Planned Home Births in Ireland

Annual Report 2021

NATIONAL PERINATAL EPIDEMIOLOGY CENTRE

HSE

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Definitions and terminology

The HSE National Home Birth Service is available to women who are considered at normal risk. An individualised approach is taken for each woman accessing the service to determine eligibility. To ensure comparison, the Designated Midwifery Officers (DMO's) and the NPEC used the following definitions which are included in this report:

Exclusion Criteria: The HSE MOU/Agreement for home birth services (Annex 1) outline medical and other factors requiring planned birth in an obstetric unit and medical and other conditions requiring referral to a consultant obstetrician by the midwife for final assessment when planning place of birth.[1]

Antepartum Referrals: Referral to hospital due to complications which have arisen during pregnancy, requiring review by an obstetrician.

Antepartum Transfers: Where a transfer of care from the home birth service to the maternity unit during pregnancy is required due to a change in the woman's eligibility for the service, as per the HSE MOU/Agreement (Annex 1) or due to maternal choice.[1]

Intrapartum Transfer: The HSE MOU/Agreement for home birth services (Annex 1) outlines indications for intrapartum transfer.[1]

Postpartum Transfer: The HSE MOU/Agreement for home birth services (Annex 1) outlines indications for postpartum transfer.[1]

Community Midwife: For the purpose of this report, community midwife is referring to both self-employed community midwives (SECM's) and integrated hospital community midwives (IHCM's) that provide care to women who chose to register for a home birth.

Booking: For the purposes of this report, booking relates to the woman's first antepartum visit with the Community Midwife.

Maternity Unit: Refers to the 19 public hospitals in the Republic of Ireland providing Maternity Care services.

Parity: The number of completed pregnancies, whether live birth or stillbirth, of at least 24 weeks gestation or with a birthweight ≥500g; prior to the home birth in this report.

Gravida: The number of times the woman has been pregnant, irrespective of duration; prior to the home birth in this report.

Stillbirth: A baby born without signs of life from 24 weeks' gestation and/or with a birth weight of ≥500g.

Early Neonatal Death: Death of a live born baby occurring before 7 completed days after birth.

Executive Summary

This is the eighth national clinical audit report on planned HSE home births in Ireland under the care of the self-employed community midwives and the integrated hospital community service in Waterford (UHW) and Wexford (WGH). This report provides details on the 429 women who were registered for a home birth from January 1st, 2021, to December 31st, 2021. Of these, 248 women gave birth at home. These equate to 0.7% and 0.4% of all women who gave birth in the country in 2021, respectively.

While a gradual increase has been noted in the number of women who were registered for a home birth since 2017, this number has risen significantly in the last two years with 345 women registering in 2020 and 429 in 2021. Internationally, a rise in interest in home births was seen during the COVID-19 pandemic.[2, 3] Some studies suggest that a woman's choice to birth at home may have been influenced by birth partner restrictions and a fear of being unsupported, a concern around the hospital environment and acquiring infection or potential separation from their baby.[4–6] This could also potentially explain the rise in numbers seen in home births in Ireland since 2020.

The geographical distribution of home births is reflective of the number of community midwives available in each region. HSE South continued to show the highest numbers of home births this year, 2021, as it did in previous reports. Dublin Mid Leinster also continues to show an increase in planned home births compared to previous years.

Body mass index (BMI) was reported for a total of 98% of women registered for home birth, with an increasing availability of data for BMI over the last years of this audit, showing approximately 60% of women in the healthy BMI category. Eleven women indicated that they were smoking at the point of booking, three of whom gave up during pregnancy. These figures suggest a 27% cessation rate although this estimated rate is based on small numbers. Thus, 1.9% of women smoked throughout their pregnancy for this report. In Ireland, it is estimated that 11% of pregnant women smoke throughout their pregnancy.[7] Regarding alcohol consumption, the vast majority (99%) of the women registered for home birth did not consume alcohol during their pregnancy. As smoking and alcohol consumption are risk factors for a range of adverse perinatal outcomes, it is encouraging to continue to see low rates of such behaviours in this cohort.

Almost three-quarters of the women registered for a home birth were parous women (64%). Women who were registered for home birth also had an older age profile than all women who gave birth in the country with 74% versus 66% aged between 30-39 years. Maternal age over 40 was seen in this report as being one of the main reasons requiring review by an obstetrician when planning place of birth.

While 87% of women who registered for a home birth also registered with their general practitioner (GP) during pregnancy, only 37.8% received all their shared care from their GP. All women planning a home birth were booked with a maternity unit/hospital. Approximately 60% of women who were registered for a home birth had a liaison obstetrician available in 2021. A non-specific obstetrician was available for two fifths of women who registered for a home birth (42%). Since 2020, when the number of home births increased, there was a decrease noted in the percentage of home birth liaison obstetricians available (60%).

The majority of women who registered for a home birth had a booking scan (84%, n=300 of 357). There is missing data on booking scan details for 72 women who registered, which could possibly be attributed to the women registering with the home birth service after they have had their initial scan. All but three women had an anomaly scan. Anomaly scans were commonly performed between 18 and 21 weeks of gestation (56%) or after 21 weeks of gestation (44%).

Of the 429 women who were registered for a home birth in 2021, 34% (n=147) were reported to have a medical or obstetric condition develop during this pregnancy while under the care of the home birth service. Care was transferred antenatally to the maternity unit for 126 of them. An additional two women, who did not require a referral for obstetric review, were also transferred antenatally due to maternal request. Similar to previous years, nulliparous women were more likely to transfer in the antepartum period compared to parous women (46% versus 21%). Of the women who transferred during the antepartum period, 16% were transferred because of post maturity, 14% because of prolonged rupture of membranes with no signs of labour and 7% due to the onset of gestational diabetes. Of the women transferred to the maternity hospital during the antepartum period, only two women returned to the care of the home birth service. None of the women who were transferred to the maternity hospital in the antepartum period had an intrapartum transfer in 2021. In the triennial report covering the years 2018 to 2020, 3% of women had both antepartum and intrapartum transfers. Following transfer of care, nulliparous women were more likely to have a caesarean section than parous women in 2021 in line with previous findings (56% versus 17%). The mode of birth was unknown for one fourth of women which could be an example of the community midwives not having full access to the birth details when a woman is transferred into the maternity unit. Full access to the birth details/maternity clinical records was available for 22% of women who were transferred to the maternity hospital in the antepartum period and who did not return to the care of the home birth service. Some details were available for a further 63% of women. The community midwives were unable to access the women's clinical records after antepartum transfer in one sixth of cases (15%). As mentioned previously, the COVID-19 pandemic may have influenced this as community midwives could no longer accompany the woman into hospital after transfer.

Of the 303 women who began labouring at home, 18% (n=55) were transferred to a maternity hospital. Nulliparous women were more likely to transfer during labour than parous women (47% versus 7%). More than 80% of intrapartum transfers occurred during the first stage of labour, potentially reflecting caution by the community midwifes around the decision to transfer. Two fifths of intrapartum transfers to the maternity unit were associated with maternal request for medical analgesia (44%), another 40% with confirmed delay in 1st or 2nd stage of labour, and approximately 10% with prolonged rupture of membranes during labour. In 2021, two parous women required transfer during the 3rd stage of labour.

The prevalence of antepartum and intrapartum transfers is in line with what is reported in the literature, although this is seen to vary widely. According to a few systematic reviews and metanalysis, the proportion of women needing transfer varied from 3.5% to 31.9%.[8, 9] Similarly, a Dutch study showed that 46.9% of women, who were in caseload midwifery care, were referred to obstetrician-led care (24.2% antepartum and 22.8% in the intrapartum period).[10]

Of the 248 infants born at home, 3% needed some form of resuscitation ranging from requiring suction only, oxygen and intermittent positive pressure ventilation (IPPV). This is in line with other large-scale longitudinal studies, which have shown that 3%-10% of newborns will need some form of additional support at birth, with up to 5% requiring IPPV.[11–13] Nine infants who were born at home were transferred to a maternity hospital. Most of the babies were transferred to the unit because they were accompanying their mother being transferred to the maternity unit (n=4). One of these infants was admitted into the Special Care Baby Unit (SCBU) and two infants into the Neonatal Intensive Care Unit (NICU), the remaining infants were cared for routinely on the ward.

All of which were later discharged alive and well. Vitamin K is offered to all women in Ireland

for administration to their newborn infants as standard practice. Following informed discussion, 13% (n=7) of women who gave birth at home declined this option for their infants. Following their home birth, 75% of women returned to the maternity unit on day 3 in order to have their baby's routine newborn examination done by the hospital neonatologist/paediatrician and 23% of women had their GP complete this check.

Women who birthed at home were on average discharged 13 days after the birth of their infants from the care of the community midwife. On the day of the home birth, 96% of women were breastfeeding exclusively, with 96% breastfeeding exclusively on the day of discharge from the care of the community midwife. Women who birthed at home were twice as likely to be breastfeeding exclusively on day of discharge compared to all women who gave birth (96% versus 44%). Eight women required transfer to a maternity hospital in the postpartum period.

This report provides information on the national clinical audit on planned home births in Ireland in 2021. This report offers an informative resource for clinicians to inform women and for women themselves to be self-informed in a clear and transparent manner in relation to planned home birth as an option in Ireland. Clinical audit by the Home Birth Service in collaboration with the NPEC will provide evidence that care provision adheres to the standards and guidelines as included in the selection criteria and as specified in the Memorandum of Understanding (MOU) and Agreement between the HSE and the community midwives. The NPEC in collaboration with the DMOs continue to develop the audit tool for home births in order for this to be achieved.

Recommendations

It is recommended that the home birth service identifies a communication pathway to continue to capture data points when a woman's care is transferred to the maternity unit.

A high percentage of cases submitted to the NPEC have a level of missing information, exacerbated following a transfer of care. To more accurately capture the outcomes of both mother and baby in these circumstances, it is recommended that communication pathways are further supported between the services. Gaining access to electronic records, where relevant, for the home birth services may facilitate this further.

Newborn Infant Physical Examination (NIPE) availability in the community setting.

Further work to be done to improve access to midwives trained in NIPE exam for home birth population in order to facilitate newborn examination being completed in the community. Of the infant's born at home, 75.0% (n=183) had their newborn examination completed in the hospital in 2021.

Continue to encourage presence of a second midwife at the home birth.

The presence of two midwives at the home birth has been a mandatory part of the service since 2014 (Annex 1). This should continue to be encouraged as an important safety measure when providing community care.

Further detail regarding the factors influencing length of transfer should be examined.

As transfer times are a crucial component of safe and efficient care, further detail around the factors that may influence the length of a transfer should be further examined as part of this clinical audit. Including, defining the start and end times as a standard point of reference and to capture further detail on the communication with the other support services.

