

Stronger together. A model for sharing health-risk data to prevent healthcare failure.

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Objective

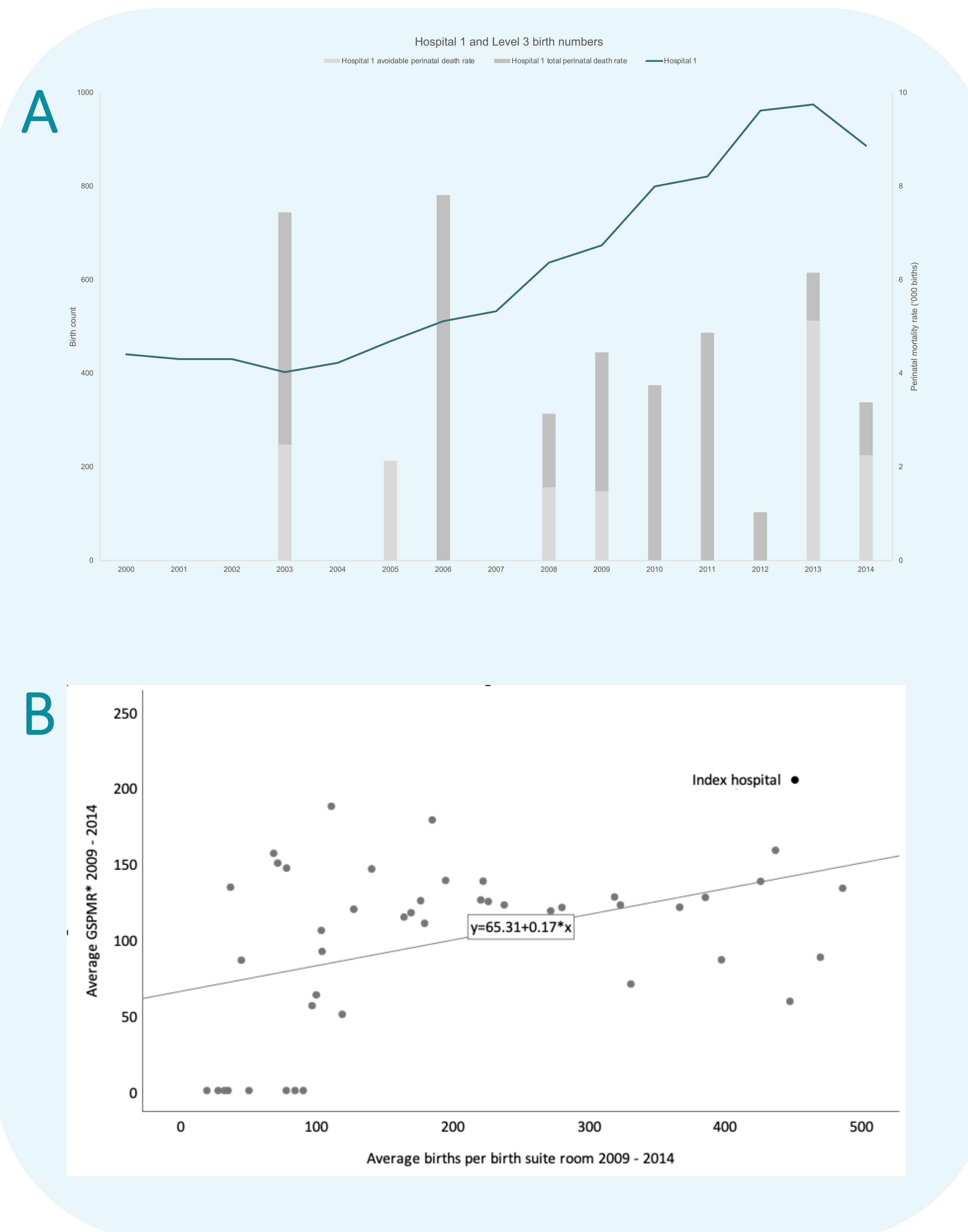
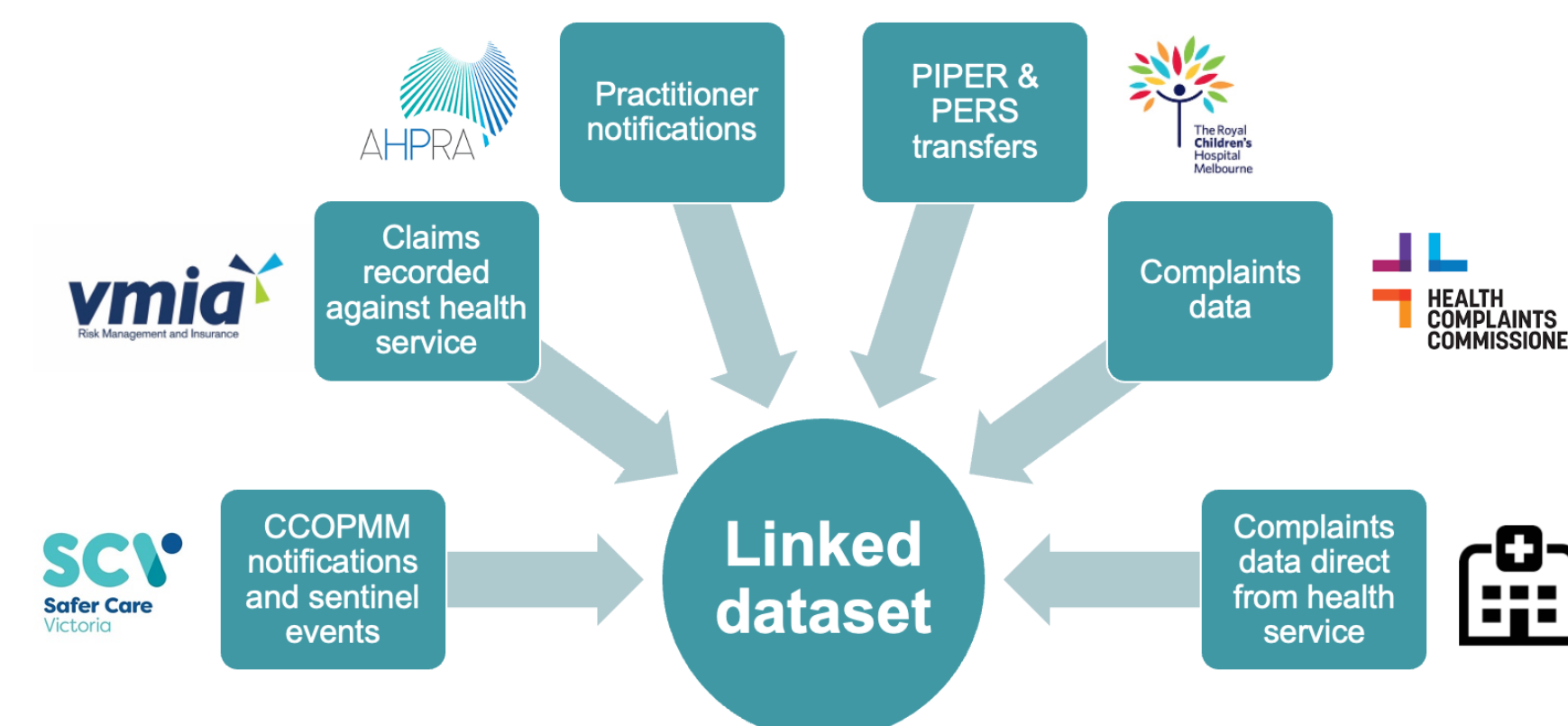
Recommendations from a recent report on quality and safety weaknesses in the Australian state of Victoria's hospital system highlighted that key agencies involved in healthcare provision share safety intelligence. For continued safety improvement at a system level, collaborative data sharing must be explored as a means of predicting safety breaches. Our target was to assess whether collating all available data feeds for this high-profile maternity service failure could have enabled earlier identification. This presentation aims to review the successes and challenges in developing a large data-sharing model to identify critical healthcare safety risks.

