

Clinical Activities

Rationale for measurement

Demonstrates the volume of clinical activity in each organisation and information is reported on the total number of mothers delivered, the total numbers of births, the number of multiple pregnancies, and transfers in and out to hospitals.

Measurement methodology and data sources:

Local extracts submitted monthly and extrapolated for analysis and publication.

Target

These figures are not formatted in a way to support comparison with other hospitals or aggregation with other data.

Performance

Hospital	Activity	2022 December	2022 Year to date
Cavan Hospital	Total Mothers delivered ≥ 500 g (n)	110	1230
	Multiple pregnancies (n)	2	24
	Total births ≥ 500 g (n)	112	1253
	In utero transfer – admitted (n)	0	4
	In utero transfer – sent out (n)	0	8
Drogheda Hospital	Total Mothers delivered > 500 g (n)	258	2825
	Multiple pregnancies (n)	4	42
	Total births > 500 g (n)	262	2867
	In utero transfer – admitted (n)	1	5
	In utero transfer – sent out (n)	1	20

		2022 December	2022 Year to date
Rotunda	Total Mothers delivered > 500 g (n)	614	8152
	Multiple pregnancies (n)	19	140
	Total births > 500 g (n)	633	8292
	In utero transfer – admitted (n)	(Reported Quarterly)	5 at Q4 2022
	In utero transfer – sent out (n)	(Reported Quarterly)	0 at Q4 2022

Target

The figures beneath are not formatted in a way to support comparison with other hospitals or aggregation with other data. Context is provided in the graph in section 'Perinatal Deaths ≥ 2.5 kg without a Congenital Anomaly (Perinatal Adjusted)'.

Performance

Hospital	2022 December	2022 Year to date
Cavan General Hospital	0	0.7 per 1,000 (n=1)
Drogheda Hospital	0	1.05 per 1,000 (n=3)
	2022 December	2022 Year to date
Rotunda Hospital	(Reported Quarterly)	0 per 1,000 at Q4 2022

PERINATAL DEATHS ≥2.5KG WITHOUT A CONGENITAL ANOMALY (PERINATAL ADJUSTED)

Rationale for measurement

Perinatal mortality Rate – Adjusted (PNMR-A) is defined as the number of perinatal deaths (stillbirths and early neonatal deaths) weighing 2.5kg or more without physiological or structural abnormalities that develop at or before birth and are present at the time of birth per 1,000 births. PNMR-Adjusted is an important indicator of the quality of care provided in Irish maternity services.

Measurement methodology and data sources:

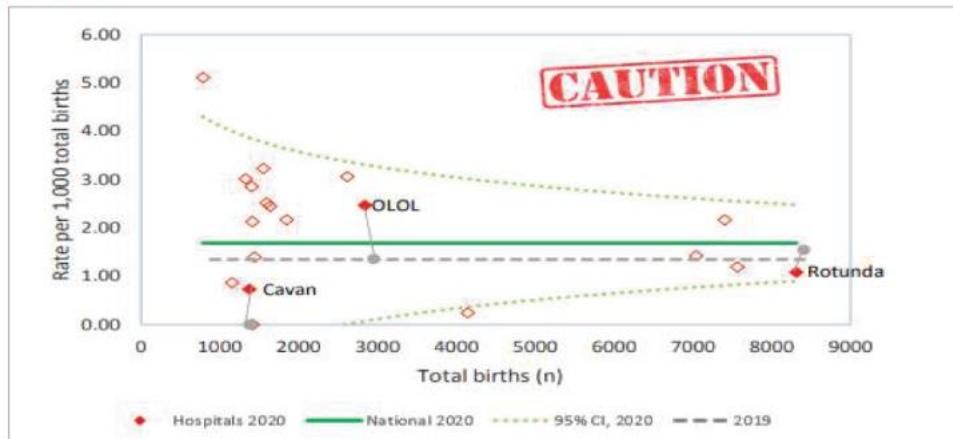
Maternity Units in the Rotunda, Drogheda and Cavan Hospitals submit perinatal mortality data on a monthly basis to the RCSI HG, which in turn is made available to the National Women and Infants Health Programme Clinical Programme *Irish Maternity Indicator System (IMIS)*. The IMIS report is published on an annual basis and allows scrutiny of individual hospital processes and outcomes for women and infants, while bench marking them against national performance.

Variations in PMR – Adjusted between maternity units could potentially be due to random chance or reflect differences in baseline characteristics of the childbearing population. For this reason, funnel plots are used to assess performance outcomes for individual maternity units in comparison to the overall average. The funnel plot is a scatter diagram of individual maternity unit mortality rates against the total number of births within that unit.

In the funnel graph below:-

- The national rate for PNMR-A is indicated by the solid straight green line for 2020 and by a dashed grey line for 2019
- The curved dashed lines (the 95% confidence interval for 2020) represent the limits within which 95% of units are expected to lie
- Solid diamond-shaped markers represent the RCSI HG maternity hospitals/units
- The width of the confidence interval is adjusted to allow for meaningful comparison between unit-specific rates and the national rate. The confidence interval is wider for smaller units reflecting the lack of precision in rates calculated based on small numbers. The confidence interval narrows for larger maternity units, giving the diagram a 'funnel' shape.

