and, equally important, unless the technology is easy to use.

But there are also other critical success factors. Based on my own experiences I have identified seven key factors, which I believe determine whether an EHR project will be successful or not.

1. Establish a vision and need

I have visited government officials in many countries who all say they want electronic records. The first thing I ask them is 'Why?' because not all governments have established a clear need and vision.

Successful EHR and EPR projects that have taken off quickly have this in common: a healthcare leader with a strong vision and an urgent need. It seems without this single factor, these systems tend to languish and not achieve their potential.

The West Metropolitan Health Service in Santiago, Chile is an example where the clinician that headed the local health ministry had a real vision and a real need: get primary care providers talking to acute care providers about medications. An EHR system was implemented there very quickly after we demonstrated that we could achieve this for him. It seems like a simple place to start, but the clinicians bought into the project from day one.

2. Provide strong leadership

In countries where governments are prepared to mandate

system use, EHRs and EPRs are also more likely to be successful. The fact is, where there is somebody at the top telling doctors it is obligatory to use the system, projects are more likely to succeed.

It's interesting to note that developing countries seem to be achieving higher rates of clinical adoption than so-called developed countries.

Bangkok Dusit Medical Services (BDMS), the largest private health provider in Thailand, has nearly universal clinical adoption. The Government of the Federal District (GDF) of Brasilia, the capital of Brazil, also has close to 100% clinical adoption in its 17 hospitals. Doctors at BDMS and GDF are all using the systems and receiving real benefits.

If you look at healthcare institutions in Western countries, they tend to look at replacing their patient administration systems first before thinking about clinical adoption. Their prime concern is administrative use of patient information after the clinical event. In Australia, clinicians seem to do e-prescribing and electronic lab test results, but there are fewer places where doctors are entering notes into clinical systems and doing detailed analysis.

Developing countries tend to be more dictatorial in their approach — and it seems to work. In Brasilia there was no question about whether people would use the system once it was mandated by the Secretary of Health. With BDMS in Thailand it was simply a condition of employment.

3. Electronic Patient Records must come before Electronic Health Records

EPR adoption is a necessary prerequisite for an EHR. You won't get the full value from a regional or national EHR — which brings key patient information together in a single view — if the information isn't being captured at the point-of-care (particularly primary care where the majority of patient data resides).

In the U.S., fewer than 20% of hospital information systems have clinical EPRs. The fact that most U.S. hospitals only have administrative systems, not clinical based systems, is a barrier to introducing EHRs. The Nordic countries, on the other hand, have nearly universal adoption at the clinical level. By leveraging existing EPRs in Sweden, we've just recently been able to get the first region up and running quickly with a meaningful EHR solution.

Although countries and regions are talking about widespread EHR solutions, they must first solve adoption of EPR in hospitals and primary care to realise the full value of an EHR. They have to get the doctors and patients on board and an important step is demonstrating the benefits and presenting the right information at the point of care, to make it easy for the doctor to use.

4. Offer benefits and incentives

EPR and EHR systems can only be successful when they achieve critical mass by getting enough doctors to use them. InterSystems has been a leading provider of innovative software solutions to the healthcare industry for the past 30 years and we are focused on helping make it more compelling for clinicians to want to use the systems.

Governments are struggling with this issue of adoption rates. In Italy, one of the regional governments decided the best way to get doctors to use a new EHR system was to pay them. Now, if they look up medications and prescribe them using the new system, they receive 2 to 3 Euros more than if they use the old paper-based system.

The State of Brasilia is another good example. Doctors now come up to me when I visit and are very enthusiastic, whereas initially they were hesitant. This is a common pattern as users move through the adoption process. You can be forced into doing something, but if you don't like it you just feel bullied. If you enjoy it, however — if there are real benefits — you become an enthusiast.

I believe the dictatorial approach is often necessary to overcome initial hesitancy. As it becomes a natural system to use and clinicians reap real benefits, they will want to continue using it.

