# The impact and usability of the eRIC system in the ICU - a qualitative study

Julie Li[1], Rae-Anne Hardie[1], Maria R Dahm[2], Andrew Georgiou[1]

[1]Centre for Health Systems and Safety Research, Macquarie University, Australia
[2]Institute for Communication in Health Care, Australian National University, Australia

@dxinformatics

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# Centre for Health Systems and Safety Research

# The Intensive Care Unit (ICU)

- Some of the most acutely ill patients in the hospital treated in the ICU

- ICU clinicians utilise over 1300 items of clinical information each day in the decision-making process

- The electronic Record for Intensive Care (eRIC) integrates patient data every minute from multiple systems
  - one of the most comprehensive system-wide ICU clinical information systems in the world

# Aim

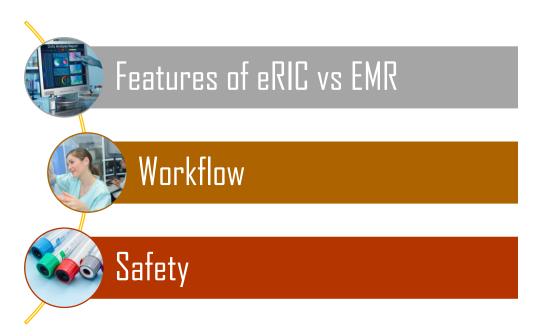To explore experiences with the use of eRIC by ICU clinicians at an Australian metropolitan teaching hospital.

# Methods

- Initial interviews 3 months post implementation

- Follow-up interviews 18 months post implementation

| ID | Role | Gender | Age |
|---|---|---|---|
| IA4 | Senior staff specialist | Female | 45-54 |
| IB4* | Resident | Female | 25-34 |
| IC4 | Senior nurse | Female | 25-34 |
| ID4 | Clinical information system manager | Female | 25-34 |
| IE4* | Registrar | Female | 25-34 |
| IF4 | Senior nurse | Female | 45-54 |
| IG4 | ICU Director | Male | 45-54 |
| IH4 | Staff specialist | Male | 45-54 |
| II4 | Staff specialist | Male | 35-44 |
| IJ4 | Registrar | Male | 25-34 |
| IK4 | Registrar | Female | 25-34 |
| IL4 | Fellow | Male | 35-44 |
| *Participants interviewed in both phases | | | |

# Results – System Features & Workflow

| System feature | PowerChart | eRIC |
|---|---|---|
| Display of pathology results | Reverse-chronological | Chronological |
| Flagging of pathology results | 3 levels of acuity | 2 levels of acuity |
| Display of microbiology results | By date of test request | By date/time of result availability |
| Navigation | • Simultaneous viewing of multiple pages/screens<br>• Faster screen load times | • Viewing of individual screens only<br>• Slower screen load times |

# Results – Follow-up 18 months post implementation

*"for the most part, we complained a lot about eRIC and then nothing seems to change."Registrar, 2019*

*"I wrote a detailed list of all the things that I thought needed to be changed for [eRIC] to be improved. [...] but I have largely given up on trying to make any meaningful improvements because to me it seems like they're not investing in improving eRIC, I would say"Registrar, 2019*

# Results - Safety

## Inability to view multiple screens concurrently

*"it increases transcription errors, because you can't see the [observations] at the same time as you're typing. You memorise them, or sometimes you make up what you think is correct and then you might forget to go back and change it if that was wrong"* Registrar, 2018

## More intuitive display of microbiology results

*"... what happens is it gets repeated, or a positive test gets missed. [...] when [...] another doctor comes along and says, "Oh, we need a vasculitic screen," and no one trawls through [PowerChart] to see it was done two weeks ago."* Staff Specialist, 2018

## Incomplete system

*"since the addition of two separate electronic ordering and reporting systems, the complexity and how fragmented and the possibility of error has just increased dramatically in my opinion [...] just having the wrong thing open in front of you or reading from left to right or right to left [...] we're using different systems that work differently."* ICU Fellow, 2019

# Conclusions

- Initial impressions of system unchanged at 18 months post implementation
  - Use of workarounds to compensate for inability to view multiple screens likely to continue

- Use of a combination of information systems presents challenges in terms of safety - simultaneous use of an *ICU-specific* patient record with a substantially different, *hospital-wide* record system potentially increases risk of error

- User feedback as part of a continuous monitoring and evaluation process will be valuable for informing implementation as the rollout of eRIC continues across the state.

# Thank You

Email: julie.li@mq.edu.au