Performance



NEONATAL ENCEPHALOPATHY (NE)

Rationale for measurement

Neonatal encephalopathy (NE) is a complex disease of a new-born infant and can be defined as clinical findings in three or more of the following domains: level of consciousness, spontaneous activity when awake or aroused, posture, tone, primitive reflexes, and autonomic system. NE can result from a wide variety of causes. Hypoxic Ischaemic Encephalopathy (HIE) is a subset of NE and is the most common cause of NE; however not all encephalopathies have a HIE.

Measurement methodology and data sources:

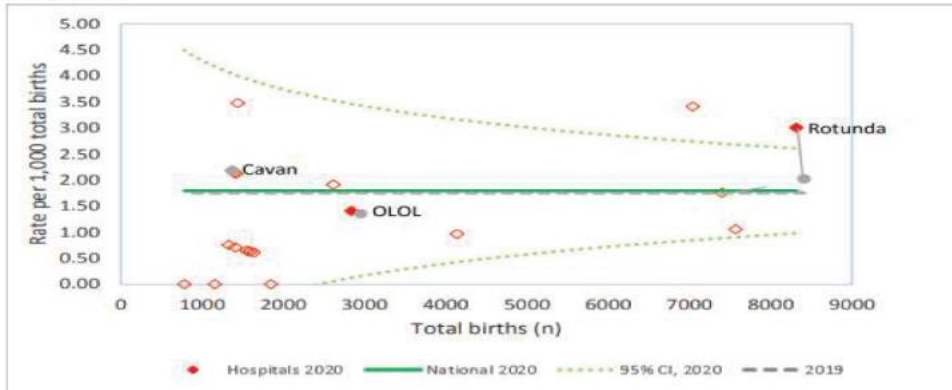
Maternity Units in the Rotunda, Drogheda and Cavan Hospitals submit perinatal mortality and morbidity data on a monthly basis to the RCSI HG, which in turn is made available to the National Women and Infants Health Programme Clinical Programme *Irish Maternity Indicator System (IMIS)*. The IMIS report is published on an annual basis and allows scrutiny of individual hospital processes and outcomes for women and infants, while benchmarking them against national performance.

Variations in Neonatal Encephalopathy (NE) rates between maternity units could potentially be due to random chance or reflect differences in baseline characteristics of the childbearing population. For this reason, funnel plots are used to assess performance outcomes for individual maternity units in comparison to the overall average. The funnel plot is a scatter diagram of individual maternity unit mortality rates against the total number of births within that unit.

In the funnel graph below:-

- The national rate NE is indicated by the solid straight green line for 2020 and by a dashed grey line for 2019
- The curved dashed lines (the 95% confidence interval for 2020) represent the limits within which 95% of units are expected to lie
- Solid diamond-shaped markers represent the RCSI HG maternity hospitals/units
- The width of the confidence interval is adjusted to allow for meaningful comparison between unit-specific rates and the national rate. The confidence interval is wider for smaller units reflecting the lack of precision in rates calculated based on small numbers. The confidence interval narrows for larger maternity units, giving the diagram a 'funnel' shape.

Performance



Description: All infants with ≥ 35 weeks' gestation who, during the first week of life, have either seizures alone and/or signs of neonatal encephalopathy

Caution is advised when dealing with small values

Drogheda and Cavan are within the 95% confidence interval for 2020 (curved dashed lines)

Rotunda is outside the 95% confidence interval for 2020 (curved dashed lines)

BREASTFEEDING RATES

Introduction

Breastfeeding, also called nursing, is the process of feeding human breast milk to a child, either directly from the breast or by expressing (pumping out) the milk from the breast and bottle-feeding it to the infant. The World Health Organization (WHO) recommends that breastfeeding begin within the first hour of a baby's life and continue as often and as much as the baby wants.⁽¹⁾

Rationale for measurement

Breastfeeding has many health benefits for both the mother and infant. Breast milk contains all the nutrients an infant needs in the first six months of life. Breastfeeding protects against diarrhoea and common childhood illnesses such as pneumonia and may also have longer-term health benefits for the mother and child, such as reducing the risk of overweight and obesity in childhood and adolescence. WHO recommends that infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health.

IMIS Rates

Measurement methodology and data sources

Maternity Units in the Rotunda, Drogheda and Cavan Hospitals submit perinatal data on a monthly basis to the RCSI Hospital Group, which in turn is made available to the National Women and Infants Health Programme Clinical Programme *Irish Maternity Indicator System (IMIS)*. The IMIS report is published on an annual basis and allows scrutiny of individual hospital processes and outcomes for women and infants, while bench marking them against national performance.

