Electronic Medical Records
Journey to a Paperless Environment

Organisation Name: Nelune Comprehensive Cancer Centre, Prince of Wales Hospital
Presenter(s): Brett Ly, Kathryn Broadley

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Key problem: Too much paper and information entry, transfer, sharing and extraction slow, need to get ready for new cancer centre

Aim of Innovation: Implement an electronic medical record successfully

Baseline data/Current situation: No eMR, once implemented, implemented only at moderate success, many functions lacking and not using the system to local capacities potential, post implementation -> morale low and decreasing

Changes implemented: Restructure of staff to form data and informatics team, less staff overall, but staff now coordinated to work through system support, requirements and projects together. Systematically reviewing workflow and what the eMR is capable of and revisiting or refining processes which have been left uncontrolled or abandoned. Increasing staff competency, good use of the system and thus the publicity and morale of the system. Using data extraction to guide future direction of the service, in preparation for the opening of the new cancer centre.

Achievements: Stage 6 of eMR adoption, 100% paperless treatment area, possible treatment options are standardised and evidence based, while allowing flexibility per individual doctor, satisfied patient level data requirements from onset of Department of Health’s reporting change.

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Key Problem

• Preparing for integrated administration Nelune Comprehensive Cancer Centre

• TOO MUCH PAPER! – 1500 patient files in 2013

• Medication/blood product errors

• Bookings system literally in a book: errors, slow and inefficient

• Only ABF group level data feasible
Aim of this innovation

• Reduce paper processes to improve efficiency of services, data extraction and reduce manual labour

• Improve patient medication and blood product safety

• Allow reporting of patient level ABF data

• To unlock potential workflow gains
Baseline data

Figure 1: eMR implementation Keshavjee et al. 2006
Baseline Data / Current Situation

• Uptake of MOSAIQ use varied greatly: from user to department
• Knowhow scattered
• Too many process variations causing confusion, low morale and less buy in
• Hybrid workflows and work arounds were allowed and entrenched - keeping paper processes
• Some lack of coordination of effort, project rollouts, administering support and how to use vendor support
<table>
<thead>
<tr>
<th>Paper/Old Process</th>
<th>Electronic Medical Record – MOSAIQ</th>
<th>Date Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper notes, letters, reports, referrals, assessments, appointment books</td>
<td>Electronic notes, documents, referrals, assessments, scheduling, data extracts</td>
<td>April 2011</td>
</tr>
<tr>
<td>Medication charts and accompanying documents</td>
<td>Electronic Medication Management (EMM)</td>
<td>October 2011</td>
</tr>
<tr>
<td>Manual drug allergy and interaction checking</td>
<td>Clinical decision support active</td>
<td>April 2013</td>
</tr>
<tr>
<td>Manual billing</td>
<td>Electronic billing</td>
<td>July 2013</td>
</tr>
<tr>
<td>Only group level data possible</td>
<td>Patient level data possible</td>
<td>July 2014</td>
</tr>
<tr>
<td>Nil</td>
<td>SMS patient reminder</td>
<td>January 2015</td>
</tr>
<tr>
<td>Appointment booking book</td>
<td>Electronic booking referrals</td>
<td>March 2015</td>
</tr>
<tr>
<td>Blood product prescribing and accompanying processes</td>
<td>Electronic blood product management</td>
<td>April 2015</td>
</tr>
</tbody>
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Key Change Implemented

• Once installed the system created new needs. As the needs grew, utilisation of the software needed to grow as well – not an easy process

• Reinforcement needed to be ongoing

• Forming a Data and Informatics team was vital to improving use of MOSAIQ: A structured process improved morale and publicity of the software

• Data extraction now much easier and occurs regularly
Outcomes so far

• Easier data extraction for
  • Research
  • Quality Improvement: e.g. clinic utilisation, bookings, acuity
  • Patient activity reporting: changed from summary level data to patient level data per Ministry of Health

• Workflow improvements
  • Billing accuracy
  • Save time and money
  • Faster records access
  • Shared handling
  • Less paper records handling
  • Electronic medications and blood products management
  • Patients receive an SMS reminder before appointment
Lessons Learnt

• Implementing an electronic medical record helps workflow, it’s a workflow tool first!
• Quality improvement is always ongoing
• Good morale and culture is invaluable
• Improving one area of system use or workflow leads to improvement in others
• Management and reconciliation of workflows and information systems: remove hybrids where possible
• Electronic medical records are crucial for dramatically improving our efficiency and services-
leads to possibilities previously unthought of
Contact for this Innovation

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