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Gestational diabetes mellitus: Type 2 diabetes follow-up in the year after birth

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Introduction

- The Australian National Gestational Diabetes Register (NGDR) was established in July 2011. Part of its role is to facilitate follow up-screening for T2DM.

- Follow-up T2DM screening is recommended to mothers with GDM via letters from the register to the mothers and their GP's sent at 6 weeks and annually after baby birth

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Methods

- Privacy-preserving data linkage technologies were used to link and merge pathology test results, birth records, and the NGDR data for the Australian States of South Australia and Victoria for the period 2010-2013

- Population: Mothers diagnosed with GDM in 2010 and 2012 as determined from state birth records who have laboratory test data available who were registered on the NGDR.

- Before and After study design 2010 v's 2012:

  Pathology test results in the year following birth indicative of T2DM testing was compared for mothers with birth records in the years 2010 (before the register inception) and 2012 (after the register inception).

- Records of laboratory testing for **OGTT** and **GCT** were utilised as a measure of T2DM follow-up in our population.

- With incomplete lab data available for each state, we analysed the data for those with known test results at pathology laboratories versus those without.

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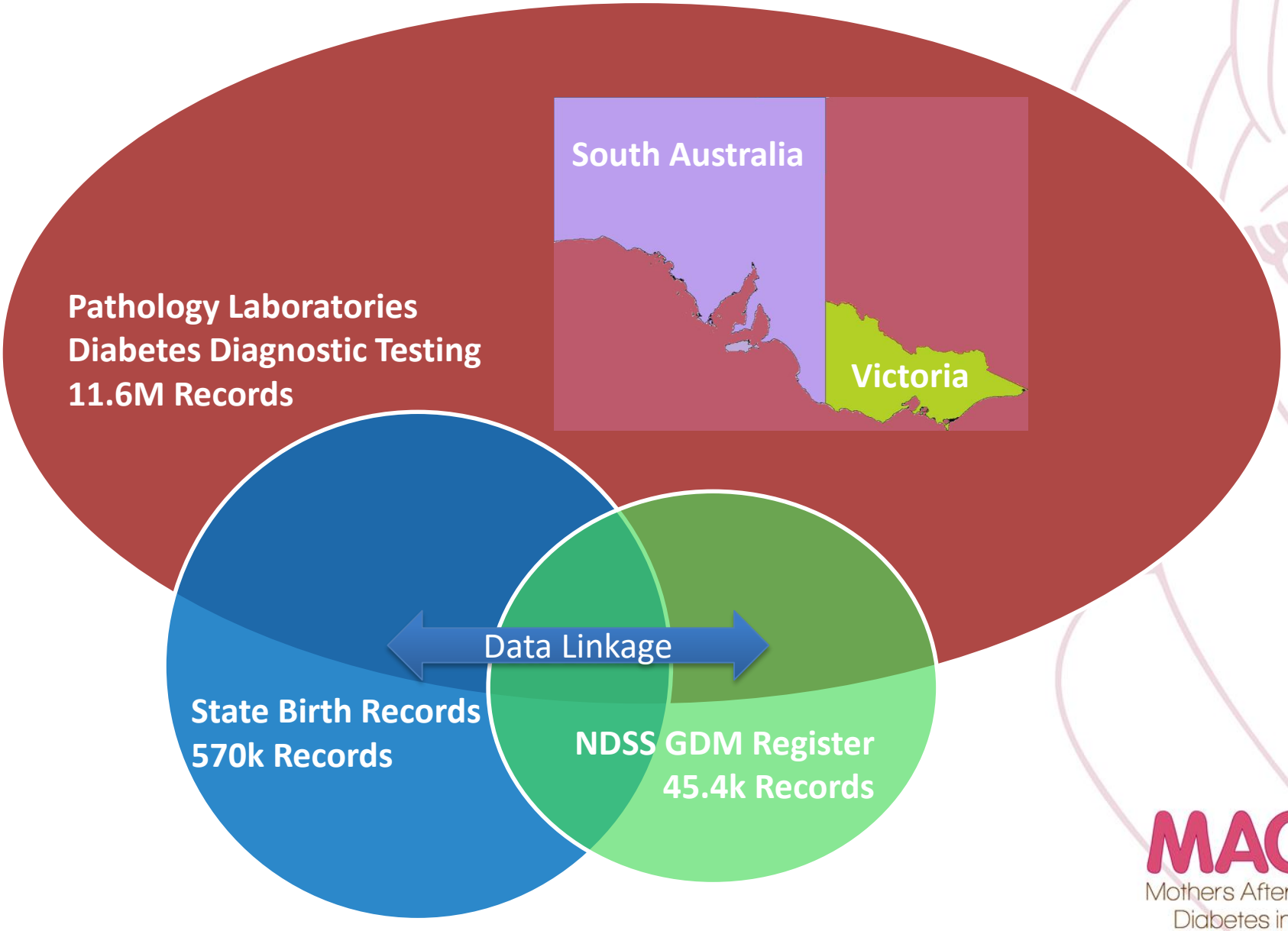
Data and Populations