Design

Observational Descriptive Study

Methods

Quality and safety data were obtained from six organisations between 2000-16 and collated in a linked dataset. Annual event counts were assessed for legal claims and complaints. Annual event rates were calculated for emergency neonatal and perinatal transfers. Perinatal mortality was expressed as a rate. Birth numbers were expressed as a rate of births per birth suite room annually for all maternity units in the state.



Results

No clear trends were identified in either complaints type, medicolegal claims or AHPRA notifications. The rate of emergency transfers was significantly lower for the target hospital as compared to other hospitals of equivalent maternity capability. A positive relationship between birth volume and perinatal mortality rate was identified. The target hospital was also observed to experience significant and unsustainable growth in birth numbers as compared to other equivalent birth units. At the point of failure, the target hospital was delivering 487.5 births per birth suite room annually.

Figure Summary

Figure A: Index hospital annual births by year (line), preventable neonatal deaths (light grey), unpreventable neonatal deaths (dark grey)

Figure B: Scatterplot of average annual GSPMR from 2009 – 2014 and average annual births per birth room

Key Take Aways

The findings of this study provide clear safety surveillance targets for further research and evaluation and reinforce the fundamental need to match clinical volume with appropriate resources.

In addition to the surveillance targets we identified, the research team found that the process of developing shared data resources fostered a sense of trust between the participating agencies and created a model for information sharing that remains in use today.