Reduction of stillbirths with digital support for assessment of fetal growth velocity

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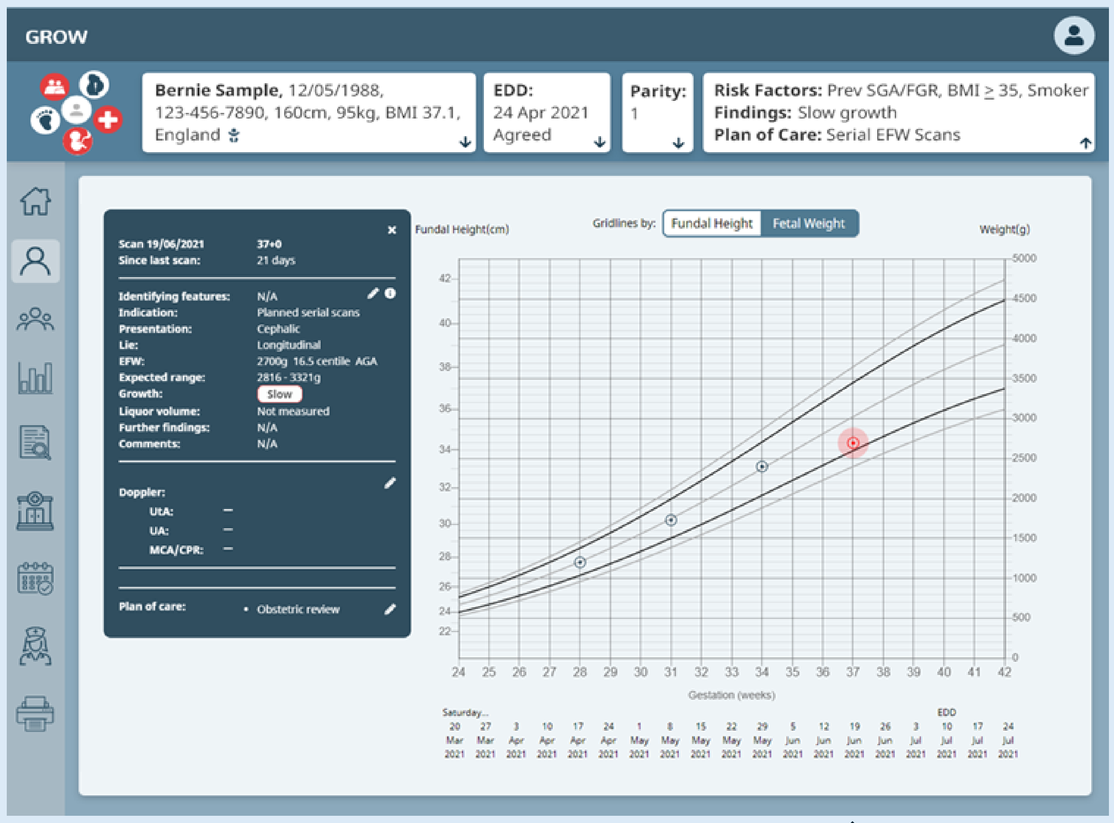
Objectives

