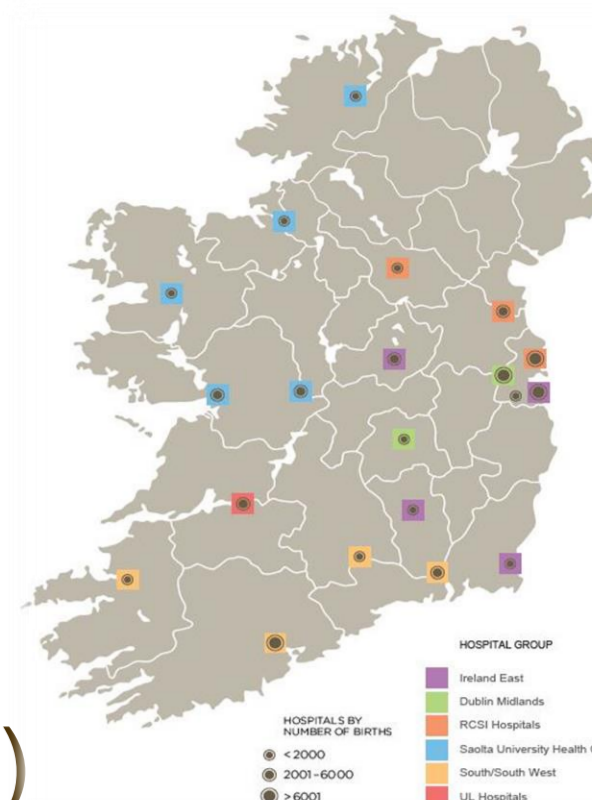




# FETAL GROWTH RESTRICTION AND STILLBIRTHS IN IRELAND: 2018-2019



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Perinatal Mortality National Clinical Audit Governance Committee

## Background

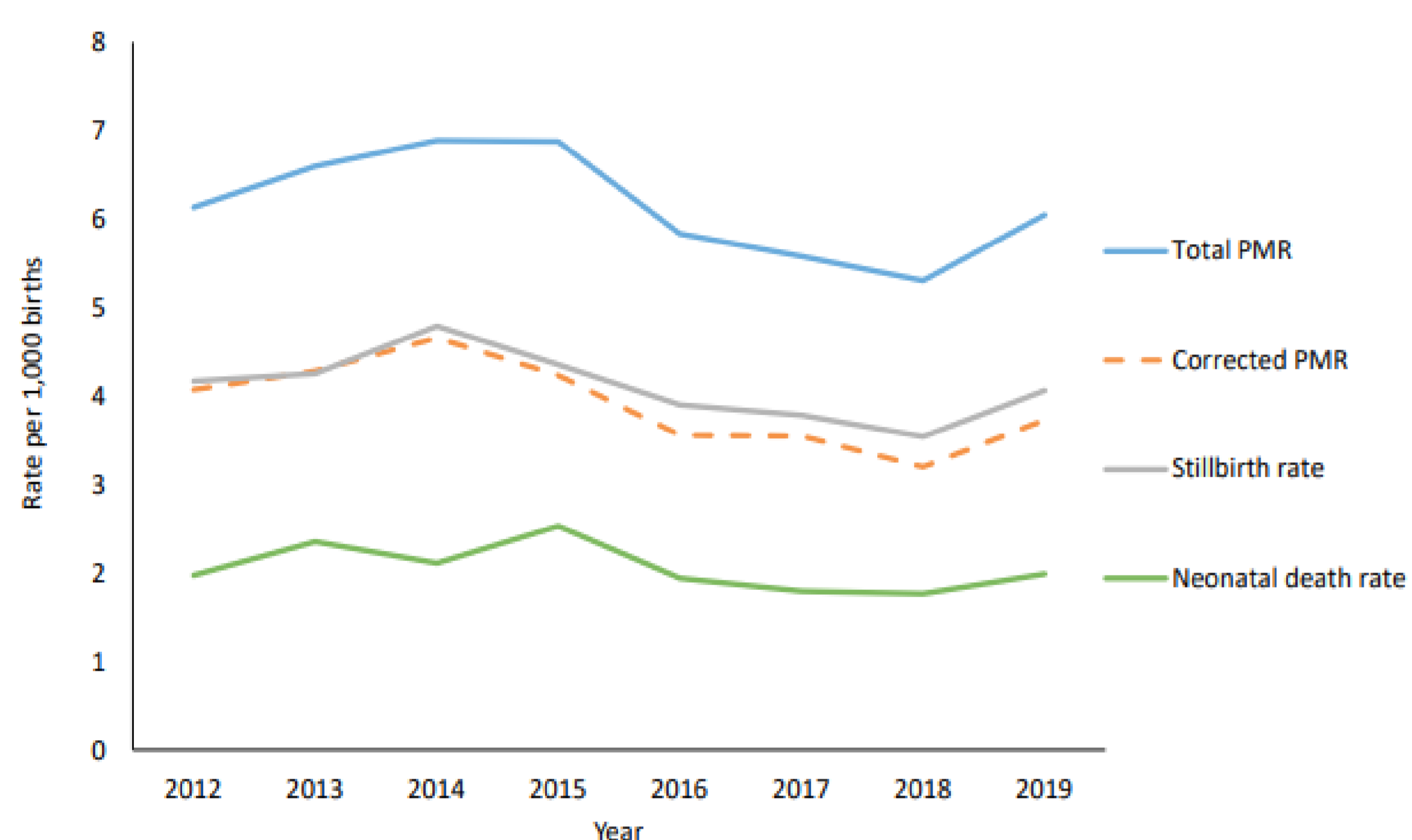
The rate of stillbirths (SB) in Ireland has remained flat for a number of years (Figure 1). Fetal Growth Restriction (FGR) is a common complication of pregnancy that is associated with increased perinatal morbidity and mortality. However, antenatal detection rates for FGR remain low with reported rates of 25 and 36% in some studies. The use of customised birthweight centiles has been advocated to improve antenatal detection of FGR and babies at risk of adverse outcome.

