Factors influencing implementation of an Electronic Medical Record in a tertiary cancer centre

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Acknowledgement

Research Team

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Thank you
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**Multiple heterogenous data sources**

**Cerner eMR**: Data for MDT recommendations, surgery, nursing, follow-up and administration is entered into power-forms for simultaneous clinical documentation and database entry. This consists of structured text & mandatory fields for the collection of a minimum dataset. A central M-page displays a summary of key patient data and is used for guiding MDT discussion.

**Aria**: OMIS for radiation and medical oncology. Aria eChemo is currently being implemented over 2019.

**IPMS**: Hospital wide appointment booking system (however all med/rad onc clinic appointments are booked through Aria).

**Pathology (ICPMR)**: Original plans for the auto population of pathology data into the Cerner eMR was not successful and therefore data will also be extracted separately from pathology.

**Qualtrics**: PROMs survey data is collected using the DASS21 and BreastQ scales.

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**Data extracted into consolidated database**

**Breast Cancer Consolidated Database**
Currently hosted by WSLHD Business Analytics team within Westmead Hospital

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**Downstream utilisation of data**

Interactive and real-time use of data for quality improvement

- Clinical Decision Support Tool - Lymphoedema PoC
- Breast Cancer Quality of Care Dashboard
- Personalised Professional Development
- Rapid Research
Background

- EMR now ubiquitous.

- Benefits of using EMRs include:
  - Improved quality of care
  - Increasing data access
  - Facilitating collaboration across teams

- Challenges implementing EMRs include:
  - Technical barriers and feature issues
  - Increased/changed workload
  - Lack of ROI for clinicians
Methodology: Aim

– Surprisingly little research into EMR implementation – especially outside of primary care

– Aimed to address this gap by exploring the barriers and enablers to implementing an EMR in a tertiary setting

– Secondary aim to understand how the EMR influenced Multidisciplinary Team (MDT) interactions with their data.
Methodology: Study Setting

- Undertaken in a cancer center within a large metropolitan public hospital.

- Members of the clinical team collaborated with the vendor to develop an EMR to suit the teams data needs.

- EMR launched in November 2017
Methodology: Study Design

- Interviews conducted with administrative and clinical staff 4 weeks pre-implementation

- Observed the launch MDT meeting to understand the use of the EMR in practice

- Interviews 12 months post-implementation with clinical and administrative staff
Findings

– 12 months on staff had both positive and negative experiences with the EMR.
– Six categories emerged from the interview data:
  – Standardisation of documentation and completeness of data
  – Effect on workload
  – Feature completeness and functionality
  – Interaction with technical support
  – Learning curve
  – Buy-in from Staff
Standardisation of documentation and completeness of data

Now, because we have the recommendations put up on the screen in the MDTs, everybody can see and give their feedback at the time, so everybody's on the same page.
Effect on workload

It has a lot of drawbacks for administration work. At first I thought it is going to be very easy, but now looking at the EMR, we’ve got a little bit more to do at this stage, I think that a lot of little things need to be fixed on there
Lately supports have been good, but prior to that we didn't have a lot of support at all. So, we just had to kind of fumble our way through it.
They can't see the benefit of using the EMR still...they've been very slow to try and maybe get motivated to use it or try and resolve the issue. It’s all been from our end, pushing, pushing, pushing, trying to get them onboard with it. I think, once people start using it, then you start to see the benefits of using it and how quick it actually can make things quite efficient.
Challenges of EMRs

- EMRs have been widely adopted, but are still burdened by their legacy as administrative and billing tools.

- The EMRs we have today often don’t work well for clinicians and teams.

- Data flow is often one way, with very little visibility for individual clinicians and teams.
Where to next?

- Demonstrated return on investment
- Clinical Analytics and improved decision making
- Performance feedback and links to continuous learning
Near real-time data visualisation

Data extraction and linkage → Interactive dashboard → Team discussion and quality improvement

**Challenges to overcome**

Data access and automated extraction.
Determining scaffolding dashboards need to change behaviour.
Breast Cancer
Quality of Care
Dashboard
Performance feedback and education to reduce variation

Practice reviews

Performance review and benchmarking

Support meeting Clinical Governance Standard

Data sets

Guidelines

Personalized learning

Professional Performance Framework

NSQHS Standards

Medical Board of Australia
Conclusions

- Engaging health teams in the design and implementation of EMRs is a big step to improving them, but it is only the first step.

- To make EMRs work for clinicians we have to think bigger and come up with innovative solutions to make data actionable and accessible.

- Still many missed opportunities in EMR development and implementation