

In Type 1 Diabetes Mellitus, Are Second And Third Trimester Hba1c Levels Clinically Useful In Predicting Large For Gestational Age Neonates

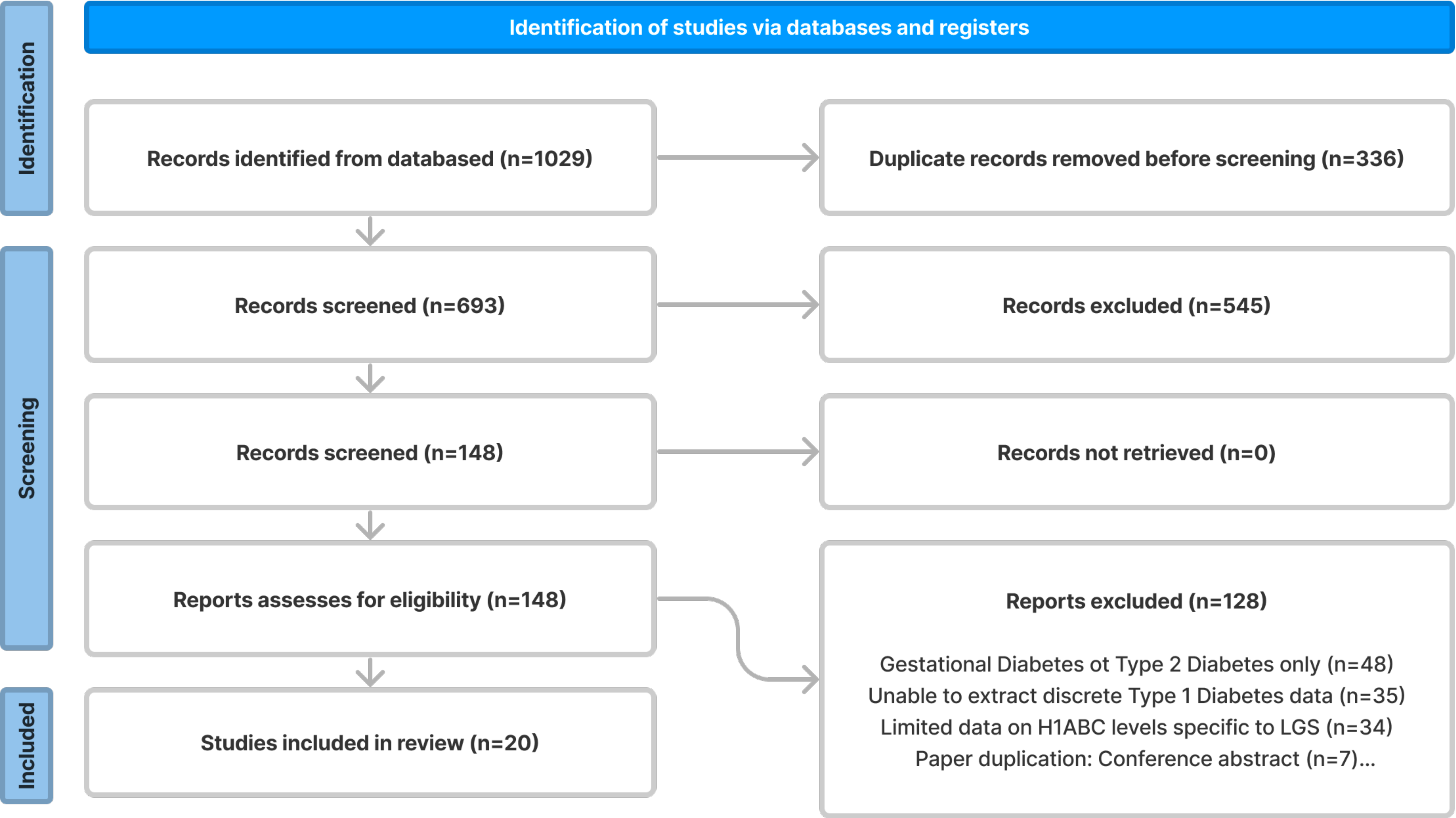
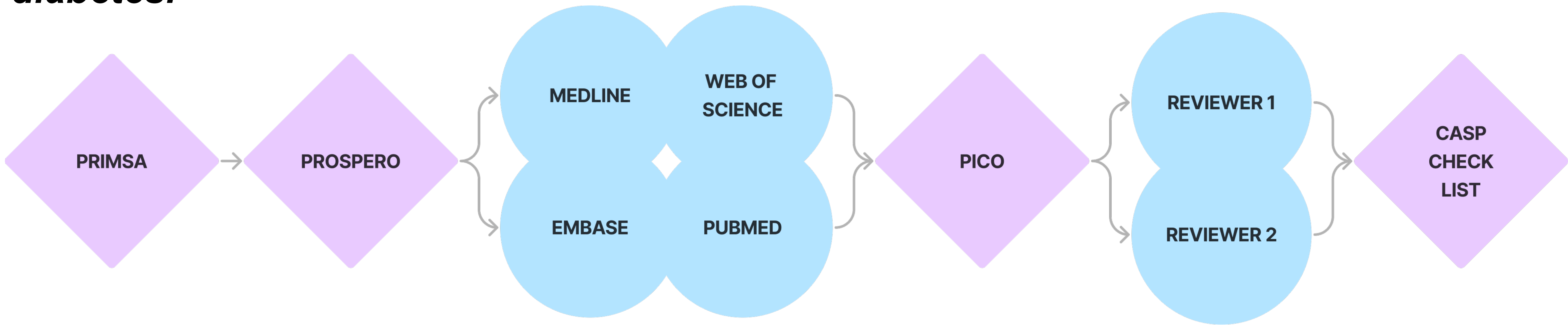
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The 1989 Saint Vincent declaration vowed to achieve similar pregnancy outcomes in diabetic and non-diabetic women.