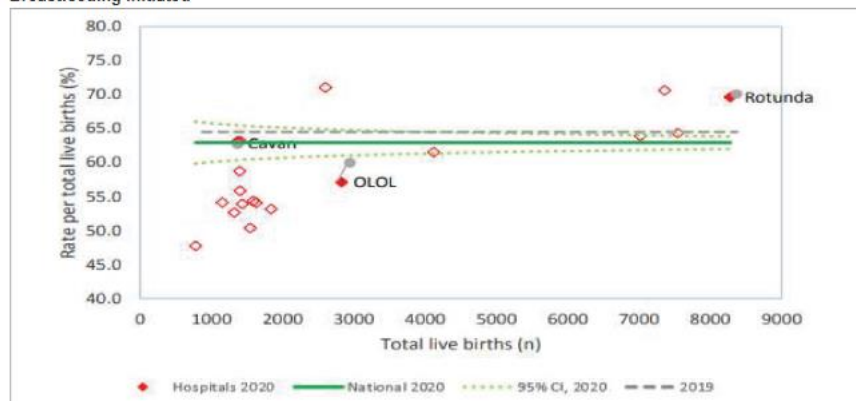
Variations in breast feeding rate between maternity units could potentially be due to random chance or reflect differences in baseline characteristics of the childbearing population. For this reason, funnel plots are used to assess breast feeding rates for individual maternity units in comparison to the overall average. The funnel plot is a scatter diagram of individual maternity unit breast feeding rates against the total number of births within that unit.

In the funnel graph below:

- the national rate for breast feeding in 2020 is indicated by the solid straight green line
- the curved dashed lines (the 95% confidence interval for 2020) represent the limits within which 95% of units are expected to lie.
- the width of the confidence interval is adjusted to allow for meaningful comparison between unit-specific rates and the national rate. The confidence interval is wider for smaller units reflecting the lack of precision in rates calculated based on small numbers. The confidence interval narrows for larger maternity units, giving the diagram a 'funnel' shape.

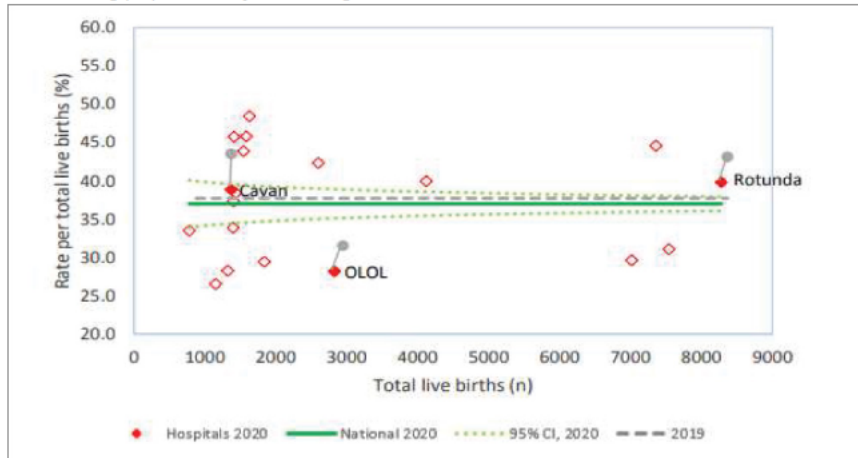
Performance

Breastfeeding initiated



- nationally, in 2020, 62.9% of woman initiated breastfeeding at their baby's first feed
- Rotunda and Cavan hospitals had rates above the national average at 69.6% and 63.1% respectively
- Drogheda had a rate of 57.1% which is below the national average and outside the 95% confidence interval

Breastfeeding (BF) exclusively on discharge



- nationally, in 2020, 37% of women were breast-feeding exclusively on discharge
- within the RCSI Hospital Group, Rotunda and Cavan hospitals had rates above the national average at 39.8% and 38.9% respectively
- Drogheda had a rate of 28.2% which was below the national average and outside the 95% confidence interval

RCSI Hospital Breast Feeding Rates

Measurement methodology and data sources

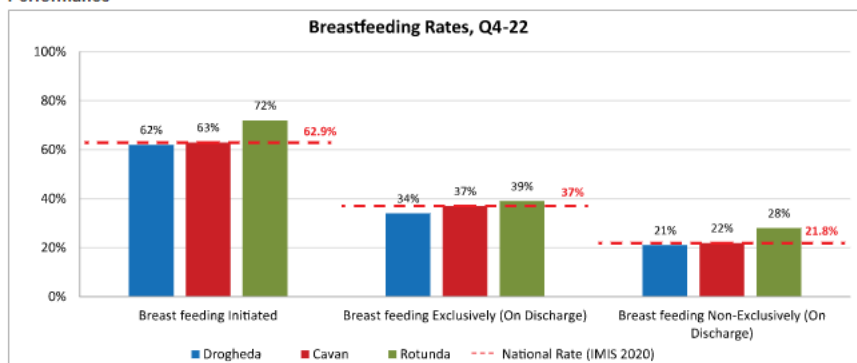
Breastfeeding initiated: Numbers of babies breastfed at first feed following birth, i.e., direct from the breast or expressed. Rate is calculated per total live births. Nationally, in 2020, 62.9% of woman initiated breastfeeding at their baby's first feed (IMIS 2020).