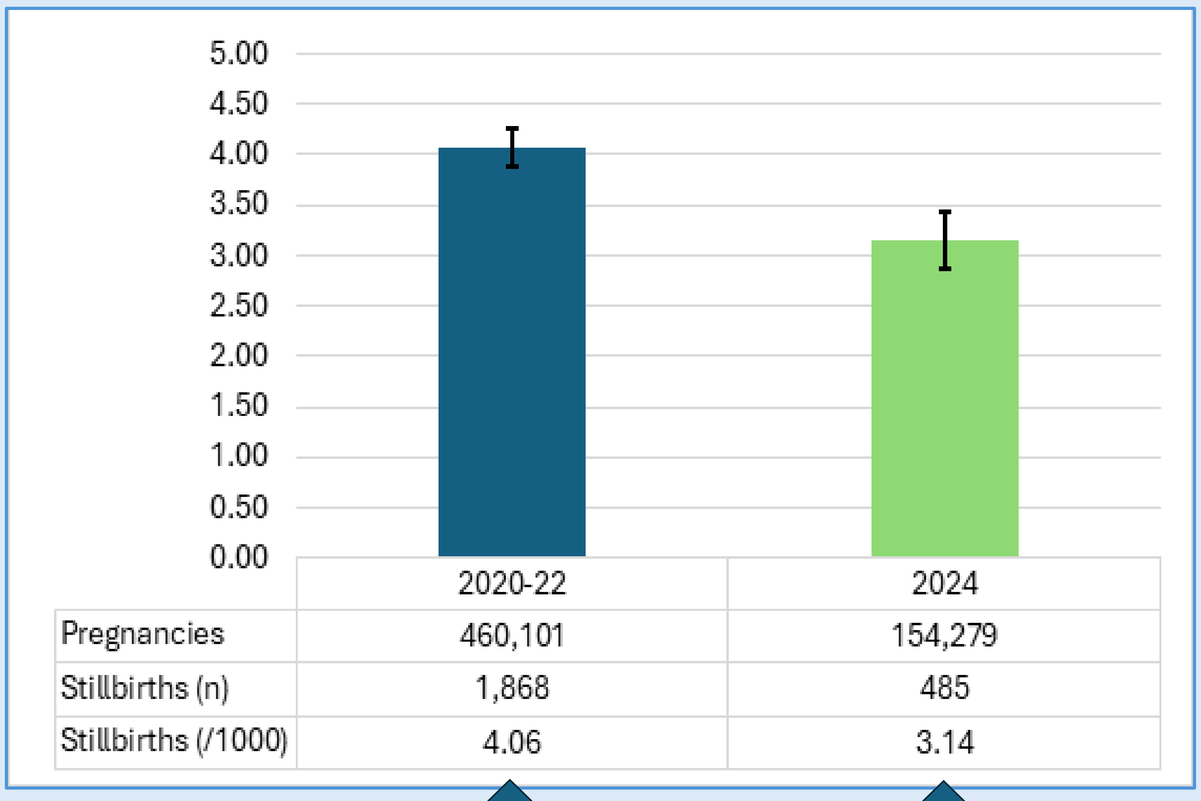
- The new electronic customised growth charts (GROW 2.0) includes auto-plotting, calculation of growth velocity, and prompts for clinical risk assessment and review.
- We wanted to assess the effect of implementation on stillbirth rates.

Methods

- We analysed routinely recorded 2024 data from the first 44 NHS Trusts that implemented GROW 2.0, and compared it with data from the same 44 units between 2020-2022, when only printed charts were in use.
- Previously, growth velocity based on serial ultrasound estimated fetal weight (EFW) was assessed only visually



GROW 2.0 growth velocity assessment (POWR)[1] prompts clinical review if it detects slow growth.



	2020-22	2024
Pregnancies	460,101	154,279
Stillbirths (n)	1,868	485
Stillbirths (/1000)	4.06	3.14

Stillbirth rates **Pre** and **Post** implementation of GROW 2.0 in 44 NHS Trusts

Results

- In 2020-22 (baseline), there were 460,101 births with 1,868 stillbirths (**4.06** / 1000)
- In 2024, following implementation of GROW 2.0, there were 154,279 births including 485 stillbirths (**3.14** /1000)

➢ This represented a **23%** reduction (RR: 0.77, CI 0.70 – 0.86)

➢ GROW 2.0 identified 17.0% of pregnancies with slow growth, most of which (71%) were not SGA, were delivered about a week earlier, and had a stillbirth rate of 1.61 - half the rate in the overall GROW 2.0 cohort.

➢ The greatest effect was on stillbirth rates **at term**, which reduced from **1.86 to 1.04** (RR 0.56, CI 0.47-0.66).

Conclusion

- Electronic growth chart functionality with auto-plotting, assessment of growth velocity and prompts for review support clinical awareness and decision making
- Recognition of slow growth is an important contributing factor to stillbirth prevention.

References

1. GROW 2.0 Electronic fetal growth chart. Perinatal Institute 2023 https://www.perinatal.org.uk/GROW2.0/
2. Hugh O, Gardosi J. Fetal weight projection model to define growth velocity and validation against pregnancy outcome in a cohort of serially scanned pregnancies. Ultrasound Obstet Gynecol 2022;60(1):86–95. https://doi.org/10.1002/uog.24860