



Photo by WalkingMelbourne

## The Royal Melbourne Hospital: Embarking on a Digital Journey With an ECM System

**W**hen a specialty cancer hospital became part of the Parkville precinct that included the Royal Melbourne Hospital, leaders wanted to implement a common electronic medical record (EMR) system, a move that would enable the provider organisations to tap into the benefits associated with operating in a digital environment.

'We wanted to have all the information and patient records electronically available for the clinicians at the cancer hospital when it opened up', said Rhonda Carroll, former Director of Information and Performance at the Victoria, Australia-based facility.

Unfortunately, though, the Victorian government did not fund the EMR initiative at the time. Leaders, however, did not let this setback deflate their efforts. Instead, they decided to take it upon themselves to keep their digital journey moving forward. Even without the EMR funding, the organisation could strive to eliminate as much paper as possible, connect standalone electronic clinical databases, and position the hospital to be ready to move to a fully featured EMR in the future.

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## **More strategic digitalisation**

While the opening of the cancer centre provided additional motivation, the hospital had already been on the path toward digitalisation for a few years. Indeed, in an effort to eliminate paper, various departments—including pathology, radiology, cardiology, emergency, and others – had implemented electronic clinical databases. The problem: These systems all stood alone in silos, incapable of communicating with one another.

So, while the hospital had made quite a bit of information electronic, it wasn't realising the myriad benefits typically associated with digitalisation. Like many health care provider organisations that take a piecemeal approach, the hospital had experienced a great deal of information technology (IT) sprawl. Such sprawl occurs when various departments buy their own software applications (known as shadow IT); the IT department buys or builds niche applications for each business area without an overall strategy; or IT purchases technologies with overlapping functionalities, sometimes inadvertently.

'Information was sitting out there in all of these various clinical documentation systems. But we were still relying on staff members to actually print items out to get them into the medical records', Carroll explained. 'And, we were struggling to share the information'.

With these dispersed electronic databases, it was often difficult to locate and leverage needed information. 'We would get complaints because we could not find paper records. We had created a culture of records hoarding. So, if a clinician or staff member got their hands on a record, they would try to keep it rather than return it to the department. People would create stockpiles because they didn't know if they would get the records back', said Carroll.

Unfortunately, with such hoarding a commonplace occurrence, information would be tucked away in 'drawers and filing cabinets' and would not be shared. This would then have a negative effect on patient care as 'the surgeons wouldn't know what the physiotherapists were doing, for example', according to Carroll.

Hospital leaders, however, realised that they could overcome some of the challenges associated with information sprawl by adopting an enterprise content management (ECM) system to integrate, manage, and organise electronic information sourced from various databases and IT systems. With such a system in place, all content—incoming or outgoing—is funneled, cataloged, and stored in a centralised repository, irrespective of source device, location, or type of content.

Following funding approval and a review of ECM solutions from various vendors, the Hyland OnBase solution was selected in May 2015. The ECM solution was implemented across Melbourne Health and became the primary clinical record for completed patient activity in November of 2015. At that point, all clinical record documentation related to patient activity, including admitted episodes and non-admitted attendances such as specialist outpatient clinics, emergency department, community mental health, sub-acute non-admitted, and research clinical record notes, had been scanned into the patient's ECM clinical record.

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More specifically, the ECM created a foundation for electronic information by the following:

- Collecting and storing information that is sourced from paper, database extracts, system outputs, reports, faxes, and documents in shared folders
- Assigning metadata, including keywords, such as unique document handle, document type, and data and unit record number to each digitised document
- Combining data into a patient-centric view with the ability to filter by episode, document, and clinical unit
- Enabling users to tailor data views to their specific requirements
- Ensuring that clinical record content is available to all clinicians all the time

### **A bounty of benefits**

With the ECM in place, the hospital has created a foundation where ‘medical record content, from paper and an array of other media, is digitised and managed efficiently into a system that is capable of informing decision-making and improving workflows’, Carroll pointed out. And, while it might not provide what an EMR offers, Royal Melbourne is already realising a variety of benefits from the ECM.