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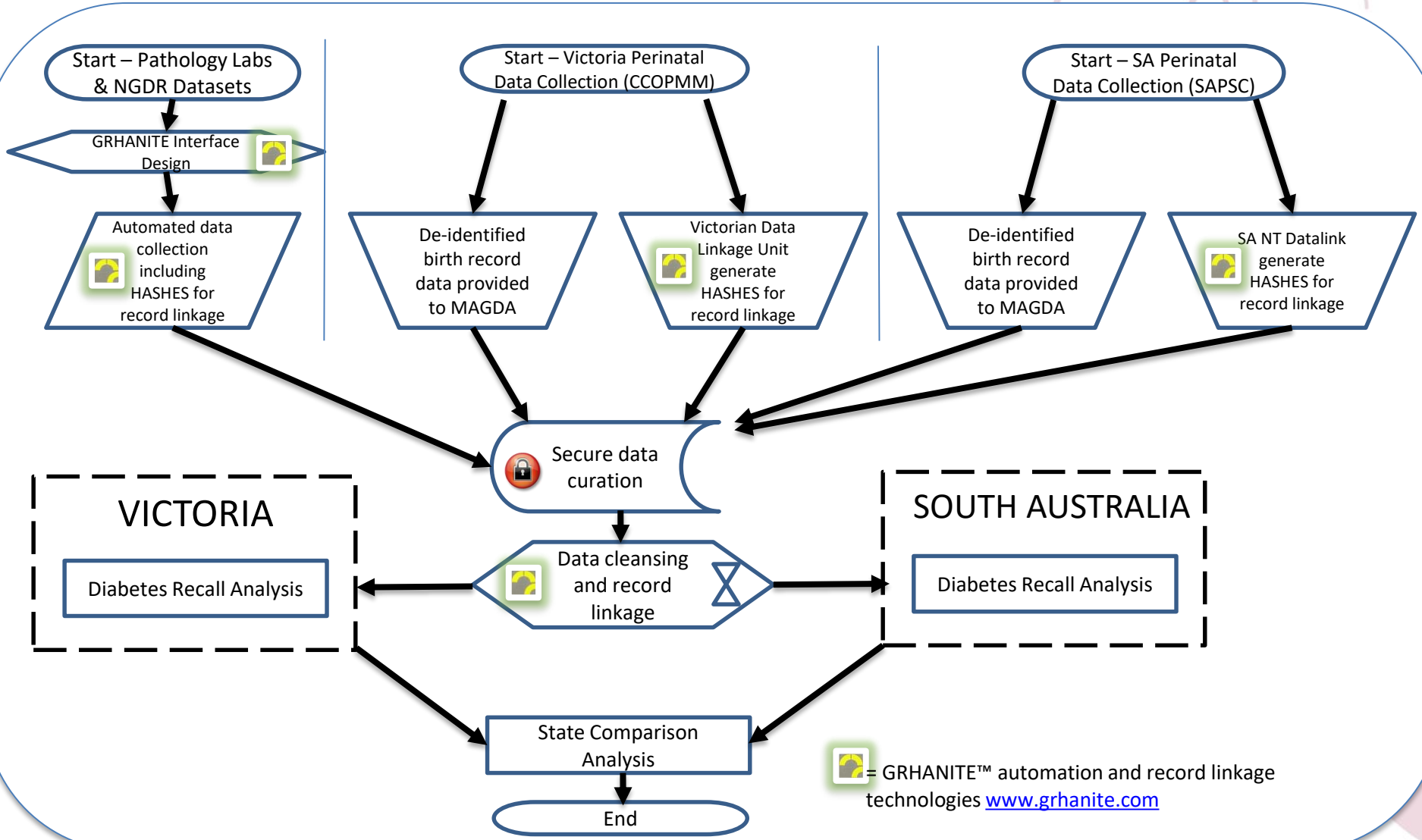
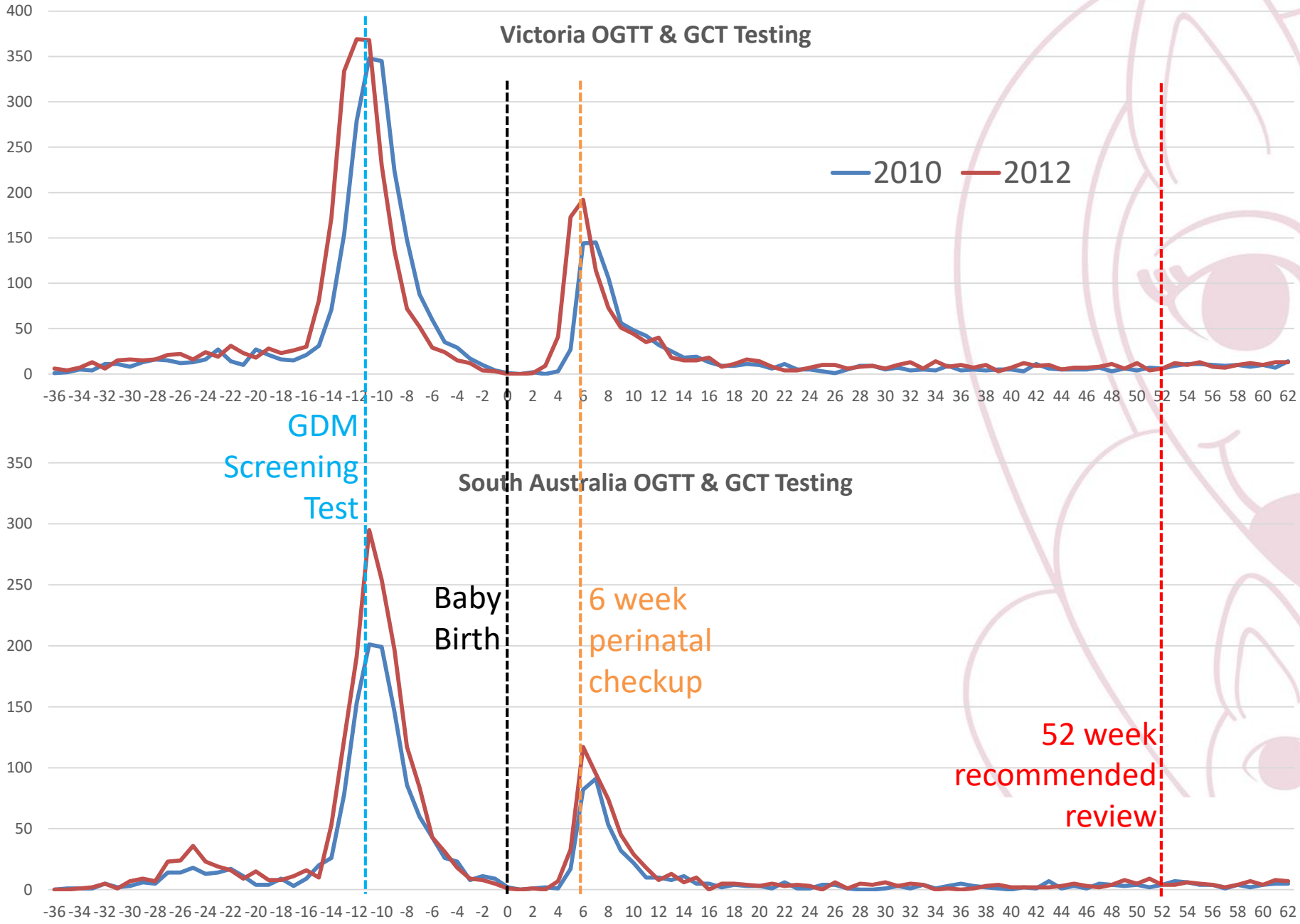
Data Linkage and Methodology