However, the latest National Diabetes in Pregnancy Audit in England and Wales shows **there have been no improvements since 2014.** (NIPD 2020).
▲ Studies tell us:

LGA or macrosomic fetus is at particular risk ¹	LGA births in women with T1D > T2D ²	Maternal glycaemic control may = LGA and macrosomia ³	HBA1C reflects average plasma glucose over 8-12 weeks ⁴	HBA1c is reduced across all trimesters of pregnancy ⁵	HBA1c monitoring is advised during antenatal care with diabetes ⁶
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A systematic review was undertaken to investigate 2nd and 3rd trimester HbA1c levels in identifying the LGA or macrosomic fetus in women with type 1 diabetes.



The main finding was that 80% of the studies analysed within this review found a **positive association between second or third trimester HbA1c levels and LGA or macrosomic neonates.**

This review suggests that **HbA1c levels taken in the second and third trimesters could be considered a clinically useful tool** in the prediction of large for gestational age neonates in type 1 diabetic pregnant women. Additional research may prompt current national guideline review:

1.3.8. Consider measuring HbA1c levels in the second and third trimesters of pregnancy for women with pre-existing diabetes, to assess the risk for pregnancy [2015]	1.3.11. Do not routinely use HbA1c levels to assess a woman's blood glucose in the second and third trimesters of pregnancy. [2008]
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1. National Health Service. (2021) National Diabetes in Pregnancy Audit Report 2020.
2. National Health Service. (2021) National Diabetes in Pregnancy Audit Report 2020.
3. Cyganek et al (2017) Risk of macrosomia remains glucose-dependent in a cohort of women with pregestational type 1 diabetes and good glycemic control, Endocrine (55)2: 447-455.
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5. Radder et al (2005) HbA1c in healthy, pregnant women. Netherlands Journal of Medicine 63(7): 256-259; Nielsen et al (2004) HbA1c Levels Are Significantly Lower in Early and Late Pregnancy. Diabetes Care 27(5): 1200-1201.
6. National Institute for Health and Care Excellence guideline NG3. Available from: <https://www.nice.org.uk/guidance/ng3>
▲ National Health Service. (2021) National Diabetes in Pregnancy Audit Report 2020. Available from: <https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-pregnancy-in-diabetes-audit>