RECOMMENDATIONS FROM THE PREVIOUS REPORT (2018-2020) THAT HAVE BEEN PROGRESSED

NPEC should continue collaboration with the DMOs to further develop the home birth audit form.

Further development of the audit form will allow for more accurate data to be captured. By improving the quality of the audit form and the data collected, it will ensure that Evidence-Based care continues to be reviewed.

Since the publishing of the last report in 2022, several measures have been put in place to develop and improve the audit form for the home birth audit, including building and managing the new data collection form on a secure online platform.

Maternity units should consider identifying a liaison obstetrician or a specific home birth clinic for women who are registered with the home birth services in Ireland.

The identification of a liaison obstetrician or specific home birth clinic would assist in establishing effective assessment, referral and/or transfer pathways, providing a point of contact for the women and their SECMs. Where this is in place in some hospitals, it's recognised that communication is improved, and continuity of care is supported.

With the ongoing integration of HSE home births into the acute services governance, this improvement of hospital-based support and communication pathways is being progressed and further established.

Introduction

Purpose of this audit

The primary aim of this report is to present national statistics and an overview of audit findings from the HSE home births service in the Republic of Ireland (ROI) for the year 2021. This report draws on information collected from the planned home birth in Ireland audit. Clinical audit is defined as "a clinically led quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and acting to improve care when standards are not met."[14] The audit examines both the maternal and fetal outcomes of planned HSE home births, including outcomes whereby the care of the woman is transferred for hospital care in the antepartum, intrapartum or postpartum period. Consequently, this report aims to provide data to firstly ascertain adherence to the national evidence-based guidelines, protocols and standards and, secondly, to provide evidence which facilitates maternity healthcare providers to review practice in the home setting, where appropriate.

Pathway of care in the Republic of Ireland

As illustrated in Figure 1 when a woman enquires about having a home birth, she can contact a DMO or the self-employed community midwife (SECM) in her area, or book directly with the small number of hospitals providing an integrated community service. The criteria for home birth are discussed with the woman and eligibility for the service is agreed. An application form and consent form are signed between the community midwife and the woman, and then forwarded to the DMO to confirm eligibility. Some women may require an individual assessment by a Consultant Obstetrician. The DMO informs the Director of Public Health Nursing, Local Public Health Nurse, the woman's GP, the Director of Midwifery at the maternity hospital where the woman is booked and the Administration Department of the HSE, Local Health Office (LHO) about the forthcoming home birth. Women intending to have a home birth are advised to register with a GP and to register and avail of services with a maternity hospital of their choice. The community midwife will be the primary carer for the mother and child up to 10-14 days after the birth. Full service to the woman denotes a minimum of 11 visits by the community midwife, which is generally divided into 5 antepartum visits, labour, and birth, and 5 postpartum visits, subject to individual needs.

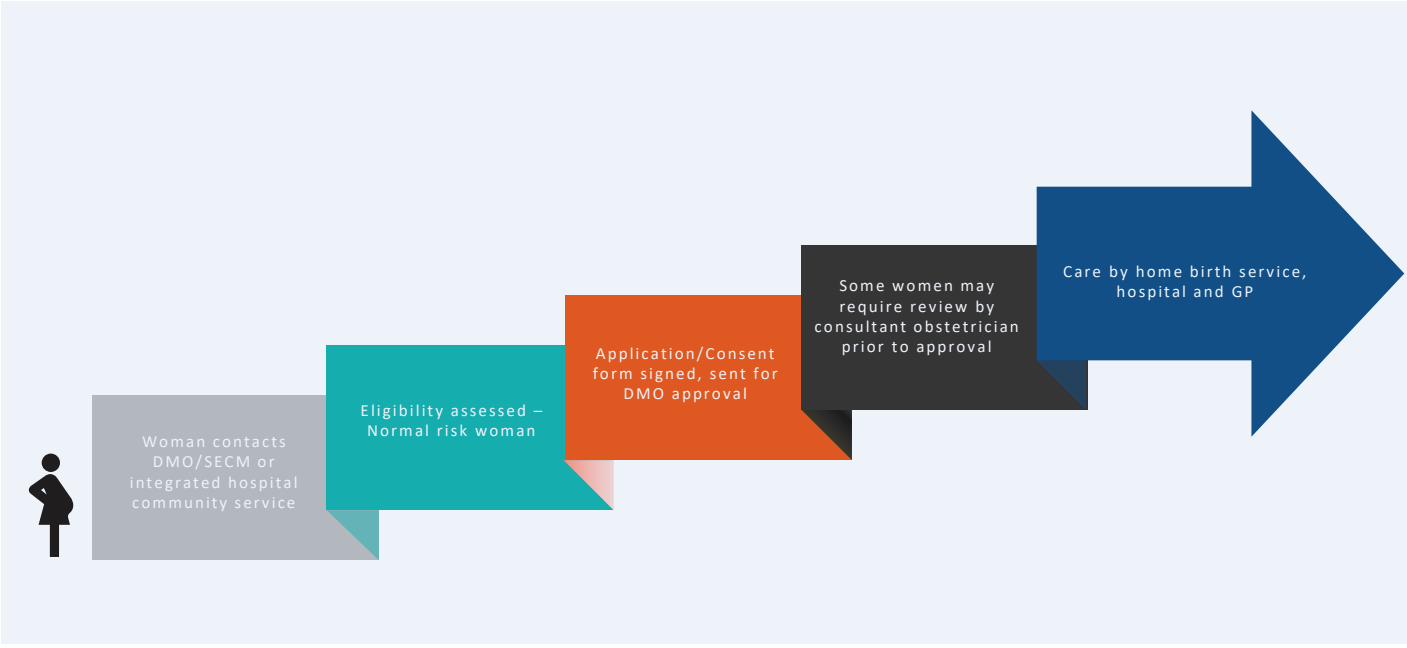


Figure 1: Pathway of care for planned home birth enquiries.

Methods

Data recording

In 2021, 22 SECM's in Ireland provided a home birth service on behalf of the HSE. As outlined in the MOU between HSE and the community midwives, each community midwife is required to partake in clinical audit. In University Hospital Waterford (UHW) and Wexford General Hospital (WGH), the home birth service is available through the hospital from a team of midwives through an integrated hospital community service.

Domiciliary notes of midwifery care are sent by the community midwife to the DMO or manager of the service. The DMO reviews the domiciliary midwifery notes, then collates the data using a standardised audit tool and that anonymised data is forwarded to the NPEC for analysis. Data on all women who registered with the HSE home birth service and who gave birth between January 1, 2021, and December 31, 2021, were collected using the standardised NPEC data collection form. Figure 2 illustrates the flow of information in the data collection process.

Missing data

To ensure accuracy of information, missing or incomplete data were sought from respective SECM's and maternity units by the DMO. However, for some cases, information may still be missing because the community midwives do not always receive a full dataset when the women are transferred into the maternity units. This has been impacted further during the COVID-19 pandemic where the SECMs could no longer accompany the women into the hospital. The extent of missing data is reported in the results section.

Comparison to National Statistics

Comparisons are made with the most recent publications available including the Central Statistics Office's Vital Statistics Fourth Quarter and Yearly Summary report as well as from the Healthcare Pricing Office.