Breastfeeding (BF) exclusively on discharge: Numbers of babies who receive only breast milk without any additional food or drink, not even water, prior to discharge. Rate is calculated per total live births. Nationally, in 2020, 37% of woman were breast-feeding exclusively on discharge (IMIS 2020).

Breastfeeding (BF) non-exclusively on discharge: Number of babies who were breastfed and had other food or drink prior to discharge. Rate is calculated per total live births. Nationally, in 2020, 21.8% of woman were breast-feeding non-exclusively on discharge (IMIS 2020).

Maternity Units in the Rotunda, Drogheda and Cavan Hospitals submit perinatal data on a monthly basis to the RCSI Hospital Group. This data is also made available to the National Women and Infants Health Programme Clinical Programme *Irish Maternity Indicator System (IMIS)*.

Performance



- Cavan and Rotunda Hospitals are above the national rate for breast feeding initiated. Drogheda Hospital is performing below the national rate
- Cavan and Rotunda Hospitals are performing above the national rate for breast feeding exclusively on discharge. Drogheda is below the national rate
- Cavan and Rotunda Hospitals are above the national rate for breast feeding non-exclusively on discharge. Drogheda Hospital is below the national rate

Major Obstetric Events

Rationale for measurement

These are rare but potentially catastrophic events, which when they occur in obstetric patients can impact on the safety of both mother and baby. The RCSI Hospital Group reports the total combined rate (per 1,000 total mothers delivered) of the following major obstetric events,

- Eclampsia is a condition in which one or more convulsions occur in a pregnant woman suffering from high blood pressure, often followed by coma and posing a threat to the health of mother and baby.
- Uterine rupture is a rare but potentially catastrophic event in which the uterus tears open along the scar line from a previous Caesarian-section or major uterine surgery. Hospital incidence of uterine rupture is rare. The main risk factors for uterine rupture are previous caesarean section or induction of labour (using prostaglandins).
- Peripartum hysterectomy is a hysterectomy which is usually performed following a caesarean section, but also includes hysterectomies performed during pregnancy and/or within seven completed days after delivery. Peripartum hysterectomy is rare and usually only performed in emergency situations, but it is a life-saving procedure in cases of severe haemorrhage.
- Pulmonary embolism (PE) is a blockage of the lung's main artery or one of its branches by a substance that travels from elsewhere in the body through the bloodstream.

Measurement methodology and data sources:

Local data extracts submitted monthly and extrapolated retrospectively for analysis and publication.

Numerator: Number of events

Denominator: per 1,000 total mothers delivered

Target

These figures are not formatted in a way to support comparison with other hospitals or aggregation with other data.

Performance

Hospital	Activity	2022 December	2022 Year to date
Cavan General Hospital	Total combined rate (per 1,000 total mothers delivered) of major obstetric events for following four obstetric metrics: Eclampsia / Uterine rupture / Peripartum hysterectomy / Pulmonary embolism	1	0.8 per 1,000 (n=1)
Drogheda Hospital	Total combined rate (per 1,000 total mothers delivered) of major obstetric events for following four obstetric metrics: Eclampsia / Uterine rupture / Peripartum hysterectomy / Pulmonary embolism	0	0.71 per 1,000 (n=2)
		2022 December	2022 Year to date
Rotunda	Total combined rate (per 1,000 total mothers delivered) of major obstetric events for following four obstetric metrics: Eclampsia / Uterine rupture / Peripartum hysterectomy / Pulmonary embolism	(Reported Quarterly)	3.52 per 1,000 at Q4 2022

Delivery Metrics

RATE OF INSTRUMENTAL DELIVERY

Rationale for measurement

Instrumental delivery: Percentage of 'Mothers delivered $\geq 500g$ ' who require instrumental assistance during delivery. Instrumental assistance includes forceps delivery and vacuum extraction, excluding failed forceps and failed vacuum extraction. Also includes assisted breech delivery with forceps to after-coming head and breech extraction with forceps to after-coming head.

Most women aim for spontaneous vaginal delivery. An instrumental delivery may be performed in situations where imminent delivery of the infant is considered to be the safest option for both mother and baby.

Measurement methodology and data sources:

Local data extracts submitted monthly and extrapolated for analysis and publication.

Numerator: Rate of instrumental deliveries (%)

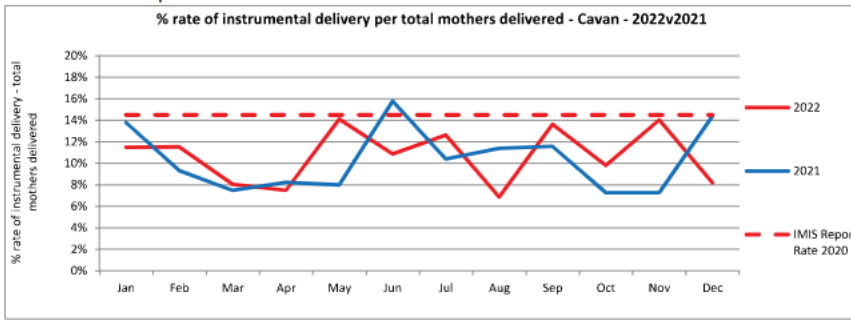
Denominator: per 1,000 total mothers delivered

National Performance

National Instrumental Delivery rate = 14.5% (95% Confidence Intervals 14.2-14.8%), Irish Maternity Indicator System (IMIS) Report 2020.