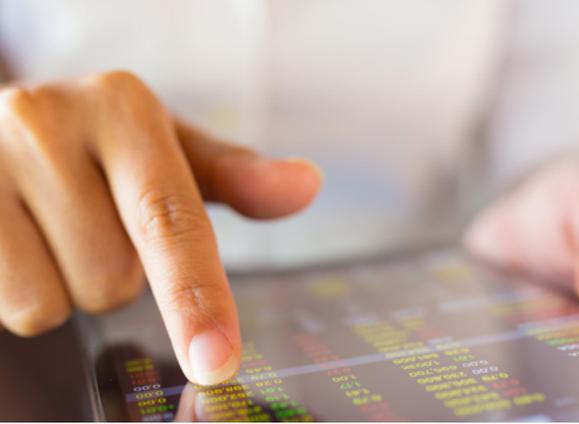
Clinicians, for instance, have access to a comprehensive view of previously scanned records; episode and coded information such as alerts and allergies from the patient administration system; result sets acquired from pathology, radiology, and a variety of other clinical systems; forms captured from faxes and emails; and information extracted directly from other databases. Perhaps most importantly, by providing access to patient-centric information through a web-based viewer that is available at the point of care, the ECM is making it possible for clinicians to easily leverage ‘clinical information when and where they need it’, according to Carroll.

This easy access to information is improving the quality of care delivered to patients. With patient information available during ‘clinic appointments, theatre bookings and emergency department presentations, the hospital is making it impossible to compromise patient care due to the simple fact that the paper history is not readily available or cannot be located’, Carroll said.

In addition to supporting point-of-care decisions, this electronic information provides clinicians with the ability to share clinical information with other health care providers. ‘There are four health services very close to our hospital. And, we need to be able to share the information within our records with these health services’, Carroll explained. ‘The ECM system has allowed us to give these institutions a view of our data. And, we would never really be able to handle that in our paper medical-charts world’.

The ECM also facilitates research efforts by offering access to patient information to multiple researchers if required while also providing a repository for research documentation.

What’s more, the ECM system makes it possible to convert paper-based workflows into more efficient electronic ones. For example, processes for managing referral receipt (via fax or paper letter), triage, prioritisation, and booking/waitlisting for an outpatient clinic appointment are now being performed more efficiently. In triage situations, for instance, the inbound referral fax is routed through a reception process and streamed to the appropriate triage team. What was



*A major obstacle to timely coding and case mix data is the need for coders to be able to access the single paper version of the patient medical record.*

once reliant upon people moving paper around from one clinician to another, is replaced by an automated online workflow that advances documentation to the next step and keeps track of the progress as each step is completed.

Request-for-information workflow has been greatly improved with the ECM system in place. One of the doctors in the community, for instance, wrote a letter to the hospital thanking it for the 'unbelievably quick and efficient delivery of the requested information', according to Carroll. 'When we were in the paper world, we used to get regular complaints because we couldn't respond quickly'.

This increased efficiency also is making it easier to operate the health information services department at Royal Melbourne. 'We had a 24-7 department when we operated in the paper world because we had to have people retrieve records whenever they were needed. But now we have been able to cut shifts because it is possible to simply retrieve the information electronically', Carroll said. 'We no longer need to have a night shift in health information services to serve our ED department because the ED staff can just retrieve the information electronically'.

The hospital is expected to experience a reduction of clerical staff by approximately one-third –or 19 full-time equivalents. In addition, with digitalisation occurring within 24 to 48 hours of discharge, and with the establishment of appropriate automated workflows, coding can now be completed in a timely manner. As such, the hospital is improving cash flow, as this improvement helps to accelerate the revenue cycle.

In addition, because information is available electronically through a web browser, some of the hospital's coding staff are now working at home. 'It cuts down on the traveling time, and they are actually more productive when working from home', Carroll pointed out.

Perhaps most importantly, the implementation of the ECM has prepared Royal Melbourne for the next steps on its digital journey. 'This has turned into so much more than just a stopgap solution for us. It's gotten everyone accustomed to using a computer to access information about patients and medical records', Carroll said. 'And, clinicians are realising all of the great clinical benefits that can be achieved by having a complete view of the patient's history. So, with the content management system in place, we are more ready than ever before to take the next steps in our digital journey'.



**About Hyland:**

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