Results


Victoria OGTT & GCT Testing
2010
2012
GDM Screening Test
Baby Birth
6 week perinatal checkup
52 week recommended review
South Australia OGTT & GCT Testing

Results

		NGDR registration and diagnostic testing			Six week follow-up testing			52 week follow-up testing		
State	Year	Mothers with GDM who were enrolled on the register	Mothers on the register with GDM diagnostic record available	% with GDM diagnostic record available	Mothers with 6 week follow-up test recorded	% of all women with 6 week test	% with 6 week test who also had diagnostic record	Mothers with 52 week follow-up test recorded	% of all women with 52 week test	% of all women who also had diagnostic record
Victoria	2010	3864	1434	37%	710	18%	50%	90	2%	6%
Victoria	2012	5413	2672	49%	1560	29%	58% *	144	3%	5%
South Australia	2010	1091	832	76%	358	33%	43%	38	3%	5%
South Australia	2012	1468	1205	82%	525	36%	44%	49	3%	4%

* p = 0.000

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Discussions and Conclusion

- **There was a 17.9% increase in GDM diagnostic testing in Victoria after NGDR introduction although a significant publicity campaign helped ensure mothers attended a 6 week post-natal appointment.**
- **South Australia had a previous register and no publicity campaign – no change in screening evident implying letters are not impacting recall rates.**
- **This is supported by the fact that screening at 1 year is negligible regardless of letters being sent.**
- **This study was able to investigate trends in T2DM testing in the first year following birth. Actual rates cannot be established due to incomplete laboratory data but the ability for this methodology to act in a surveillance capacity is clear.**
- **T2 screening in the first year following baby birth is problematic and sub-optimal. A letter recall mechanism on its own is ineffective.**

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