Performance

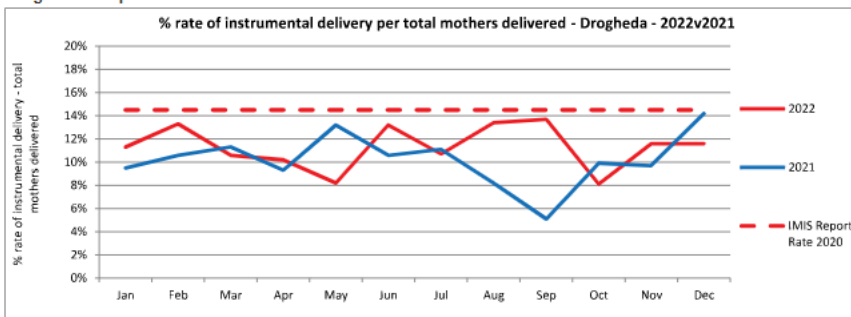
Cavan General Hospital



Hospital	Activity	2022 December	2022 Year to date
Cavan General Hospital	Rate of instrumental delivery per total mothers delivered (%)	8.18%	10.8%
	Rate of nulliparas mothers with instrumental delivery (%)	18.91%	22.1%
	Rate of multiparas mothers with instrumental delivery (%)	2.73%	5.1%

- CGH (December data) is below the 2020 national rate for instrumental delivery per total mothers delivered

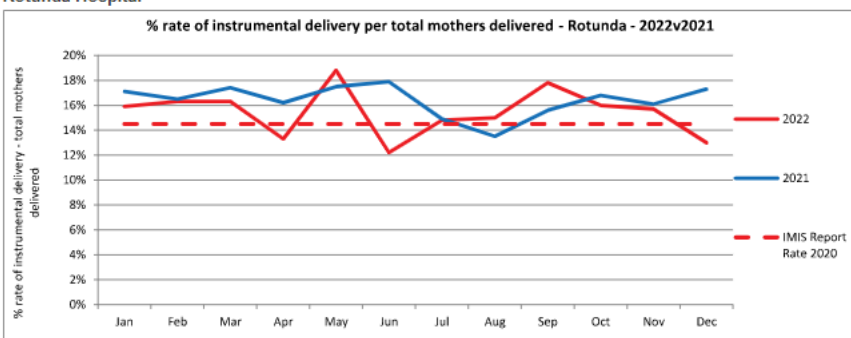
Drogheda Hospital



Hospital	Activity	2022 December	2022 Year to date
Drogheda Hospital	Rate of instrumental delivery per total mothers delivered (%)	11.6%	11.4%
	Rate of nulliparas mothers with instrumental delivery (%)	24.0%	24.9%
	Rate of multiparas mothers with instrumental delivery (%)	4.3%	3.6%

- Drogheda (December data) is below the 2020 national rate for instrumental delivery per total mothers delivered

Rotunda Hospital



Hospital	Activity	2022 December	2022 Year to date
Rotunda	Rate of instrumental delivery per total mothers delivered (%)	13.0%	15.4%
	Rate of nulliparas mothers with instrumental delivery (%)	23.4%	27.2%
	Rate of multiparas mothers with instrumental delivery (%)	4.7%	6.2%

- Rotunda Hospital (December data) is below the 2020 national rate for instrumental delivery per total mothers delivered

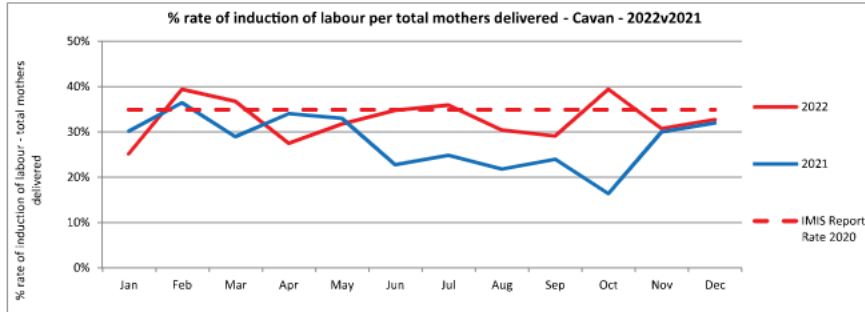
RATE OF INDUCTION OF LABOUR

National Performance

National rate for induction of labour = 34.9% (95% Confidence Intervals of 34.5-35.3%), Irish Maternity Indicator System (IMIS) Report 2020