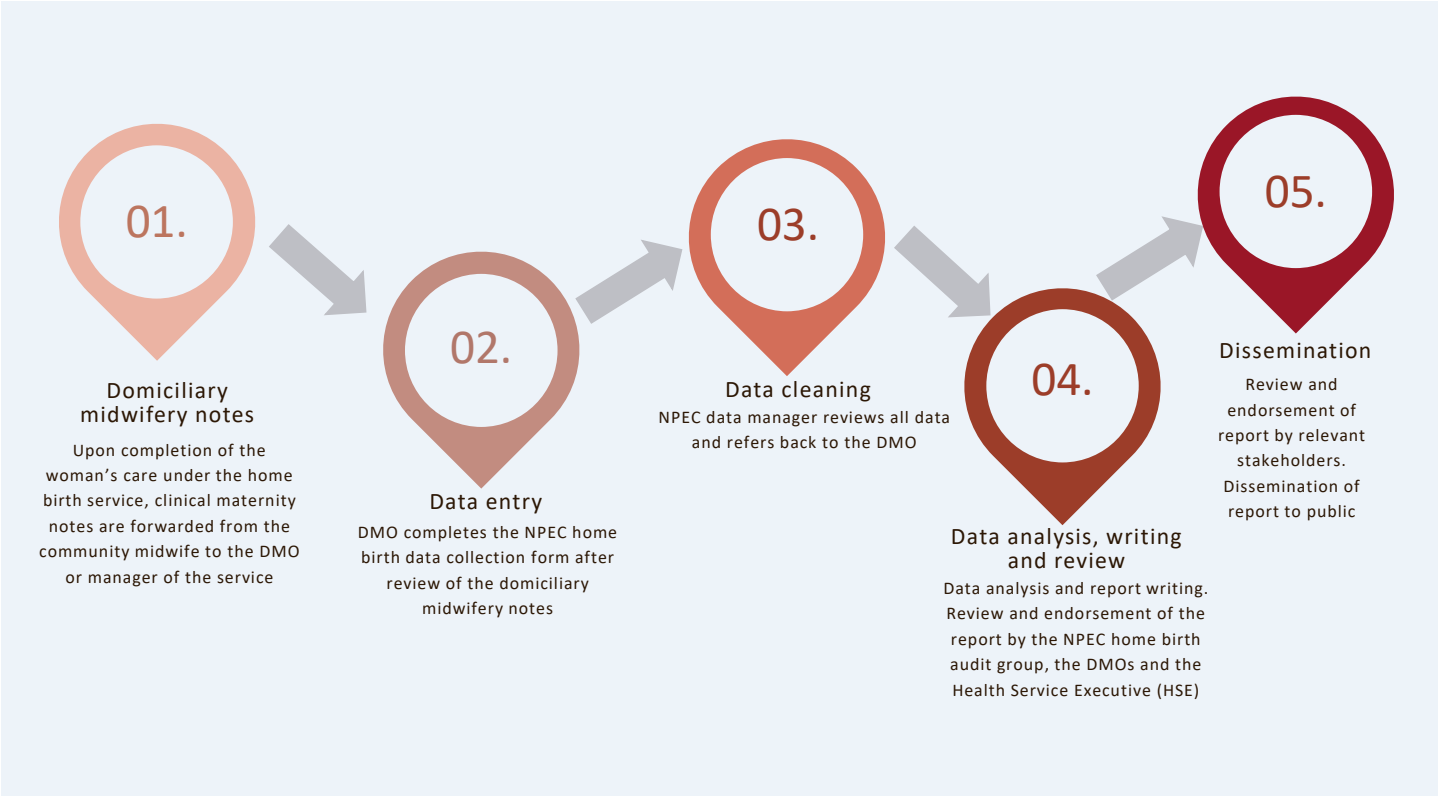
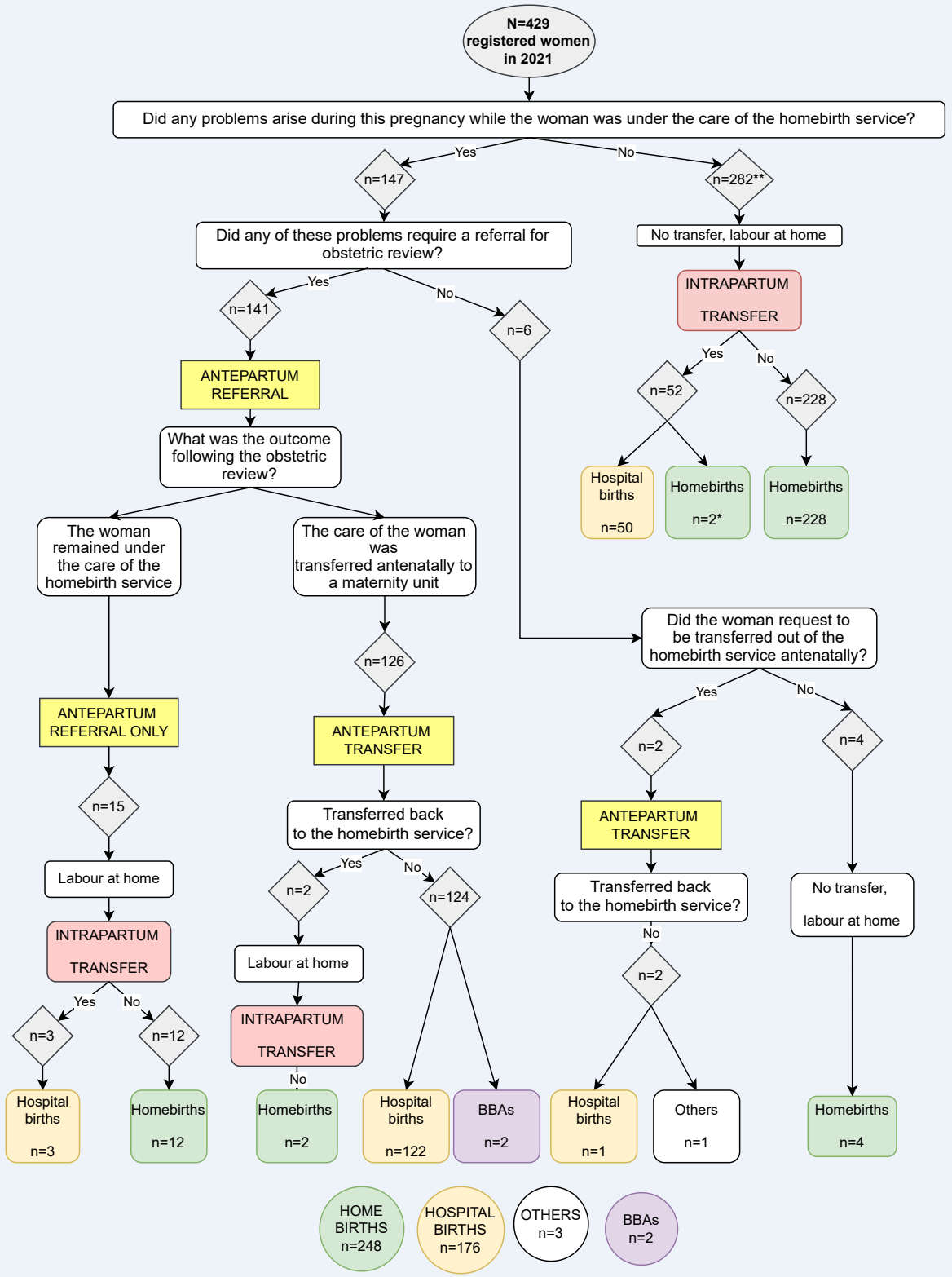


Figure 2: Flow of information in the NPEC data collection process.

Results



Note:
*Intraparturm transfer in 3rd stage of labour
**Two women who were registered for a home birth moved residence and were no longer under the care of Home Birth Service in Ireland and were classified as "Others".
BBAs: Born Before Arrival

Figure 3: Flowchart of planned home births, 2021.

For the period from January 1st, 2021, to December 31st 2021, there were 429 women who were registered for a home birth. The number of women who were registered for a home birth steadily increased from 2018 to 2021 (Table 1). This increase is also evidenced in the rate per 1,000 total births for the Republic of Ireland since 2017 (Figure 4).

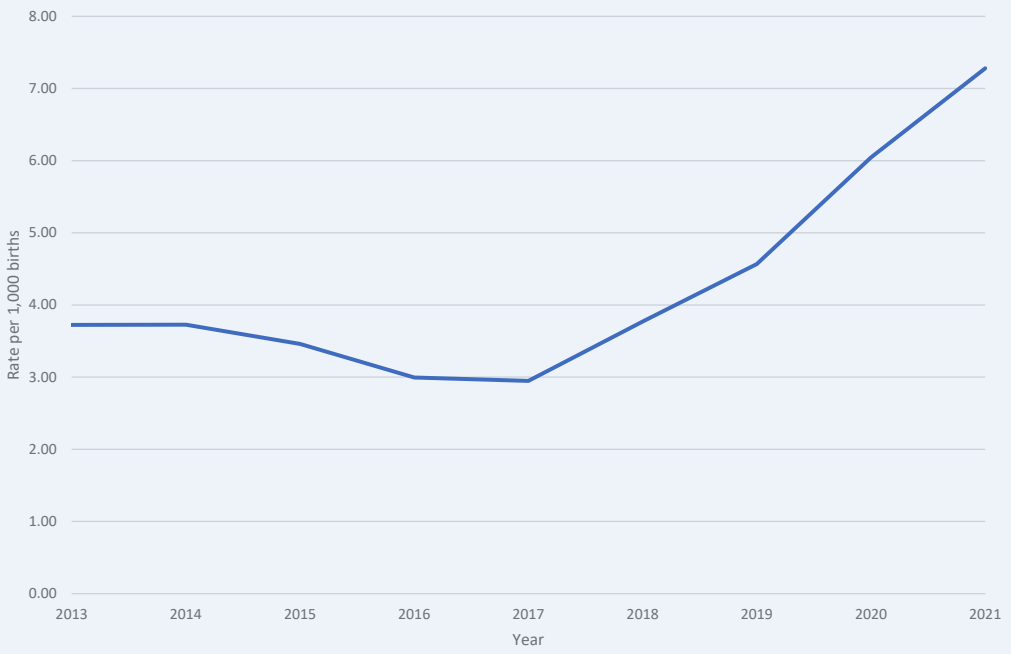


Figure 4: Rate of women registered for a home birth among all births in the Republic of Ireland, 2013-2021.

Note: The national number of women who gave birth in hospital based on Hospital In-Patient Enquiry (HIPE) data with the maternities in one non-participating unit excluded for 2014 and 2015.

The distribution of home births by Health Service Executive (HSE) region is markedly different to the overall distribution of births nationally. As noted in previous years, the majority of women registering for home birth is in HSE South (n=161), with the numbers continuing to gradually increase in this area. However, since 2020, Dublin Mid Leinster also showed a significant increase in planned home births compared to previous years (Table 1). Integrated hospital community services, available in UHW and WGH reported a total of 10 cases for 2021, which represents 2.3% of the total of women registered for a home birth in the Republic of Ireland in 2021. The remainder of women in this report chose to have their care provided by self-employed community midwives.

Table 1: Distribution of women who were registered for a home birth by HSE area, 2013-2021.

HSE area/ Year*	Dublin North East	Dublin Mid Leinster	HSE West	HSE South	HSE South East	All areas
	N=382 N(%)	N=514 N(%)	N=321 N(%)	N=1097 N(%)	N=76 N(%)	N=2390 N(%)
2013	40(15.5)	50(19.4)	51(19.8)	117(45.3)	-	258(100)
2014	38(15.1)	50(19.8)	44(17.5)	120(47.6)	-	252(100)
2015	24(10.5)	29(12.7)	49(21.5)	126(55.3)	-	228(100)
2016	25(13)	27(14.1)	27(14.1)	113(43.8)	-	192(100)
2017	31(16.9)	18(9.8)	17(9.3)	103(39.9)	14(7.7)	183(100)
2018	39(16.9)	41(17.7)	27(11.7)	108(46.8)	16(6.9)	231(100)
2019	46(16.9)	66(24.3)	27(9.9)	122(44.9)	11(4)	272(100)
2020	64(18.6)	104(30.1)	35(10.1)	127(36.8)	15(4.3)	345(100)
2021	75(17.5)	129(47.4)	44(10.3)	161(37.5)	20(4.7)	429(100)

Note: Values are shown as n(%) unless otherwise stated. *Seven women registered with the domino scheme in the maternity hospital, but all their antepartum and postpartum care was with the SECMs for the time period 2013-2020. HSE South includes Waterford University Hospital planned home birth cases, and South East includes Wexford General Hospital planned home birth cases from 2017 to 2021. HSE South East home births were reported as HSE South home birth numbers until year end 2016.

Maternal characteristics

Age

The age range of women who were registered for a home birth in 2021 was 18-43 years, with the average age being 33.5 years. Consistent with data from previous reports, women who registered for a home birth tended to be of an older age demographic when compared to all women who gave birth in Ireland (Table 2). A higher majority (n=319 of 429, 74.4%) of women who were registered to give birth at home were aged 30-39 years in 2021 compared to 66.1% of all women who gave birth from 2018 to 2021.

Table 2: Age distribution of women who were registered for a home birth, 2018-2021.

Age group*	2018 N=229 N(%)	2019 N=271 N(%)	2020 N=345 N(%)	2021 N=429 N(%)	All planned home births N=1274 N(%)	All births 2018-2021[15] N=234,718 (%)
<25 yrs	11(4.8)	8(3)	5(1.4)	8(1.9)	32(2.5)	9.1
25-29 yrs	34(14.8)	43(15.9)	48(13.9)	66(15.4)	191(15)	16.8
30-34 yrs	77(33.6)	84(31)	128(37.1)	179(41.7)	468(36.7)	34.4
35-39 yrs	89(38.9)	113(41.7)	142(41.2)	140(32.6)	484(38)	31.6
>=40 yrs	18(7.9)	23(8.5)	22(6.4)	36(8.4)	99(7.8)	8.0

Note: Values are shown as n(%) unless otherwise stated. *Age unknown for two women in 2018, and one woman in 2019.

