



St. Helens & Knowsley Hospitals chooses WellSky's Web-Based EPMA for Patient Safety & Digital Maturity

By Dr Francis Andrews, Former Assistant Medical Director & Former EPMA Project Chairman And Dr Andrew Hill, Clinical Lead for Stroke Services

Of all of the digitisation projects currently underway at St Helens and Knowsley Teaching Hospitals (STHK) NHS Trust, electronic prescribing and medicines administration (EPMA) is our biggest step forward for patient safety, ensuring the right drugs get to the right patient at the right time.

Reducing prescription errors

“ePrescribing can reduce the risk of significant errors in a properly implemented system by about 1/3 and that's the suggestion we're starting to see already” – Dr Andrew Hill, Clinical Lead for Stroke Services

St. Helens' commitment to prescription error reduction is especially important in the light of the recent study by the universities of York, Manchester and Sheffield which reports that in NHS England alone some 237 million medication errors occur every year, which, as former Health Secretary Jeremy Hunt estimated, accounts for between four and five deaths a day. He has referred to NHS plans to reduce these errors by 50%, but with EPMA we expect to be able to achieve an even higher rate.

Following is a brief overview of how we found, implemented and in under a year have already begun to achieve positive results by digitising medicines management. In April 2017, Whiston, our in-patient hospital, went live with WellSky's web-based EPMA, which was purchased under the NHS *Safer Hospitals, Safer Wards* technology funding scheme.

The system links with WellSky Pharmacy stock control module so that together the two systems create an end-to-end integrated medicines management platform that can interface with our System C PAS for order communications, admissions/discharge and other functionality. This digital environment enables us to quickly and easily share data across wards and other Trust sites and providing nurses and doctors with secure access to patient records while on the road.

Why WellSky? In addition to already having its pharmacy stock control system, we wanted an electronic prescribing solution with broad functionality, designed by domain specialists and already with a proven user base. And since at the time of selection we didn't already have an EPR we weren't restricted in our options and so were free to choose the EPMA market leader.

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One of our main priorities was a modern web-based system that was intuitive to use for mobile clinicians and would be easy to deploy, upgrade and interface with other applications as our digitisation programme evolves. With EPMA's web version, gone are local software reinstalls; updates are done from the IT centre with users accessing the system via URLs. Not only does this save a great deal of time, it ensures everyone is always using the same version. For remote users, internet data security is assured with firewalls and VPN access codes into the Trust server.

The digital transformation

“The new system is more efficient and quicker than the older versions that I’ve used previously” - Dr Andrew Hill, Clinical Lead for Stroke Services

When it came to introducing the EPMA system to clinicians, the web interface – which was designed on the basis of studies showing how users navigate screens – greatly simplified the training process. In my own case I went from paper to working electronically in 15 minutes. As for the nurses and other doctors, nothing would induce them to go back to paper. And following intensive one-on-one sessions to ensure they understood the system's functionality and how to use it effectively, the pharmacists too were won over, even though it meant a big change from the ways they were used to working.

In fact, the speed with which we overcame cultural and technology barriers was especially impressive considering the complexity of electronic prescribing which makes it one of the most difficult environments to change. To begin with, there is a vast array of medicines, protocols and dose bandings to be custom configured into the drug database, along with exception alerts for the drug allergies and the special sensitivities of individual patients. Given that a single error can be life threatening, this explains why medicines management has one of the lowest tolerances to error: It simply *has* to be safe.

Eliminating transcription mistakes

“On electronic systems you reduce the amount of hand-written transcription of medications; which significantly reduces the number of prescribing errors” – Dr Andrew Hill, Clinical Lead for Stroke Services

Like all hospitals, the Trust used to have problems with the wrong medicines being delivered to the wards because of the order's illegible handwriting. And while these were always spotted in time, it posed unnecessary risks. EPMA eliminates this risk along with the illegibility and transcription errors inherent in paper kardexes, not to mention the inconvenience of cards going astray.

Other safety features include decision support tools like best practice medicines and dosage defaults. By prescribing electronically, orders no longer go astray and drug administering schedules can be monitored and flagged up if a round is missed. And in cases when care is time critical, a change in prescription or

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dosage can be reviewed and amended remotely in real time. Taken together all this is having a major impact on error rates. Over the past four months, we've had a marked reduction in medicines incident logged by the Datix incident reporting system.

Saving Clinician time

“With paper kardexes people are rewriting them on admission and then roughly every 1 to 2 weeks as medication changes or as the kardex expires. On an electronic system, you don't have that.” – Dr Andrew Hill, Clinical Lead for Stroke Services

Eliminating paper is also saving us vast amounts of valuable clinician time, which in some cases is care critical. With EPMA we no longer have to wade through old kardexes to look up a patient's medication history, or even to work out which of the cards is even relevant. Instead, by logging into the system, a doctor can see a patient's complete real time prescription sheet on a single consolidated screen; they can determine when a particular drug was last administered and find out why it was stopped. And because all medicines data is captured and held in the database, on readmission to the hospital a patient's treatment history can be called up instantly. The RDS (RDS O01: Pharmacy/treatment dispense information) interface is now complete, which means EPMA data is downloaded to create discharge letters for the patient's GP. In the not unusual case where a patient may be taking in excess of 20 drugs, this not having to rekey all this information is significant both in time and accuracy.

Digitising our medicines management environment is also having a positive impact on operational and financial efficiencies, the extent of which will become increasingly apparent as all of Whiston's 37 wards and departments come on board later in the year. The wealth of data captured by the WellSky EPMA system is not only clinically rich but enables us to generate a wide range of reports and analyse both clinical and operational outcomes in a way previously not possible. With future EPMA rollouts planned for St. Helens Hospital, Outpatients and possible outreach into community hospitals, the project is both complex and far-reaching. So far, it has gone surprisingly smoothly. Long may it last.

Biographical note:

Dr. Francis Andrews worked as a Consultant in Critical Care and Emergency Medicine at St. Helens & Knowsley Hospitals for 14 years and has a keen interest in patient safety. As Assistant Medical Director, he also drove forward digital maturity in the organisation and was Board Chairman of the EPMA programme.

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