Performance

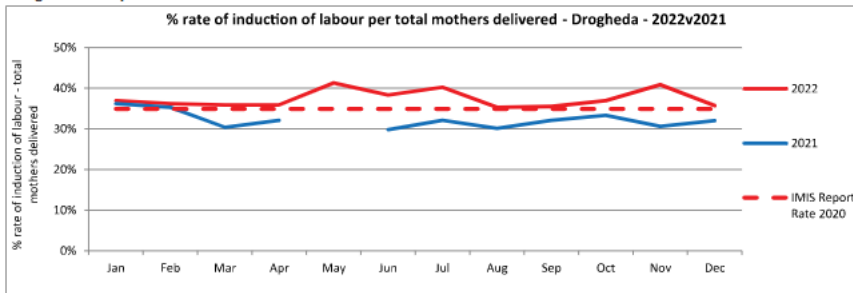
Cavan General Hospital



Hospital	Activity	2022 December	2022 Year to date
Cavan General Hospital	Rate of induction of labour per total mothers delivered (%)	32.72%	32.6%
	Rate of nulliparas mothers with induction of labour (%)	37.83%	44.9%
	Rate of multiparas mothers with induction of labour (%)	30.13%	26.4%

- CGH (December data) is below the 2020 national rate for induction of labour per total mothers delivered

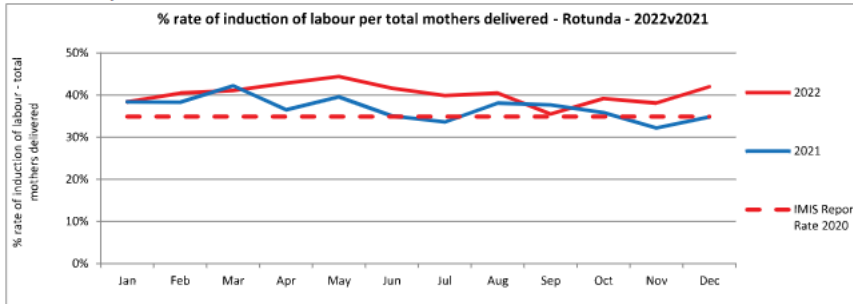
Drogheda Hospital



Hospital	Activity	2022 December	2022 Year to date
Drogheda Hospital	Rate of induction of labour per total mothers delivered (%)	35.7%	37.5%
	Rate of nulliparas mothers with induction of labour (%)	41.7%	48.5%
	Rate of multiparas mothers with induction of labour (%)	32.1%	31.1%

- Drogheda (December data) is above the 2020 national rate for induction of labour per total mothers delivered
- May 2021 data for Drogheda unavailable due to cyber attack.

Rotunda Hospital



Hospital	Activity	2022 December	2022 Year to date
Rotunda	Rate of induction of labour per total mothers delivered (%)	42.0%	40.3%
	Rate of nulliparas mothers with induction of labour (%)	56.0%	51.5%
	Rate of multiparas mothers with induction of labour (%)	30.8%	31.6%

- Rotunda Hospital (December data) is above the 2020 national rate for induction of labour per total mothers delivered

RATE OF CAESAREAN SECTION

Rationale for measurement

Caesarean delivery, also known as a C-section, is a surgical procedure used to deliver a baby through incisions in the mother's abdomen and uterus. When medically justified, a Caesarean Section can reduce problems/complications for mother and baby (mortality and morbidity). Recovery from a C-section takes longer than does recovery from a vaginal birth. Like other types of major surgery, C-sections also carry risks. It is acknowledged that Caesarean rates are on the rise in many developed countries. Ireland's National Maternity Strategy (2016) identifies a number of possible reasons for this – including "reductions in the risk of Caesarean delivery, increasing litigation, increases in first births among older women and the rise in multiple births resulting from assisted reproduction."

Measurement methodology and data sources:

Monthly Performance

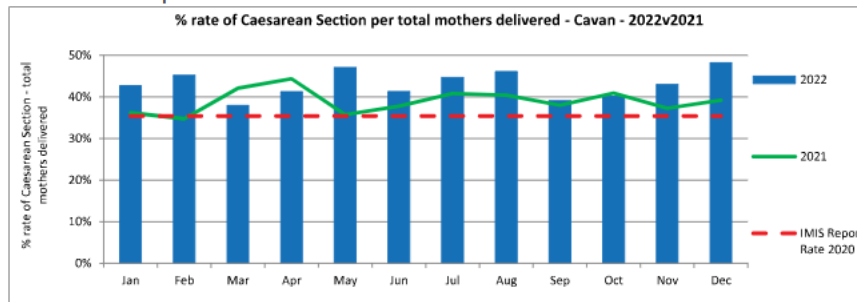
Local data extracts submitted monthly and extrapolated for analysis and publication

National Performance

National rate for Caesarean Section = 35.4% (95% Confidence Intervals 35.0-35.8%), Irish Maternity Indicator System (IMIS) Report, 2020