Marital status

As outlined in Table 3, consistent with previous years, almost all of the women who were registered for a home birth were either married (58.3%) or with a partner (35.8%).

Table 3: Marital status of women who were registered for a home birth, 2018-2021.

Marital Status*	2018 N=227 N(%)	2019 N=269 N(%)	2020 N=344 N(%)	2021 N=424 N(%)
Married	138(60.8)	173(64.3)	232(67.4)	247(58.3)
Not married	87(38.3)	96(35.7)	110(32)	176(41.5)
Divorced/Separated	2(0.9)	0(0)	2(0.6)	1(0.2)

Note: Values are shown as n(%) unless otherwise stated. *Marital status unknown for four women in 2018, three women in 2019, one woman in 2020 and five women in 2021.

Ethnicity

The majority of women who booked for a home birth were of white Irish ethnicity, which is consistent with the percentage of white Irish in the female population aged 15-49 years surveyed in 2016[16] (77.3%, 73.0% for 2021, Table 4). The numbers of Asian/Asian Irish (n=2), Black/Black Irish (n=2) and mixed ethnicities (n=10) are small and are under representative of the population for this year as it occurred in previous years.

Table 4: Ethnicity of women who were registered for a home birth, 2018-2021.

Ethnicity*	2018 N=228 N(%)	2019 N=270 N(%)	2020 N=343 N(%)	2021 N=429 N(%)	15-49-year-old female Population 2016[16] N=781,392 (%)
White Irish	176(77.2)	199(73.7)	271(79)	313(73)	77.3
Other white background	48(21.1)	61(22.6)	60(17.5)	102(23.8)	15.1
Other ethnic backgrounds	4(1.8)	10(3.7)	12(3.5)	14(3.3)	6.8

Note: Values are shown as n(%) unless otherwise stated. Other ethnic backgrounds include Asian/Asian Irish, Black/Black Irish, Other/mixed. *Ethnicity unknown for three women in 2018, two women in 2019 and two women in 2020.

Body mass index

Body mass index (BMI) was available for 98.1% (n=421) of women in 2021 (Table 5). As in previous years, the BMI for approximately 60% of women was in the healthy range (18.5-24.9kgm-2), almost one third were classified as overweight (25.0-29.9kgm-2) and approximately one in ten were classified as obese (>30.0kgm-2). BMI at booking >35 or <18 is a factor for planned birth in an obstetric unit (Annex 1). The BMI profile of women who were registered for a home birth was healthier than the general population of women giving birth in Ireland in 2020, based on a comparison with data collated from seven maternity units in Ireland.

Table 5: Body Mass Index (BMI) of women who were registered for a home birth, 2018-2021.

BMI Category (kgm-2)*	2018 N=215 N(%)	2019 N=260 N(%)	2020 N=332 N(%)	2021 N=421 N(%)	Maternities** 2020 N=35,122 (%)
Underweight (<18.5)	4(1.9)	7(2.7)	4(1.2)	7(1.7)	1.3
Healthy (18.5-24.9)	138(64.2)	154(59.2)	193(58.1)	246(58.4)	46.2
Overweight (25.0-29.9)	59(27.4)	70(26.9)	104(31.3)	131(31.1)	31.3
Obese (>=30.0)	14(6.5)	29(11.2)	31(9.3)	37(8.8)	21.1

Note: Values are shown as n(%) unless otherwise stated. *BMI unknown for 16 women in 2018, 12 women in 2019, 13 women in 2020 and eight women in 2021. **Data on BMI were collated for 35,122 maternities in 2020 from seven of the country's 19 maternity hospitals/units and used to estimate the national number of maternities by BMI category.

Smoking, alcohol and drug consumption

Smoking status and alcohol consumption at the time of booking was recorded for the majority of women (99.8% and 98.4%, respectively). Eleven women (2.6%) indicated that they were smoking at point of booking, three of whom gave up during pregnancy. These figures suggest a 27.3% (n=3 of 11) cessation rate although this estimated rate is based on small numbers.

Thus, eight of the 429 (1.9%) women smoked throughout their pregnancy for this report. The vast majority of women (n=417 of 422, 98.8%) reported they did not consume alcohol at their booking visit. Of the five women reported to have consumed alcohol at the booking visit, all of them did so monthly or less. Less than 1% had a documented history of drug abuse or attendance at a drug rehabilitation unit prior to this pregnancy (n=3 of 429).

Physical activity

Physical activity was recorded for less than 30% of the women (n=127). Of them, 97% engaged regularly in physical activity (i.e. more than once a week), 2.4% (n=3) had occasional physical activity (i.e. once every two weeks), and one woman reported to not be engaging in any physical activity at the time of the booking visit.

Distance of the woman's residence to services

Data related to the distance of the woman's residence to the community midwife and to the nearest maternity hospital is shown in Figure 5. More than 65% of the women were within 30 kilometres of the community midwife (n=281, 65.5%; mean=26.3kms), and within 30 kilometres of the maternity hospital (n=288, 67.1%; mean=26.4kms). The average distance of the woman's residence to the community midwife has reduced since 2018 (mean=29.5km in 2018, mean=29.6 in 2019 and mean=28.5 in 2020), with a statistically significant difference between 2019 and 2021 (mean difference=3.3kms; p-value=0.03); however, the difference is not statistically significant between other years. Information relating to transfer time will be discussed later in the report.

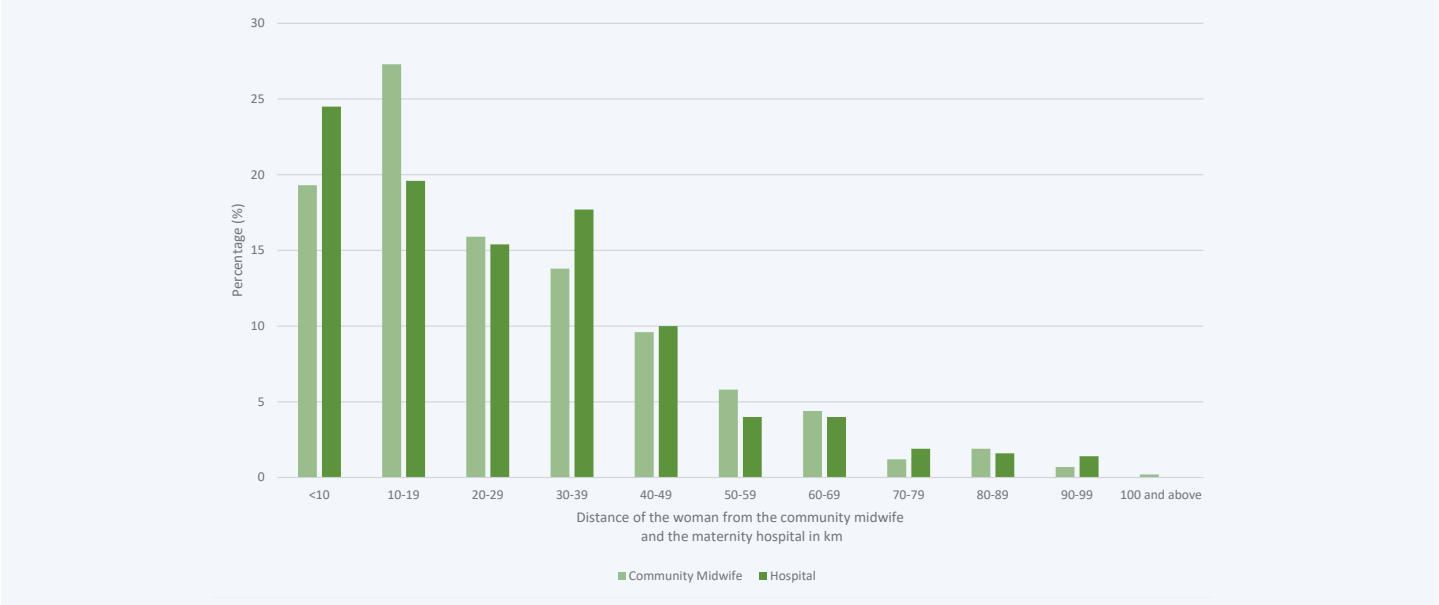


Figure 5: Distance (km) of the women from the community midwife and the maternity hospital, 2021.

Previous pregnancy

As indicated in Table 6, almost two-thirds of the women who were registered for a home birth in 2021 had a previous birth, similarly to previous years (68.0%, 69.9% and 65.5% for 2018, 2019 and 2020, respectively).

Table 6: Parity of women who were registered for a home birth, 2018-2021.

Parity	2018 N=231 N(%)	2019 N=272 N(%)	2020 N=345 N(%)	2021 N=429 N(%)	All births 2018-2020 [17-19] N=177,858 (%)
Nulliparous	74(32)	82(30.1)	119(34.5)	154(35.9)	39.1
Multiparous	157(68)	190(69.9)	226(65.5)	275(64.1)	60.9

Note: Values are shown as n(%) unless otherwise stated.

Table 7 specifies gravida and parity for all 429 women who were registered for a home birth in 2021. Prior to this current pregnancy, approximately one third of women (n=134, 31.2%) were never pregnant before. Almost half of the women who were registered for a planned home birth had completed pregnancies i.e. live births from 24 weeks of gestation and/or stillbirths (n=200, 46.6%). One fifth of the women had experienced previous completed pregnancies plus at least one pregnancy <24 weeks gestation and birthweight <500g (n=75, 17.5%). Approximately 5% (n=20, 4.7%) of women experienced pregnancies which only resulted in miscarriages, i.e. <24 weeks gestation and birthweight <500g (Table 7).

Table 7: Gravida/parity of women prior to the pregnancy, 2021.

	Parity						
Gravida	**0**	**1**	**2**	**3**	**4**	**≥5**	**Total**
0	134	0	0	0	0	0	**134**
1	16	126	0	0	0	0	**142**
2	4	25	55	0	0	0	**84**
3	0	5	19	16	0	0	**40**
4	0	1	9	4	1	0	**15**
5	0	1	1	1	1	2	**6**
6	0	0	1	0	2	5	**8**
Total	**154**	**158**	**85**	**21**	**4**	**7**	**429**

Note: We refer to gravida and parity prior to the current pregnancy in 2021. Green represents women with previous pregnancies that were always complete; orange represents women who had experienced complete pregnancy and pregnancy <24 weeks gestation and birthweight <500g; and red represents women whose previous pregnancies were always <24 weeks gestation and birthweight <500g.

Of the women who had previous births (n=275), 15.6% (n=43) had a previous home birth only, 12.4% (n=34) have given birth in both the home and hospital setting, 71.6% (n=197) have previously given birth in hospital only, and one woman had a previous BBA only. A small number of the women who previously gave birth at hospital (n=6) also had a previous BBA.