## Methods

We established a national clinical audit and all 19 Irish maternity units have provided anonymised data on perinatal deaths using a validated standardised dataset since 2011.

Reportable SB were defined as occurring from 24 weeks gestation or with a birthweight of  $\geq 500$  grammes. National perinatal mortality rates per 1,000 births and corresponding 95% confidence intervals were calculated. Customised birthweight centiles were calculated for all perinatal deaths using the Gestational Related Optimal Weight (GROW) software.

Figure 1. Trend in Perinatal Mortality Rates in Ireland: 2012-2019



## Results

Annually, 325 and 360 perinatal deaths were reported for 2018 and 2019 respectively. SB accounted for 217 (66.8%) of the 325 deaths in 2018 and 242 (67.2%) of the 360 deaths in 2019. This gave a SB rate of 3.54 and 4.06 per 1,000 births in 2018 and 2019 respectively. There was a variation in stillbirth rates across Irish maternity units (Figure 2). The most common causes of death in SB, in both 2018 and 2019, were major congenital anomaly (30.7%) and placental conditions (28.3%).

Low birthweight was common. Over one third (39.2%) of SB were below the 3rd customised birthweight centile and over half were below the 10th customised birthweight centile (53.7%).

Birthweight centiles were significantly lower in stillbirths attributed to major congenital anomaly (56.5% were < 3rd centile in SB with a major congenital anomaly (MCA) versus 31.5% without a MCA), Table 1. It was reported that in a high proportion of cases an antenatal diagnosis of FGR was not made (71% in SB with a birthweight < 10th centile and 63% in SB with a birthweight < 3rd centile), Table 2.

Table 1. Distribution of customised birthweight centiles: 2018/2019

Centile	Stillbirth (N=449 of 459) N%
< 3rd	176(39.2)
< 10th*	241(53.7)*
10-49th	112(24.9)
50-89th	56(12.5)
90th+	40(8.9)

Centiles could not be calculated for ten stillbirths.

Figure 2. Funnel plot of the stillbirth in Irish maternity units: 2018/2019.