Performance

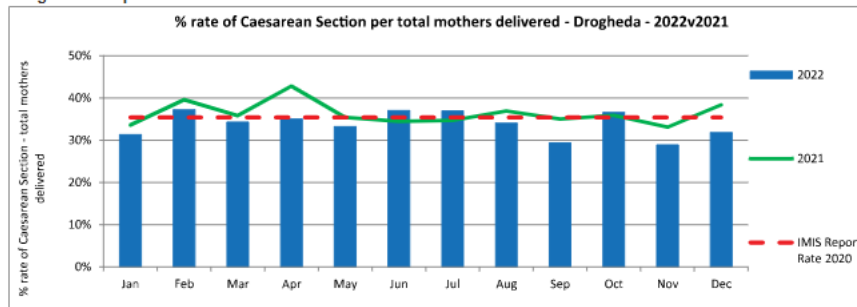
Cavan General Hospital



Hospital	Activity	2022 December	2022 Year to date
Cavan General Hospital	Rate of Caesarean Section per total mothers delivered (%)	48.18%	43.1%
	Rate of nulliparas mothers with Caesarean Section (%)	45.94%	43.7%
	Rate of multiparas mothers with Caesarean Section (%)	49.31%	42.8%

- CGH (December data) is above the 2020 national rate for Caesarean Section per total mothers delivered

Drogheda Hospital

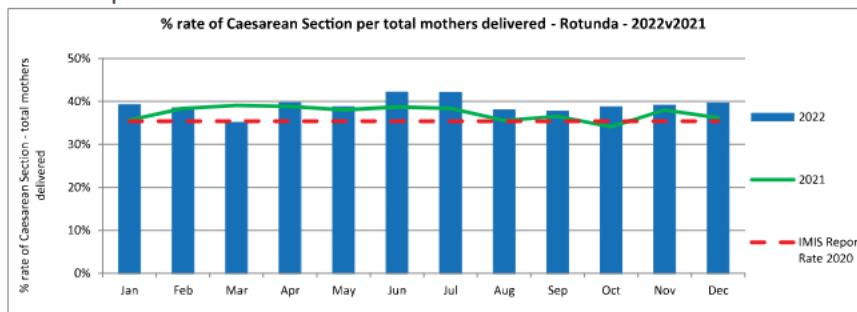


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Hospital	Activity	2022 December	2022 Year to date
Drogheda Hospital	Rate of Caesarean Section per total mothers delivered (%)	31.8%	33.7%
	Rate of nulliparas mothers with Caesarean Section (%)	32.3%	33.8%
	Rate of multiparas mothers with Caesarean Section (%)	31.5%	33.6%

- Drogheda (December data) is below the 2020 national rate for Caesarean Section per total mothers delivered

Rotunda Hospital



Hospital	Activity	2022 December	2022 Year to date
Rotunda	Rate of Caesarean Section per total mothers delivered (%)	39.6%	39.0%
	Rate of nulliparas mothers with Caesarean Section (%)	38.8%	40.9%
	Rate of multiparas mothers with Caesarean Section (%)	40.2%	37.6%

- Rotunda Hospital (December data) is above the 2020 national rate for Caesarean Section per total mothers delivered

CAESAREAN SECTION RATE (IMIS)

Measurement methodology and data sources

Irish Maternity Indicator System (IMIS)

The C-section rate is comprised of the numbers of women in each maternity unit who give birth by C-section. This data is divided into first time mothers (nulliparous women), mothers who have given birth previously (multiparous women) and the total C-section rate.

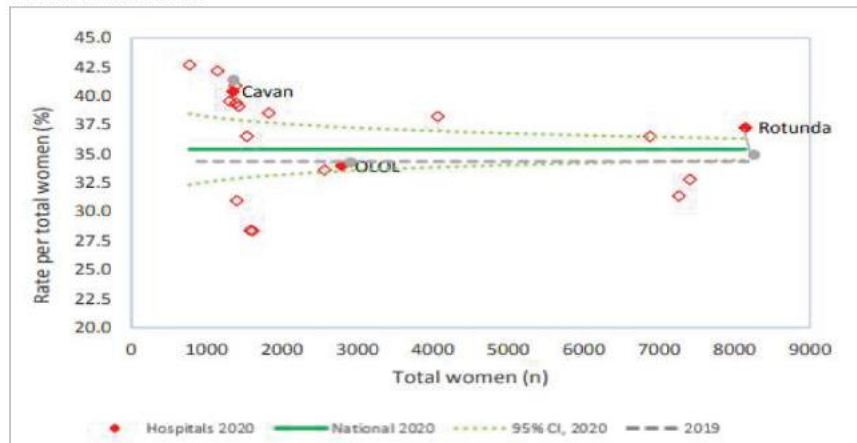
Maternity Units in the Rotunda, Drogheda and Cavan Hospitals submit data on C-section numbers on a monthly basis to the RCSI Hospital Group, which in turn is made available to the National Women and Infants Health Programme and the Irish Maternity Indicator System (IMIS). The IMIS report¹ is published on an annual basis and allows scrutiny of individual hospital processes and outcomes for women and infants, while benchmarking them against national performance.