Antepartum care

Shared Care

All women who were registered for a home birth also registered with a maternity unit (100%). A specific liaison obstetrician or a specific liaison clinic was available in the maternity unit for almost 60% of the women (n=212, 49.4% and n=39, 9.1%, respectively). A non-specific obstetrician was available for two fifths of women who registered for a home birth (n=178, 41.5%).

Approximately 87% of women, who registered for a home birth, had an initial booking visit during pregnancy with their general practitioner (GP) (n=374, 87.2%). The GP was unable to provide some aspects of shared care for more than half of the women (n=212, 56.7%), and 34.4% (n=73) of women did not receive any shared care from their GP. Where a GP was not able to provide antenatal care, they were also unlikely to be able to complete the examination of the newborn on day 3 (n=72, 34.0%).

Midwifery-led hospital services (n=71, 33.5%) and care from the community midwife only (n=61, 28.8%) were the most common alternatives to providing shared care when a GP was unable to do so. Of the women who received shared care from their maternity hospital's obstetric led service, 14% had a specific liaison obstetrician or clinic available (n=3 of 21, 14.3%).

Estimated date of delivery and antepartum ultrasound scans

Estimated date of delivery (EDD) was calculated using both ultrasound scan and last menstrual period (LMP) in the majority of cases (n=177 of 428, 41.4%). For the remainder of the women, EDD was calculated using ultrasound scan only (n=136, 31.8%) or LMP only (n=115, 26.9%), missing information for one case.

The majority of women who registered for a home birth had a booking scan (n=300 of 357, 84%). There is missing data on booking scan details for 72 women who registered, which could possibly be attributed to the women registering with the home birth service after they have had their initial scan.

Of the 429 women registered for a home birth in 2021, 99.3% (n=424 of 427, missing information for two cases) had an anomaly scan. Anomaly scans were commonly performed between 18 and 21 weeks of gestation (n=237 of 424, 55.9%) or after 21 weeks of gestation (n=185 of 424, 43.6%).

Risk factors requiring review when planning place of birth

In 2021, 22.8% (n=98 of 429) of women who registered for a home birth had a reported risk factor that required review by an obstetrician to determine eligibility for the service. Of them, 81.6% (n=80) had only one risk factor and the remaining women had two risk factors. In total, 115 risk factors were identified in 2021. Consistently with previous years, maternal age over 40 at booking (36.7%), gynaecological abnormality (e.g. fibroids or previous LLETZ treatment) (18.4%), mental health history (18.4%) and endocrine disorders (14.3%) were the most common risk factors identified (Table 8).

Table 8: Risk factors indicating individual assessment when planning place of birth, 2018-2021.

Risk factors	2018 N=38 N(%)	2019 N=47 N(%)	2020 N=58 N(%)	2021 N=98 N(%)
BMI >35 or <18	1(2.6)	0(0)	1(1.7)	3(3.1)
Cardiovascular disease	1(2.6)	1(2.1)	2(3.4)	1(1)
Endocrine disorder	9(23.7)	11(23.4)	10(17.2)	14(14.3)
Gastrointestinal disease	0(0)	1(2.1)	1(1.7)	4(4.1)
Gynaecological abnormality	14(36.8)	12(25.5)	17(29.3)	18(18.4)
Haematological disorder	1(2.6)	0(0)	2(3.4)	0(0)
Immune disease	1(2.6)	0(0)	0(0)	0(0)
Infection	1(2.6)	1(2.1)	1(1.7)	2(2)
Maternal age over 40 at booking	9(23.7)	12(25.5)	12(20.7)	36(36.7)
Mental Health history	3(7.9)	6(12.8)	6(10.3)	18(18.4)
Musculoskeletal disorder	0(0)	3(6.4)	2(3.4)	0(0)
Respiratory issues/ Asthma	0(0)	1(2.1)	0(0)	1(1)
Safeguarding concerns	0(0)	1(2.1)	0(0)	0(0)
Other	3(7.9)	1(2.1)	6(10.3)	18(18.4)

Note: Values are shown as n(%) unless otherwise stated. Categories are not mutually exclusive (i.e., some women had more than one risk factor, and, in such cases, each risk factor was counted in the table above).

Of the 295 women who had a previous pregnancy and were registered for a home birth, 61 (20.7%) were reported to have had a previous obstetric condition or risk factor for review which included a history of Group B streptococcus (18.0%), parity of 5 or more (11.5%), three or more miscarriages (9.8%), post-partum depression (8.2%) and previous baby weighing >4.5kg (8.2%; Table 9). There was a 15% increase in the reporting of previous pregnancy problems compared to the previous year 2020. This may possibly be attributed to an update in the data collection tool, following a recommendation from the triennial report.

Table 9: Previous pregnancy conditions or risk factors indicating individual assessment when planning place of birth, 2018-2021.

Previous pregnancy conditions/ risk factors	2018 N=5 N(%)	2019 N=14 N(%)	2020 N=15 N(%)	2021 N=61 N(%)
Extensive vaginal, cervical, or third- or fourth- degree perineal trauma	0(0)	1(7.1)	0(0)	4(6.6)
Gestational diabetes	1(20)	0(0)	2(13.3)	2(3.3)
Group B streptococcus	0(0)	3(21.4)	3(20)	11(18)
Para 5 or more	0(0)	0(0)	0(0)	7(11.5)
Post-partum depression	0(0)	0(0)	0(0)	5(8.2)
Post-partum haemorrhage	0(0)	0(0)	2(13.3)	4(6.6)
Pre-eclampsia developing at term	0(0)	0(0)	1(6.7)	1(1.6)
Preterm labour or mid trimester loss	0(0)	1(7.1)	0(0)	2(3.3)
Previous baby >4.5kg	0(0)	0(0)	1(6.7)	5(8.2)
Previous baby with congenital anomaly (please specify)	0(0)	0(0)	2(13.3)	3(4.9)
Previous neonatal death (please specify cause)	1(20)	0(0)	1(6.7)	0(0)
Retained placenta	2(40)	1(7.1)	0(0)	1(1.6)
Shoulder dystocia	1(20)	1(7.1)	0(0)	1(1.6)
Three or more miscarriages	0(0)	0(0)	0(0)	6(9.8)
Other	0(0)	7(50)	3(20)	19(31.1)

Note: Values are shown as n(%) unless otherwise stated. Categories are not mutually exclusive (i.e., some women had more than one condition, and, in such cases, each condition was counted in the table above).

Current pregnancy

Of the 429 women who were registered for a home birth in 2021, 147 women (34.3 %) were reported to have a medical or obstetric condition develop during the current pregnancy (Table 10). The most common conditions reported in 2021 were post-dates pregnancy (15.0%), prolonged rupture of membranes with no signs of labour (12.2%), onset of gestational diabetes (6.8%) and malpresentation of the fetus (6.1%; Table 10).

Table 10: Current conditions identified in this pregnancy, 2018-2021.

Conditions this pregnancy	2018 N=78 N(%)	2019 N=91 N(%)	2020 N=126 N(%)	2021 N=147 N(%)
Anaemia	3(3.8)	0(0)	2(1.6)	7(4.8)
Antepartum haemorrhage	1(1.3)	6(6.6)	3(2.4)	4(2.7)
Any indication of maternal infection (incl. viral)	0(0)	2(2.2)	2(1.6)	5(3.4)
Atypical antibodies	1(1.3)	2(2.2)	0(0)	0(0)
Concern with fetal heart rate	4(5.1)	3(3.3)	5(4)	2(1.4)
Diagnoses of oligo/polyhydramnious	6(7.7)	6(6.6)	1(0.8)	6(4.1)
Group B streptococcus	3(3.8)	4(4.4)	5(4)	8(5.4)
Hypertension	3(3.8)	3(3.3)	3(2.4)	3(2)
Low lying placenta/ Placenta praevia	3(3.8)	2(2.2)	3(2.4)	4(2.7)
Macrosomia/ Large for dates	0(0)	2(2.2)	4(3.2)	6(4.1)
Malpresentation	7(9)	6(6.6)	6(4.8)	9(6.1)
Maternal request for transfer	1(1.3)	1(1.1)	2(1.6)	2(1.4)
Onset of gestational diabetes	1(1.3)	1(1.1)	6(4.8)	10(6.8)
Post dates	16(20.5)	16(17.6)	23(18.3)	22(15)
Pre-eclampsia	1(1.3)	2(2.2)	2(1.6)	1(0.7)
Premature rupture of membranes	3(3.8)	5(5.5)	7(5.6)	4(2.7)
Prolonged rupture of membranes with NO signs of labour	7(9)	8(8.8)	15(11.9)	18(12.2)
Small for gestational age/ Intrauterine growth restriction	10(12.8)	7(7.7)	10(7.9)	7(4.8)
Reduced fetal movements	3(3.8)	2(2.2)	7(5.6)	4(2.7)
Suspected fetal anomaly	3(3.8)	3(3.3)	2(1.6)	1(0.7)
Threatened preterm labour	4(5.1)	1(1.1)	1(0.8)	5(3.4)
Thromboembolic disease	1(1.3)	0(0)	0(0)	0(0)
Unstable lie	0(0)	2(2.2)	2(1.6)	2(1.4)
Other	6(7.7)	18(19.8)	18(14.3)	32(21.8)

Note: Values are shown as n(%) unless otherwise stated. Categories are not mutually exclusive (i.e., some women had more than one condition, and, in such cases, each issue was counted in the table above).

Of the 147 women who had a problem arise during this pregnancy while under the care of the home birth service, 95.9% (n=141) were reviewed by an obstetrician in the maternity unit. The care was transferred antenatally to a maternity unit for 89.4% (n=126) of them. An additional two women, who did not require a referral for obstetric review, were also transferred antenatally due to maternal request. The remaining 4 women had a problem that did not require referral to an obstetrician and was managed appropriately by the community team (Figure 3).

Following the obstetric review, there was a small cohort of women (n=15) who required extra monitoring during their pregnancy but that did not require transfer of care to the maternity unit, demonstrating effective collaboration between services. Reasons included: fetal growth monitoring requiring extra growth scans, reduced fetal movements, anaemia, malpresentation, post-dates and low-lying placenta that required re-scanning and was later deemed safe. Three of these women went on to have an intrapartum transfer and give birth in hospital, and the remaining 12 women gave birth at home.

Women who did not require an antepartum transfer and therefore continued their pregnancy under the care of the home birth service (n=303), received between one to 14 antepartum visits from the midwife. The mean number of antepartum visits to the women was six. As indicated in Figure 6, the majority of visits for both nulliparous and parous women were between four and nine (57.8% and 30.7%, respectively).

