

Data liquidity drives health improvements

Amanda Green, General Manager for healthcare IT company Cerner Ireland, talks to eolas about how information technology can transform healthcare to improve patient outcomes.

Cerner acquired its first Irish customer – St James’s Hospital, Dublin in 2005 – when it won a contract to provide their electronic patient records system. It initially serviced the contract from its UK operation before opening its Irish office in November 2007. General Manager Amanda Green joined in March 2008.

The IDA client started the Dublin office with 12 people predominantly working on the localisation of software. Cerner is present in 24 countries and every market needs localisation in terms of language and customisation of the software to match the local health care system. The Dublin office initially provided support for customers in France, Spain and Germany.

In 2010, Cerner located its European support desk operations in the Dublin office and now 40 ‘associates’ undertake support desk and query handling tasks with each speaking two or three languages. In addition to supporting European customers the team provides out-of-hours support for customers in Latin America and the Far East. Cerner has expanded rapidly in Latin America and the Spanish and Portuguese language skills in the Dublin office have been in great demand.

Irish business

Since delivering the St James’s project, new IT investment within Ireland, has been limited with the exception of the National Integrated Medical Imaging System (NIMIS) project. Green says that the success of this project has “helped reduce the fear of IT programmes in Ireland and to help expel the memory of projects such as PPARS.”

The NIMIS project was overseen by Professor Neil O’Hare who is Director of Health Informatics at St James’s and has worked with Cerner on the patient records project. Green acknowledges that although there has been a lack of investment she sees a desire within Irish hospitals and our clinicians to better utilise IT in their work.

With the Irish market quiet, Green has led Cerner’s business development activities for the Nordic region out of the Dublin office. The healthcare technology company has been shortlisted in the final two suppliers on a large programme for health and social care transformation for Helsinki and its surrounding areas.

The programme will deliver a health and



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social care IT system for 30 hospitals and 50 health stations (primary care centres) for a population of 1.5 million.

“In Ireland, our fears are unfounded,” Green comments. “The use of IT in health and social care is fundamental elsewhere in the developed world. This fear, together with the lack of investment, has meant that IT here has very limited use in patient administration and some departmental systems like laboratory and radiology systems. We have very limited use of electronic clinical information. We need to get to a situation where we build an IT infrastructure so that information is shared when it is needed, with whoever needs it.”

Although Ireland has been “well behind the curve,” Green says that things are beginning to change. Cerner has been successful in recent projects including an EPR system for the HIV and sexual health clinic at St James’s which is the largest outpatient clinic in Ireland and is now entirely paperless.

Appointments are scheduled electronically. Previously, there were 80 different pieces of paper filled out including assessments, observations, follow-up notes, contact notes and referrals. Cerner worked with the clinic to produce electronic records, pathways and electronic prescribing and dispensing of medication.

“Although this is only a small pocket of digital technology, we were keen to show the potential.” The system has now been extended to use voice recognition. One doctor, Dr Gráinne Courtney, is dictating into the medical records directly, using handheld and mobile technology. The project has transformed the clinic’s workflow. Looking at the wider picture, Green believes that the HSE now has an opportunity to transform healthcare through the use of information technology and this has been reflected in the HSE’s recent Prior Information Notice.

“There is a realisation that we cannot keep throwing money at health and expect change, we have to do things differently. One of the areas is obviously IT. That in itself is not a panacea but with appropriate tools, developed with the involvement of all the stakeholders – doctors, nurses, hospital managers, administrators – we can make their work more efficient and improve outcomes. This is a huge opportunity to make a step change in health care in Ireland.”

It is not just about sick people either, but about managing the health of populations. Through wellness and public health initiatives such as managing people’s BMIs.

It is also critical to managing long-term conditions such as diabetes. Going

forward, the free flow of information will be central to the transformation of health and Cerner look to work with the healthcare sector in delivering that step change.

Cerner has recently been appointed to deliver a national clinical system programme for the HSE and is expanding its business and hiring locally

Green believes that the programme will make a significant impact “and quickly”. She remarks: “There are many case studies worldwide where benefits, ROI and improved patient outcomes are well known and information follows the patient wherever they may be – primary care, community care, in and out of hospital. Everyone has access to the current and most up-to-date information available.

“The ehealth Ireland strategy and some of the recent policy initiatives have to be underpinned – and cannot be implemented without information flowing, and information doesn’t flow freely on paper. It is about data liquidity. Wherever data is needed it should follow the patient.”

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Profile:
Amanda Green

Amanda Green has been General Manager, Cerner Ireland, for the past six years.

Amanda previously headed up Cerner’s UK Business Development and Sales. North London-born with a master’s degree in Computer Science, Amanda worked for 15 years for Xerox and in IT consultancy across several sectors before making a conscious switch to healthcare IT in 2000, “Healthcare is very personal, it is something that impacts on family and friends.”