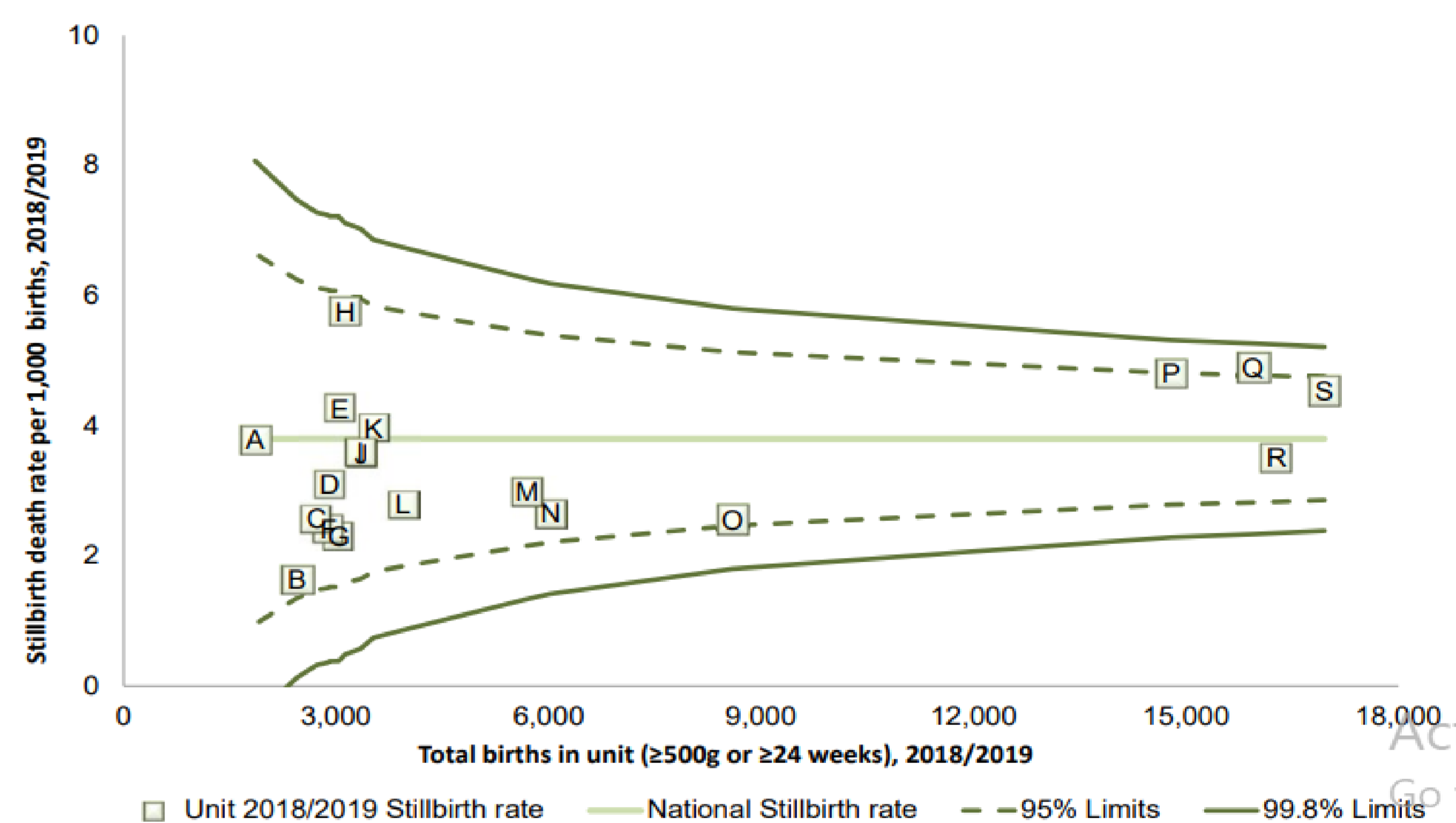


Table 2. Distribution of customised birthweight centiles in perinatal deaths with and without major congenital anomaly in 2018 and 2019

Centile	Stillbirth (N=449 of 459)	
	Cause of death: major congenital anomaly	
	Yes(n=138) N%	No(n=311) N%
< 3rd	78(56.5)	98(31.5)
< 10th*	90(65.2)*	151(48.6)*
10-49th	21(15.2)	91(29.3)
50-89th	12(8.7)	44(14.1)
90th+	15(10.9)	25(8)

Centiles could not be calculated for ten stillbirths.

## Conclusion

- Improved antenatal detection of IUGR with timely delivery is a preventative strategy to reduce perinatal mortality.1
- FGR is highly prevalent in cases of stillbirths in Ireland and for the majority it was not diagnosed antenatally. A national standardised approach to the detection of FGR should be developed and the use of customised centile growth charts should be considered.

<sup>1</sup> Clinical Practice Guideline No 29 (2014). Fetal Growth Restriction Guideline - Recognition, Diagnosis and Management: Institute of Obstetricians and Gynaecologists, Royal College of Physicians of Ireland and Directorate of Strategy and Clinical Programmes, Health Service Executive.