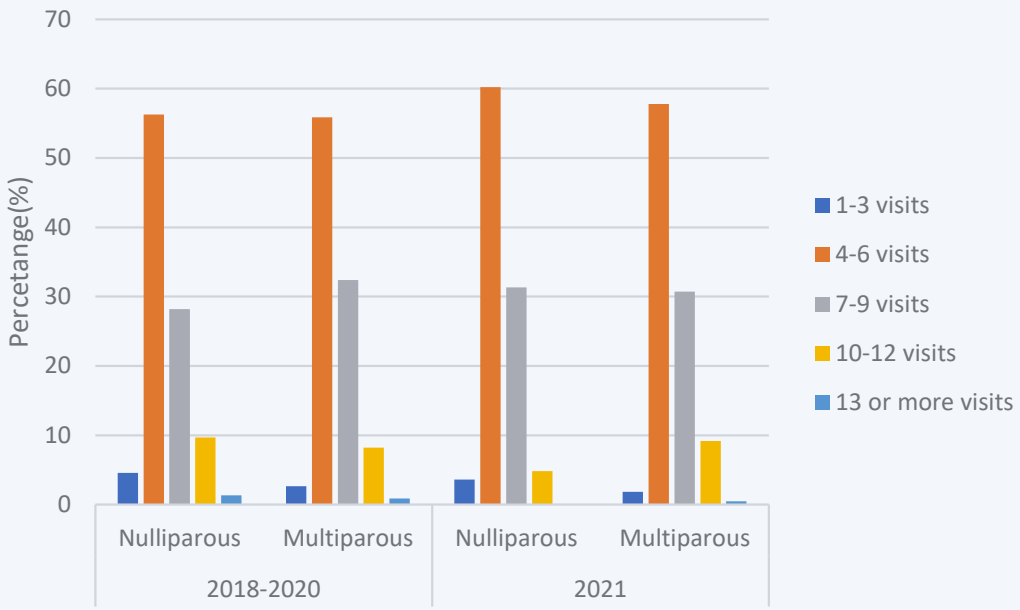


Figure 6: Number of antepartum visits by parity, 2018-2021.

Note: Values are shown as n(%) unless otherwise stated. *Number of antepartum visits unknown for three nulliparous and unknown for five parous women from 2018-2020.

Antepartum transfers

A total of 126 women were transferred in the antepartum period due to a problem arising during the pregnancy. Two further women transferred their care to the maternity unit by choice. Therefore, in 2021, a total of 128 (29.8%) women were transferred to a maternity hospital during their pregnancy. Two women were transferred back to the home birth service later in the pregnancy and gave birth at home, two women gave birth before arrival to the hospital (BBAs), one woman gave birth outside of the HSE home birth service, and the remaining 123 women gave birth in hospital. This is in line with previous findings, where approximately one third of women's care was transferred antenatally to a maternity hospital (Table 11). There were two women who did not have any complications during their pregnancy but who moved country while pregnant, and so did not continue with the HSE home birth service.

Table 11: Antepartum transfer by parity, 2018-2021.

	Total	Nulliparous	Multiparous
2018	72/231(31.2)	32/74(43.2)	40/157(25.5)
2019	89/272(32.7)	35/82(42.7)	54/190(28.4)
2020	122/345(35.4)	53/119(44.5)	69/226(30.5)
2021	128/429(29.8)	71/154(46.1)	57/275(20.7)

Note: Values are shown as n/total(%) unless otherwise stated.

The most common reasons for antepartum transfers in 2021 were post-dates pregnancy (n=21, 16.4%), prolonged rupture of membranes with no signs of labour (n=18, 14.1%), onset of gestational diabetes (n=9, 7.0%) and malpresentation (n=8, 6.3%, Table 12).

Table 12: Reasons for antepartum transfers, 2018-2021.

Reasons for antepartum transfer	2018 N=71 N(%)	2019 N=89 N(%)	2020 N=122 N(%)	2021 N=128 N(%)
Anaemia	3(4.2)	0(0)	1(0.8)	1(0.8)
Antepartum haemorrhage	0(0)	6(6.7)	3(2.5)	3(2.3)
Any indication of maternal infection (incl. viral)	0(0)	2(2.2)	2(1.6)	4(3.1)
Atypical antibodies	1(1.4)	1(1.1)	0(0)	0(0)
Concern with fetal heart rate	4(5.6)	3(3.4)	5(4.1)	1(0.8)
Diagnoses of oligo/polyhydramnious	4(5.6)	4(4.5)	1(0.8)	6(4.7)
Group B streptococcus	3(4.2)	4(4.5)	6(4.9)	6(4.7)
Hypertension	3(4.2)	3(3.4)	2(1.6)	2(1.6)
Intrauterine death	0(0)	0(0)	0(0)	0(0)
Low lying placenta/ Placenta praevia	1(1.4)	1(1.1)	2(1.6)	2(1.6)
Macrosomia/ Large for dates	0(0)	2(2.2)	5(4.1)	5(3.9)
Malpresentation	6(8.5)	5(5.6)	8(6.6)	8(6.3)
Maternal request for transfer	1(1.4)	1(1.1)	2(1.6)	2(1.6)
Mental Health deterioration/new onset mental health disorder	0(0)	0(0)	0(0)	0(0)
Meconium-stained liquor	0(0)	0(0)	0(0)	0(0)
Onset of gestational diabetes	1(1.4)	1(1.1)	6(4.9)	9(7)
Post dates	16(22.5)	16(18)	23(18.9)	21(16.4)
Pre-eclampsia	1(1.4)	2(2.2)	2(1.6)	1(0.8)
Premature rupture of membranes	3(4.2)	5(5.6)	7(5.7)	4(3.1)
Prolonged rupture of membranes with NO signs of labour	7(9.9)	8(9)	14(11.5)	18(14.1)
Reduced fetal movements	3(4.2)	2(2.2)	7(5.7)	2(1.6)
Small for gestational age/ Intrauterine growth restriction	8(11.3)	7(7.9)	10(8.2)	6(4.7)
Suspected fetal anomaly	1(1.4)	3(3.4)	0(0)	1(0.8)
Threatened preterm labour	1(1.4)	0(0)	1(0.8)	3(2.3)
Thromboembolic disease	1(1.4)	0(0)	0(0)	0(0)
Unstable lie	0(0)	1(1.1)	2(1.6)	0(0)
Other	3(4.2)	12(13.5)	17(13.9)	23(18)

Note: Values are shown as n(%) unless otherwise stated. Categories are not mutually exclusive.
*Reasons for antepartum transfer missing for one woman in 2018.

Of the 128 women who were transferred to the maternity hospital, only two women (1.6%) returned to the care of the home birth service and did not later require an intrapartum transfer in 2021. Which is in contrast with previous years where 3.2% of women required both antepartum and intrapartum transfers (n=9 of 283 from 2018 to 2020).

Full access to the birth details/maternity clinical records was available for 21.6% (n=27 of 125, missing information for one woman) of women who were transferred to the maternity hospital in the antepartum period and who did not return to the care of the home birth service. Some details were available for a further 63.2% (n=79) of women. The community midwives were unable to access the women's clinical records after antepartum transfer in one sixth (n=19, 15.2%) of cases.

Following transfer of care, 25.4% nulliparous women (n=15) and 82.9% multiparous women (n=34) had a spontaneous vaginal delivery. Nulliparous women were more likely to have a caesarean section than parous women in 2021 in line with previous findings (55.9% versus 17.1%; Table 13). The mode of birth was unknown for one fourth of women (n=26, 20.6%).

Table 13: Mode of birth for women who were transferred in the antepartum period and gave birth in the maternity unit, 2018-2021.

	2018-2020		2021	
Mode of birth*	**Nulliparous N=94 N(%)**	**Multiparous N=104 N(%)**	**Nulliparous N=59 N(%)**	**Multiparous N=41 N(%)**
Spontaneous vaginal delivery	37(39.4)	85(81.7)	15(25.4)	34(82.9)
Ventouse	14(14.9)	3(2.9)	8(13.6)	0(0)
Forceps	4(4.3)	2(1.9)	3(5.1)	0(0)
Caesarean section	39(41.5)	14(13.5)	33(55.9)	7(17.1)

Note: Values are shown as n(%) unless otherwise stated. *Mode of birth unknown for 10 nulliparous women, and 13 parous women in 2018-2020, and 12 nulliparous women and 14 parous women in 2021 due to limited access to notes following transfer.

Intrapartum transfers

Of the 303 women who began labouring at home in 2021, 55 (18.2%) were transferred to a maternity hospital during labour. Of these women, 60.0% were transferred by ambulance (n=33) and the remainder by private car. It took between four and 95 minutes to transfer women from their homes to the maternity hospital. The average time it took to transfer a woman was 33.1 minutes.

Almost 50% of women who had an intrapartum transfer, were transferred to a maternity unit in less than 30 minutes in 2021 (n=26 of 53, 49.1%, missing information for two women). Another 45% took between 30 and 60 minutes to be transferred (n=24, 45.3%). International studies show average times for intrapartum transfers between 15 and 30 minutes, which is similar to our results.[20, 21] Only 6% of transfers took longer than 60 minutes (Table 14).

Of the 55 women who were transferred in the intrapartum period, 96.4% (n=53) women gave birth in the hospital, and two women gave birth at home but were transferred in before the 3rd stage of labour was completed.

Table 14: Length of intrapartum transfer, 2018-2021.

	2018-2020			2021		
Length of intrapartum transfer	**Nulliparous N=88 N(%)**	**Multiparous N=38 N(%)**	**Total N=126 N(%)**	**Nulliparous N=37 N(%)**	**Multiparous N=16 N(%)**	**Total N=53 N(%)**
<30min	47(53.4)	13(34.2)	60(47.6)	19(51.4)	7(43.8)	26(49.1)
30-40	25(28.4)	16(42.1)	41(32.5)	7(18.9)	3(18.8)	10(18.9)
41-60	12(13.6)	7(18.4)	19(15.1)	10(27)	4(25)	14(26.4)
>=60min	4(4.5)	2(5.3)	6(4.8)	1(2.7)	2(12.5)	3(5.7)

Note: Values are shown as n(%) unless otherwise stated. Data for length of transfer was missing for 11 women in 2018-2020, and for two women in 2021.

As demonstrated in Table 15, nulliparous women were four times more likely to transfer during labour than parous women in 2021 and in line with previous findings (47.0% versus 7.3%).

Table 15: Intrapartum transfer by parity, 2018-2021.

	Total	Nulliparous	Multiparous
2018	40/177(22.6)	28/47(59.6)	12/130(9.2)
2019	44/201(21.9)	27/52(51.9)	17/149(11.4)
2020	53/249(21.3)	37/72(51.4)	16/177(9.0)
2021	55/303(18.2)	39/83(47.0)	16/220(7.3)

Note: Values are shown as n(%) unless otherwise stated. *Parity unknown for one woman in 2018-2020.