Transforming healthcare: sepsis

eoilas talks to Aiden Malone, Senior Director, European Consulting for Cerner, about transforming healthcare and Cerner’s journey in helping apply technology to reduce deaths from sepsis.

Sepsis kills 37,000 people in the UK each year. “That is the same number of people that run the London marathon each year,” observes Aiden Malone, Cerner’s Senior Director of Consulting in London. Sepsis is basically the bodies overwhelming immune response to an infection. This can lead to decreased blood pressure reducing blood supply to the bodies vital organs that can eventually lead to multi organ failure and death. It is essential sepsis is diagnosed and treated quickly with fluids and antibiotics to save lives. As with all healthcare delivery, Malone emphasises that there are three elements to delivery; people, process and technology and all these elements must mesh together to deliver the right patient outcomes, particularly with urgent conditions that can be difficult to identify such as sepsis.

From the technology perspective, Cerner has developed an algorithm that combines a number of discrete elements that signal the early onset of sepsis: “As a clinician, sometimes it is difficult to spot the onset of sepsis. What the technology can do is combine the vital signs being taken by the nurse and combine them with results from the lab and flag up the onset of sepsis.”

Malone adds: “It is also about people, how and where they are working. In a lot of hospitals they are doing this on paper and in many cases it is after the fact. For the technology to be effective, you have

to focus on how they interact with it, so that the right information is put into the system at the right time.

Success

Some of the hospitals Cerner has worked with, such as Marina Salud in Dénia, Spain, are completely paperless, where staff interact with technology in real time and mortality rates from sepsis has reduced by 40 per cent. The work at Marina Salud started with the capture of information in the form of the electronic patient record “routinely and as easily as possible and in real time”.

“Once that information is in the system, you can build layers of intelligence above it to support decision-making by clinicians. The value is in helping clinicians by alerting them that a patient is deteriorating in condition. Traditionally, electronic records has been seen as a way to automate the process but we are now seeing it as a way of transforming care and using the data to impact patient outcomes.”

Why sepsis?

Cerner CEO and founder Neal Patterson started up the health care IT company in 1979. Neal has talked openly about losing his sister in law to sepsis several years ago.



While we know we can't bring back "Linda or other loved ones who have died from sepsis", he challenged the company to create state-of-the-art systems that help expose likely cases of sepsis to caregivers, with the goal of preventing the next needless death. He wanted us to make it systematic that events that harm people are exposed to the appropriate caregivers and eliminated. He asked us to implement the sepsis rescue agent in all our clients worldwide. Ireland has one of the highest levels of sepsis after abdominal surgery. OECD statistics published in 2013 for 2011 show 3,000 cases per 100,000 of sepsis after surgery which compares with a figure of 1,200 per 100,000 in the US.

Transformation

With the sepsis project, the technology implementation are "fairly straightforward, but it is dependent on the EPR being implemented and used in real time" says Malone. "It is the people and process aspects that are the challenge." He advocates paying attention to staff training and ensure that they have access to the right equipment. The governance and processes must also be aligned to ensure successful implementation of any project.

Healthcare projects have their own particular challenges. Malone's view is that the change process starts with the rationale why people change? "Because they are motivated and are able to change. That is the personal motivation. You also need to look at the social motivation which is more difficult and is about leadership and getting buy-in from the organisation's leaders. Many projects are led by IT rather than clinicians and it is fundamental that you get buy-in and engagement between both groups. This comes down to the detail of looking at things like messages and mentoring programmes around the project." Malone states: "There is also a structural aspect around the physical environment and how and where people do their work. Even simple things like getting to the patient's bedside with the equipment." Malone's career has changed to reflect the changing role of technology in transforming health care. His early

experience was in deploying traditional EPR "and what makes them successful is attention to the people and process side of things." With a background in LEAN Six Sigma, he is developing Cerner's methodology around technology deployment in processes such as medicines administration: "Most of my conversations are now around process rather than just technology." Looking to the future, he sees an increasing emphasis on population health "beyond the four walls of the hospital" with the next layers of development around information flows between community care, GPs and hospitals. Malone has worked on one major project in the UK around A&E workflows which he says is relevant in an Irish context. The project identified nine different improvement factors for A&E ranging from portering service, optimised orders set to optimising the triage process.



Aiden Malone

Dublin-born, Aiden Malone is Senior Director, European Consulting for Cerner Ltd, based in London. He started as an IT manager in the Dublin Dental Hospital before working for GE Healthcare, where he led Six Sigma lean projects. A graduate of Trinity College Dublin, he has an MSc in Health Informatics. In his seven years with Cerner, he has overseen several large scale healthcare transformation projects.