Variations in C-section Rates adjusted between maternity units could potentially be due to random chance or reflect differences in baseline characteristics of the childbearing population. For this reason, funnel plots are used to assess performance outcomes for individual maternity units in comparison to the overall average. The funnel plot is a scatter diagram of individual maternity unit C-section rates.

In the funnel graphs below: The national rate for C-section Rate is indicated by the solid straight green line for 2020 and by a dashed grey line for 2019 – The curved dashed lines (the 95% confidence interval for 2020) represent the limits within which 95% of units are expected to lie. The width of the confidence interval is adjusted to allow for meaningful comparison between unit-specific rates and the national rate. The confidence interval is wider for smaller units reflecting the lack of precision in rates calculated based on small numbers. The confidence interval narrows for larger maternity units, giving the diagram a 'funnel' shape.

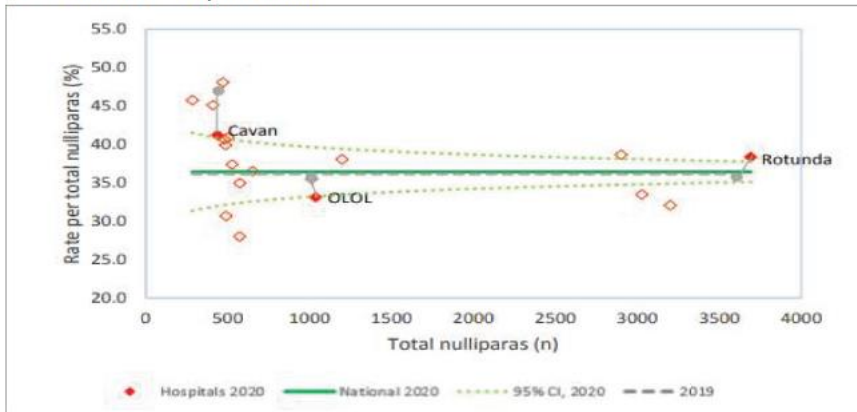
Performance

Total Caesarean section



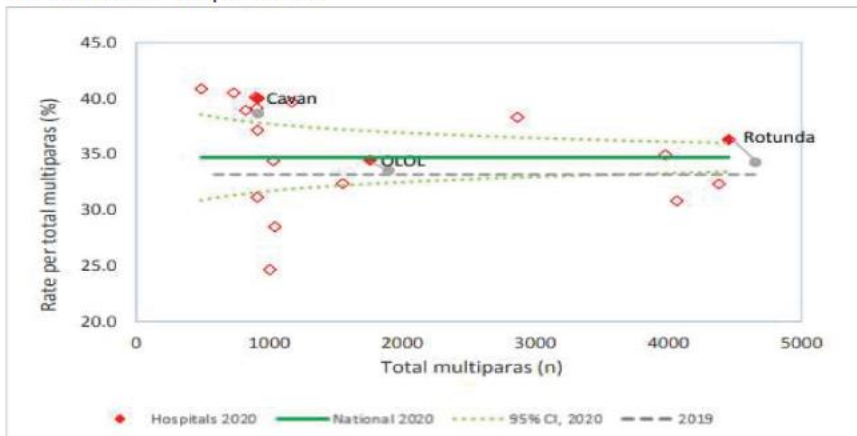
- Drogheda Hospital is within the 95% confidence intervals for the total numbers of women giving birth by C-section
- Cavan and the Rotunda Hospitals are above the 95% confidence intervals for the total numbers of women giving birth by C-section

Caesarean section – nulliparas women



- Cavan and the Rotunda Hospitals are above the 95% confidence intervals for nulliparas women giving birth by C-section

Caesarean section – multiparas women



- Cavan and the Rotunda Hospitals are above the 95% confidence intervals for multiparas women giving birth by C-section
- Drogheda Hospital is within the 95% confidence intervals for multiparas women giving birth by C-section

Fetal Anomaly Scanning

Introduction

The fetal anomaly scan is a detailed scan carried out in pregnant women at about 20 weeks' gestation (mid pregnancy) to check if the baby is developing normally. Prenatal scanning is of great importance as it contributes to appropriate management of the baby both during and after the pregnancy. Fetal anomaly scanning is very accurate but unfortunately it cannot identify all birth defects.

Rationale for measurement

Prior to November 2017, Fetal Anomaly Scanning for women in the North East was available only if they were referred to the Rotunda Hospital or if they chose to access this service privately.

A fetal anomaly scanning service is now available in Louth Hospitals and Cavan/Monaghan Hospitals. The RCSI Hospital Group monitors the numbers of women availing of this service across the three maternity units of the RCSI Hospital Group, Cavan, Monaghan, Louth Hospitals and the Rotunda Hospital.

Measurement methodology and data sources

(1) number of women booked and

(2) number of fetal anomaly scans performed – Local Hospital data extrapolated for analysis and publication

Performance

- capacity available for all bookings. Option to attend facilities external for scan is available to all women
-