Approximately eighty four percent of intrapartum transfers occurred during the first stage of labour (n=46, 83.6%). As outlined in Table 16, two parous women required transfer during the 3rd stage of labour.

Table 16: Stage of labour when transferred, 2018-2021.

	2018-2020			2021		
Stage of labour*	**Nulliparous N=92 N(%)**	**Multiparous N=43 N(%)**	**Total N=135 N(%)**	**Nulliparous N=39 N(%)**	**Multiparous N=16 N(%)**	**Total N=55 N(%)**
1st stage	84(91.3)	37(86)	121(89.6)	35(89.7)	11(68.8)	46(83.6)
2nd stage	7(7.6)	2(4.7)	9(6.7)	4(10.3)	3(18.8)	7(12.7)
3rd stage	1(1.1)	4(9.3)	5(3.7)	0(0)	2(12.5)	2(3.6)

Note: Values are shown as n(%) unless otherwise stated. *Information missing for two parous women in 2018-2020.

As indicated in Table 17, two fifths of intrapartum transfers to the maternity unit were associated with maternal request for medical analgesia (n=24, 43.6%), another 40% with confirmed delay in 1st or 2nd stage of labour (n=22), and approximately, 10% with prolonged rupture of membranes with signs of labour (n=5, 9.1%).

Table 17: Reasons for intrapartum transfer, 2018-2021.

Reasons intrapartum transfers	**2018 N=40 N(%)**	**2019 N=44 N(%)**	**2020 N=53 N(%)**	**2021 N=55 N(%)**	**Total N=192 N(%)**
Any indication of maternal infection	1(2.5)	0(0)	0(0)	0(0)	1(0.5)
Concern with fetal heart rate monitoring	2(5)	5(11.4)	1(1.9)	1(1.8)	9(4.7)
Confirmed delay in 1st or 2nd stage of labour	8(20)	12(27.3)	17(32.1)	22(40)	59(30.7)
Hypertension	2(5)	0(0)	0(0)	0(0)	2(1)
Intrapartum haemorrhage/bleeding	3(7.5)	0(0)	2(3.8)	0(0)	5(2.6)
Maternal pyrexia	0(0)	0(0)	0(0)	0(0)	0(0)
Maternal request	1(2.5)	2(4.5)	3(5.7)	1(1.8)	7(3.6)
Maternal request for analgesia	12(30)	12(27.3)	13(24.5)	24(43.6)	61(31.8)
Maternal tachycardia	0(0)	2(4.5)	0(0)	0(0)	2(1)
Meconium-stained liquor	6(15)	5(11.4)	7(13.2)	3(5.5)	21(10.9)
Obstetric emergency (i.e., shoulder dystocia, cord prolapse, maternal collapse)	0(0)	0(0)	0(0)	0(0)	0(0)
Preterm labour	4(10)	1(2.3)	0(0)	2(3.6)	7(3.6)
Prolonged rupture of membranes WITH signs of labour	3(7.5)	5(11.4)	7(13.2)	5(9.1)	20(10.4)
Retained placenta/incomplete placenta or further management of 3rd stage required	1(2.5)	0(0)	3(5.7)	2(3.6)	6(3.1)
Community midwife unavailable for care	1(2.5)	2(4.5)	0(0)	2(3.6)	5(2.6)
Undiagnosed breech	0(0)	2(4.5)	0(0)	0(0)	2(1)
Other	0(0)	3(6.8)	3(5.7)	6(10.9)	12(6.3)

Note: Values are shown as n(%) unless otherwise stated. *Some women had more than one reason for intrapartum transfer and in such cases, each reason was counted in the table above.

Maternal request for medical analgesia was more common among nulliparous women than for multiparous women in 2021 (48.7% versus 31.3%), similarly to previous years (31.5% versus 17.8%; Table 18). Multiparous women were more likely to be transferred during labour because of confirmed delay in the 1st or 2nd stage of labour than nulliparous women in 2021 (43.8 versus 38.5%); however, this difference was not found in previous years (Table 18).

Table 18: Most common reasons for intrapartum transfers by parity, 2018-2021.

	2018-2020			2021		
	Nulliparous N=92 N(%)	Multiparous N=45 N(%)	Total N=137 N(%)	Nulliparous N=39 N(%)	Multiparous N=16 N(%)	Total N=55 N(%)
Confirmed delay in 1st or 2nd stage of labour	25(27.2)	12(26.7)	37(27)	15(38.5)	7(43.8)	22(40)
Maternal request for analgesia	29(31.5)	8(17.8)	37(27)	19(48.7)	5(31.3)	24(43.6)

Note: Values are shown as n(%) unless otherwise stated. *Some women had more than one reason for intrapartum transfer and in such cases, each reason was counted in the table above.

The community midwives had full access to the birth details/maternity clinical records for 34.5% of women who were transferred in the intrapartum period (n=19), access to some details was available for almost 60% of the women (n=32, 58.2%), and no access at all for 7% of the women who were transferred during labour (n=4, 7.3%). Community midwives remained involved in the woman's care after transfer for approximately one fifth of the women (n=11 of 55, 20.0%). However, this information was unknown for two fifths of women (n=23, 41.8%).

As indicated in Table 19, half of women who transferred to the maternity unit during the intrapartum period had a spontaneous vaginal birth (n=25 of 49, 51.0%), and 22.4% (n=11) of them had a caesarean section.

Table 19: Mode of birth for women who had an intrapartum transfer, 2018-2021.

	2018-2020			2021		
Mode of birth*	Nulliparous N=90 N(%)	Multiparous N=45 N(%)	Total N=135 N(%)	Nulliparous N=35 N(%)	Multiparous N=14 N(%)	Total N=49 N(%)
Spontaneous vaginal delivery	39(43.3)	31(68.9)	70(51.9)	14(40)	11(78.6)	25(51)
Ventouse	23(25.6)	6(13.3)	29(21.5)	4(11.4)	2(14.3)	6(12.2)
Forceps	9(10)	2(4.4)	11(8.1)	7(20)	0(0)	7(14.3)
Caesarean section	19(21.1)	6(13.3)	25(18.5)	10(28.6)	1(7.1)	11(22.4)

Note: Values are shown as n(%) unless otherwise stated. *Unknown for two nulliparous women in 2018-2020 and six nulliparous women in 2021.

The type of pain relief used for women who transferred during labour was recorded for almost 88% of women (43 of 49, 87.8%, missing information for six women), with nearly 45% of women choosing to avail of an epidural in the hospital setting (n=22, 44.9%). This correlates with the most common reason for intrapartum transfer being for medical analgesia, as discussed previously in this report. Two women who gave birth in hospital following intrapartum had a reported estimated blood loss of more than 1500ml, and one of them was reported to have required a blood transfusion postpartum. The perineum was intact for almost 45% of women (n=22 of 49, 44.9%), 10 women had an episiotomy, five women had a 1st degree tear, nine had a 2nd degree and three women had a 3rd degree tear. The perineum was sutured for 96% of women who had episiotomy or tear (n=26 of 27, 96.3%). There were no cases of shoulder dystocia reported among women who were transferred during labour in 2021 and gave birth in hospital.

Home births

Of the women who registered for a home birth in 2021 (n=429), 248 women gave birth at home (57.8%) including 44 nulliparous women and 204 parous women. The distribution of actual births at home by HSE region was similar to the distribution of planned home births (Table 20).

Table 20: Distribution of women who were registered for a home birth and gave birth at home by HSE area, 2021.

	Total women registered for home birth N=429 N(%)	Home births N=248 N(%)
Dublin Mid Leinster	129(30.1)	65(26.2)
Dublin North East	75(17.5)	48(19.4)
South	156(36.4)	85(34.3)
Carlow, Kilkenny and South Tipperary	15(3.5)	11 (4.4)
West	44(10.3)	30(12.1)
Waterford	5(1.2)	5(2)
Wexford	5(1.2)	4(1.6)

Note: Values are shown as n(%) unless otherwise stated.

Rupture of membranes

Approximately 99% of women who gave birth at home had a spontaneous rupture of membranes in 2021 (n=246 of 248, 99.2%), and 0.8% had an artificial rupture of membranes. Of the women who started labouring at home but were transferred in the intrapartum period and gave birth at the hospital (n=53), rupture of membranes occurred spontaneously in the vast majority of cases (n=31 of 42, 73.8; Table 21).

Table 21: Rupture of membranes by parity and place of birth, 2021.

	Nulliparous		Multiparous	
	Home N=44 N(%)	Hospital N=29 N(%)	Home N=204 N(%)	Hospital N=13 N(%)
Spontaneous	43(97.7)	23(79.3)	203(99.5)	8(61.5)
Artificial	1(2.3)	6(20.7)	1(0.5)	5(38.5)

Note: Values are shown as n(%) unless otherwise stated. *The data was missing for a total of 11 women who gave birth at the hospital. Hospital numbers are based on women who were transferred from the home birth service in the intrapartum period.

Liquor was clear for the majority of women who gave birth at home (81.8% for nulliparous and 91.2% for multiparous; Table 22). Women who gave birth in the maternity hospital following intrapartum transfer, irrespective of parity, were more likely to have meconium-stained liquor. This is in line with previous findings in this report where meconium-stained liquor was found to be the fourth most common reason for intrapartum transfer (Table 17).

Table 22: Liquor colour by parity, 2021.

	Nulliparous		Multiparous	
	Home N=44 N(%)	Hospital N=29 N(%)	Home N=204 N(%)	Hospital N=13 N(%)
Clear	36(81.8)	23(79.3)	186(91.2)	11(84.6)
Meconium	4(9.1)	6(20.7)	12(5.9)	1(7.7)
Blood stained	4(9.1)	0(0)	6(2.9)	1(7.7)

Note: Values are shown as n(%) unless otherwise stated. *The data was missing for a total of 11 women who gave birth at the hospital. Hospital numbers are based on women who were transferred from the home birth service in the intrapartum period.

Present at birth

As indicated in Table 23, the woman's primary community midwife was present at the vast majority of home births in 2021 (n=231 of 248, 93.1%). A second midwife was also present for the labour and birth at the majority of home births (n=184, 74.2%). A second midwife was called but only present at delivery of placenta in one out of eight women (n=30, 12.1%) and a second midwife was called but only present postpartum for a small number of women (n=11, 4.4%). The woman's partner was also present in the majority of cases (n=228, 91.9%). Other people noted to have been present at the birth include a doula (n=14, 5.6%) and family members or friends (n=27, 10.9%). Student midwives and ambulance crew were among the other type of people who were present at the birth in 2021 (n=19, 7.7%).

