Government of **Western Australia**
North Metropolitan Health Service
Women and Newborn Health Service

The Safety Dashboard

Using Business Intelligence tools to improve Medication Safety

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1 What are we trying to accomplish?

Background

Medication related problems are a major burden on health care systems. In the study hospital, clinical incidents including near misses are reported via the state-wide Clinical Incident Management System.

Aim

To develop and implement an interactive dashboard to enable comprehensive analysis of medication errors.

To encourage and enable organisation-wide reflective learning on medication incidents.

2 How did we do it?

Researching

(1) **Literature** - the effectiveness and limitations of an incident-reporting system. The implementation of a hospital incident-reporting system and analysis of the incidents led to an important reduction in the frequency of patient safety incidents.

(2) **Technical feasibility** – data source, data warehousing, the design and interface of incident reports by exploring products with similar functionality to find the best way to present the data and best way to engage the user.

Consultations

(1) **Peers and experts within Health WA** – Multiple discussions and advice were sought from peers and experts within WA Health to assess the feasibility for a live-interactive dashboard on medication-related CIMS. User testing occurred to ensure it met stakeholder specifications

(2) **Consumers -** consumer representatives and hospital Consumer Advisory Committee (CAC) to ensure patient-centred approach

3 What did we achieve?

Implementation

Building the dashboard – The health service Business Information and Performance Unit was engaged to develop the report. Once the most appropriate tool was identified, permission was sought from the data custodian to access the incident data. The dashboard was created and validated before it was released for user testing. Endorsement was sought from the Health Service for the implementation and promotion of the dashboard. The dashboard was well accepted because it is able to provide area-specific medication related problems in a timely manner (Fig 1& 2). The modularity of the dashboard allows a multilevel, cross discipline discussions on strategies to be implemented that will prevent or minimise future occurrences, and site-specific education strategies on the issues identified (Fig 3).

Culture change – The project team has put in tremendous effort in embedding the medication safety culture across the hospital. Poster (Fig 4) and short presentations promoting Speaking Up for Medication Safety were disseminated and presented to various areas to promote the right culture on medication incidents.

The medication safety dashboard is now used in various directorate meetings, clinical team meetings in different areas, with managers and staff to identify trends and high-risk medications in the specific area. This supports a shared dissemination, understanding, investigation and analysis of the medication error.

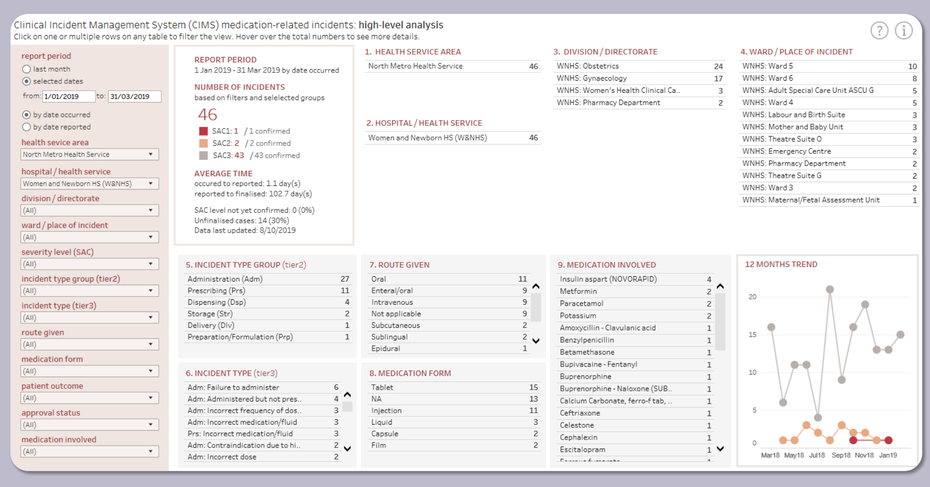

Fig 1. Medication incidents summary dashboard

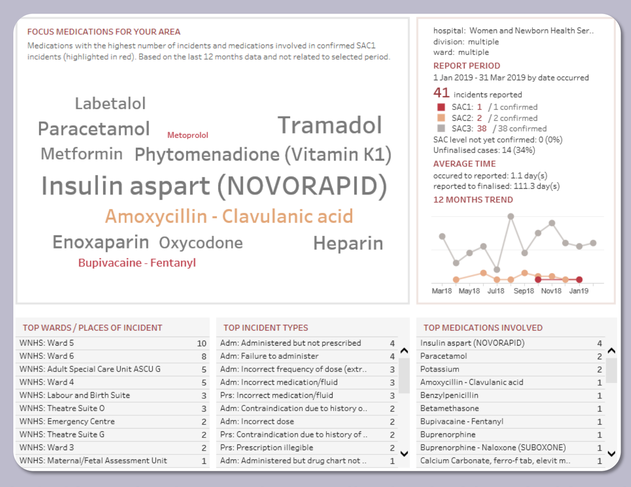

Fig 2. Obstetric&Gynaecology Medication incident dashboard

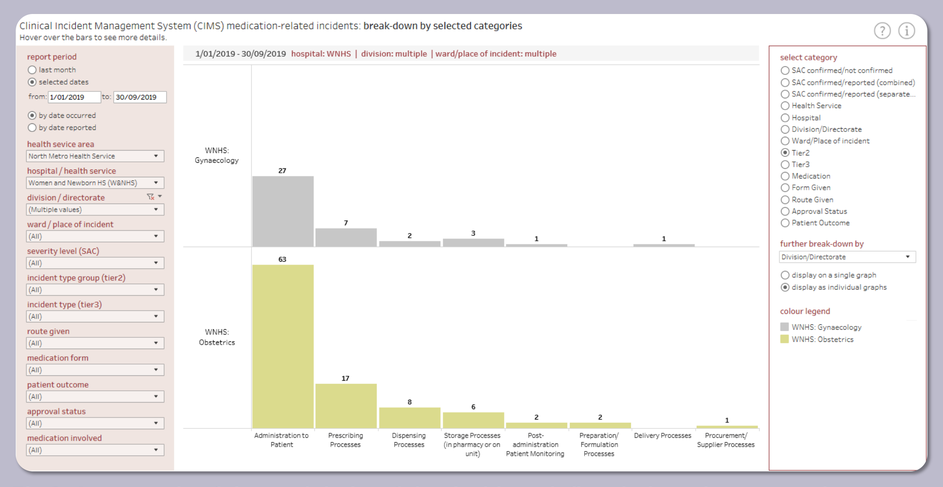

Fig 3. An example of the modularity of the dashboard (break-down by category)

Fig 4. Medication safety culture poster

Leadership in Medication Safety

Following the successful deployment in the hospital, the dashboard was deployed to other North Metropolitan Health Services (NMHS) sites as part of the organisations medication safety strategies. The work was presented at the WA Medication Safety Symposium in 2017, was well received by other peers across WA Health. The dashboard was recommended to be made available to across WA Health to improve medication safety. The Dashboard has been offered to other Health Service Providers and has been agreed to be made available within the organisation for East Metropolitan Health Services and Child and Adolescence Health Services. The dashboard is now made available to 10 public hospitals in Perth metropolitan area, in Western Australia.

4 Conclusion

The development of the interactive dashboard has enabled comprehensive analysis of medication errors to embed organisational culture change in the management of medication errors in a timely manner; it also encourages reflective learning with the right attitudes to improve safety when following an incident.

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