5. Make it easy to use

Benefits and incentives are only part of the answer. The system also has to be intuitive and quick in order to deliver information to the doctor about a patient right in front of them. Typically,

this has not been the case with clinical systems where you more likely enter a clinical record and present it later. Unfortunately doctors just don't work that way.

Using IT has not been made easy for hospital clinicians. Currently, most doctors write notes on pieces of paper or call out information to a nurse or junior resident. The nurse or junior has to go to the nurse's workstation, enter the clinical information, place orders and do the medications. It is important to make this easier for clinicians, supporting their existing processes. They don't want to have to become transcribers to use a system.

Investments need to be made in things like being able to enter medications at the bedside. Part of the issue is the cost of bedside devices. Increasingly, however, professionals carry big screen mobile phones with wireless connections and connecting them to the system is one way to address that.

To make it easier it is necessary to set up different information views for different clinicians. A surgeon wants to see information presented in a different way than a cardiac physician or a psychiatrist. The most important data to a psychiatrist may be the last lot of lab tests and the medications, for example.

Achieving this requires agility — being able to tailor the system so it can present information in the best way to the person who is signed-on and using a particular device. In Sweden we are involved in an EHR project connecting all the regions and all the hospitals. One of the early comments we had from doctors was the importance of ease of use and fast access to data. As a result, we've set up a summary clinical record, which displays critical data rapidly to authorised users. From there, users can drill down with a preferred view.

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6. Use flexible deployment, not change management

Many commentators say we need better change management to encourage clinical adoption. But change management has largely been a costly service that hasn't always delivered the anticipated results. The issue is overcoming inertia and reluctance to change familiar practices. If you didn't have a dictator as the CEO, why wouldn't you just go about business as usual unless you could see real benefits in using a new system?

The healthcare architects working with me at InterSystems understand how to set things up for different groups of people so they will want to use the system. They are able to demonstrate the benefits and show users how they can achieve a lot more with simple setup and configuration and ease of use. I think this is a key factor to broad-based adoption.

Listening to doctors and healthcare providers as a group and understanding what their real needs are is vital. You can't do things by consensus in a hospital. If you had six doctors in a room they may want six different things. You need to have the ability, based on experience, to set it up as you think it should work. Then you can let clinicians use it and fine-tune it afterwards.

Healthcare information systems have been notoriously inflexible in the past, with system programming changes often required in order to change anything. InterSystems has set a new standard in this regard, empowering customers to readily configure their systems to best meet the evolving needs of their organisation.

7. Work in true partnership and trust

The last, possibly most critical success factor, is this: The flexible deployment model I have been talking about here is only possible when there is a true partnership and trust between the user and the supplier. That level of trust and long term perspective lets you achieve things that would otherwise be prohibitively expensive and risky.

For example, InterSystems can now set up a healthcare information system tailored for specific regions in the world as a foundation solution. These reflect best international practice and are then adapted to make them specific to a region or country. We recently set up a foundation solution in Northern Europe, for example. It uses standard TrakCare code, but set up to suit the local market. That enables rapid, lower risk deployment into different hospitals, which is readily tailored to meet the specific needs of individual institutions.

Flexibility is key to this approach, combined with a partnership to make it work. This is a very different approach to traditional change management. Flexible revenue models are also important in this market and that requires a long-term partnership perspective with aligned goals and objectives.

We have simplified the process by having a very adaptable system and working with local customers directly. The big difference is having a system built on a single database where you are able to see information across the entire system. That way, you only have to enter information once, or make a single configuration change, and it becomes available throughout the system. It becomes part of a unified solution, not part of an isolated module.

It used to be that the customer would always pay extra for those sorts of changes. We know from experience this is a recipe for failure. Instead, we have taken the expense of system changes away from the end-user and invested it into the system to make it intuitive, and easy to use, and adapt.

This way, you end up with a solution for a predictable cost. And that is something that governments like. There is complete predictability because there are no hidden costs or additional options. The clinical systems can be adapted for easy use by the clinicians without expensive changes.

Get these seven critical things right and it will drive adoption by clinicians and you will be well on your way to achieving a successful EHR system.

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