Table 23: Who was present at the home birth by HSE area, 2021.

	Dublin Mid Leinster N=65 N(%)	Dublin North East N=48 N(%)	South N=85 N(%)	West N=30 N(%)	Waterford N=5 N(%)	Wexford N=4 N(%)	Carlow, Kilkenny and South Tipp N=11 N(%)	Total N=248 N(%)
Primary community midwife	63 (96.9)	45 (93.8)	80 (94.1)	25 (83.3)	5 (100)	4 (100)	9 (81.8)	231 (93.1)
Second midwife present at birth	56 (86.2)	39 (81.3)	55 (64.7)	19 (63.3)	5 (100)	3 (75)	7 (63.6)	184 (74.2)
Second midwife called but only present at delivery of placenta	4 (6.2)	4 (8.3)	18 (21.2)	1 (3.3)	0 (0)	1 (25)	2 (18.2)	30 (12.1)
Second midwife called but only present postpartum	1 (1.5)	1 (2.1)	7 (8.2)	0 (0)	0 (0)	0 (0)	2 (18.2)	11 (4.4)
Doula	2 (3.1)	3 (6.3)	2 (2.4)	6 (20)	0 (0)	0 (0)	1 (9.1)	14 (5.6)
Partner	61 (93.8)	44 (91.7)	77 (90.6)	28 (93.3)	4 (80)	3 (75)	11 (100)	228 (91.9)
Other family members/friends	1 (1.5)	5 (10.4)	13 (15.3)	4 (13.3)	0 (0)	0 (0)	4 (36.4)	27 (10.9)
Other	7 (10.8)	8 (16.7)	2 (2.4)	0 (0)	0 (0)	0 (0)	2 (18.2)	19 (7.7)

Note: Values are shown as n(%) unless otherwise stated. Categories are not mutually exclusive.

For women who were not attended by their primary community midwife during the birth (n=17), one woman was attended by another community midwife during her labour and birth. For the remaining 16 women, the midwife arrived shortly after the birth to continue to provide care to the woman and her baby, with one of the women having a doula present at the birth. Parous women accounted for over 90% of these women (n=15 of 16, 93.8%). It was reported that none of these women or their babies required transfer to hospital following the birth, and all the babies were alive and well.

As discussed previously in this report, there were two women whose care was transferred to their maternity unit in the antepartum period but gave birth at home before they could be transported into the hospital (BBAs). The baby of one of these women was transferred into hospital for care on the ward due to an anomaly that had been identified in the antepartum period. The second woman and her baby were well and continued to receive routine care in the home, with the baby receiving hospital care in an outpatient capacity only.

Duration of labour

Information about the duration of labour was available for 95.6% of women who gave birth at home (n=237 of 248). Mean time in minutes for women who laboured at home was 194 min in 2021 (SD=191.1 min, range=4-1440 min). This is approximately 3.2 hours, which is similar to the mean duration reported in the previous triennial report at 3.4 hours. As expected, parous women laboured faster than nulliparous women (mean time was 179 min/2.9 hours versus 261 min/4.4 hours, respectively), with statistically significant differences (p-value=0.007). Similarly, women whose midwives arrived shortly after the birth had a significantly lower duration of labour compared to home births whose midwives were present at birth (mean time was 62.5 min versus 202.4 min, respectively) (Table 24).

Table 24: Duration of labour by parity and by presence or absence of community midwives at birth, 2021.

	Parity			Place of birth		
	Nulliparous	Multiparous	p-value	Home	BBAs	p-value
Duration of labour in minutes (mean, 95%CI)	260.7 (206.9-314.6)	178.9 (154.5-203.5)	0.007	202.4 (178.9-225.8)	62.5 (22.7-102.3)	<0.001

As documented in Table 25, the two most common maternal positions for birth were all fours position (n=93, 37.5%) and kneeling position (n=65, 26.2%). Other birth positions included use of a birth stool and a running start position.

Table 25: Maternal position for birth by parity, 2021.

	Nulliparous N=44 N(%)	Multiparous N=204 N(%)	Total N=248 N(%)
Kneeling	6(13.6)	59(28.9)	65(26.2)
All fours	22(50)	71(34.8)	93(37.5)
Standing	4(9.1)	24(11.8)	28(11.3)
Squatting	3(6.8)	9(4.4)	12(4.8)
Side lying	1(2.3)	8(3.9)	9(3.6)
Sitting	3(6.8)	17(8.3)	20(8.1)
Semi-recumbent	1(2.3)	8(3.9)	9(3.6)
Other	4(9.1)	8(3.9)	12(4.8)

Note: Values are shown as N(%) unless otherwise stated.

Pain relief

Type of pain relief used was recorded for all 248 women who gave birth at home (Figure 7). Over one third of women used no pain relief (n=94, 37.9%) with parous women being more likely to not use any pain relief (42.2% versus 18.2%). Nulliparous women were more likely to use water for pain relief than parous women (59.1% versus 38.2%). Approximately 42% used water immersion for pain relief during their labour (n=104 of 248, 41.9%), with 40 women giving birth in the water. At the time of publishing this report, there is a current HSE pause on giving birth in water.

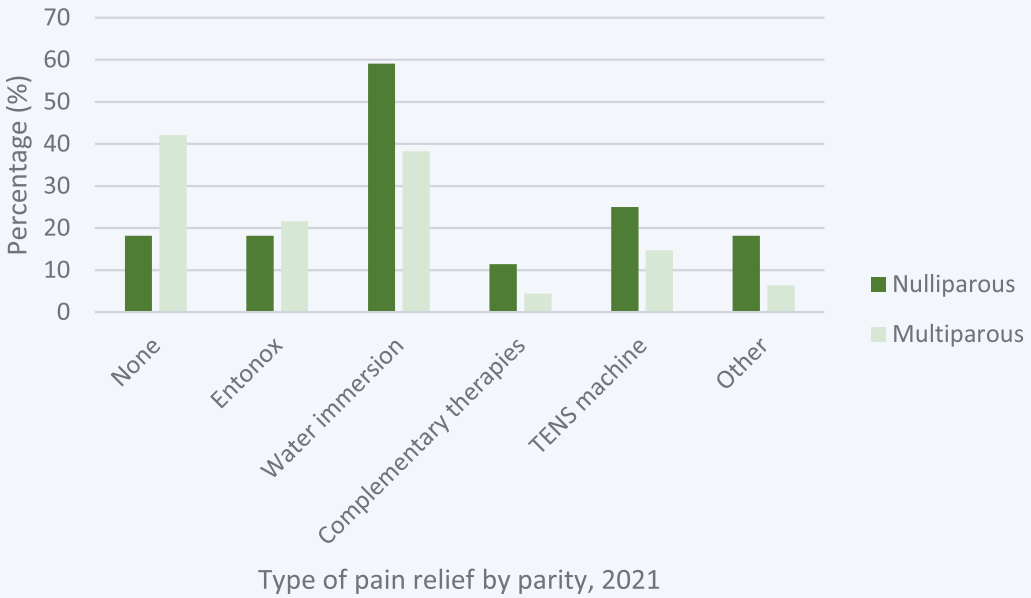


Figure 7: Pain relief used by women who gave birth at home, 2021.

Management of the third stage of labour

The vast majority of women who gave birth at home had a physiological third stage of labour (n=194 of 248, 78.2%). The physiological management of the third stage comprises of the following components: no routine use of uterotonic drugs, no clamping of the cord until pulsation has stopped, delivery of the placenta by maternal effort.[1]

Of the 54 women who had active management in the home, intramuscular syntocinon was administered in 39 cases, syntometrine in 20 cases and one woman required a syntocinon infusion (figures are not mutually exclusive). One fourth of nulliparous women had active management at home (n=11 of 44, 25.0%; Figure 8) and one fifth of parous women had active management in the home (n=43 of 204, 21.1%).

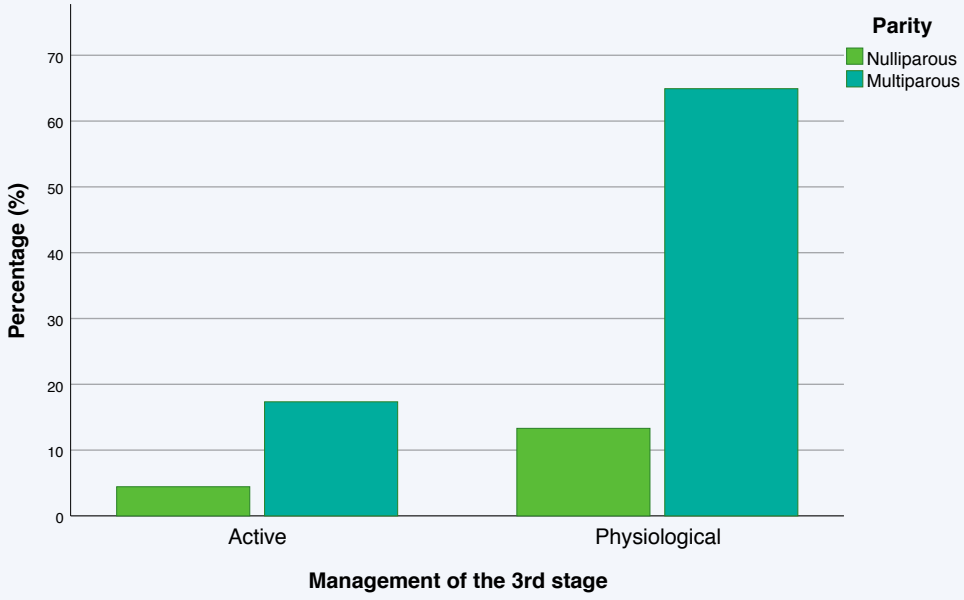


Figure 8: Management of the third stage of labour for home births, 2021.

Perineal outcomes

For almost half of the women (n=123 of 248, 49.6%) who gave birth at home the perineum remained intact (Table 26). Of those who birthed at home, parous women were as likely to have an intact perineum as nulliparous women (50.0% versus 49.5%). There was one woman (n=1 of 248, 0.4%) who gave birth at home had an episiotomy in 2021. Of the women who gave birth in hospital following transfer during their labour, 10 had an episiotomy (n= 10 of 44, 22.7%, missing information for six women). Almost twice as many nulliparous women underwent perineal suturing than parous women who gave birth at home (54.5%; n=12 of 22 versus 35.0%; n=36 of 103).

None of the women who gave birth at home experienced a third- or fourth- degree tear. Almost 7% of women who gave birth in the hospital following intrapartum transfer experienced a third-degree tear (n=3 of 47, 6.4%, missing information for six women). The rate of third-degree tears for all women who gave birth in Ireland in 2021 was 3.6% (Table 26).

Table 26: Perineal outcomes for women who had a home birth in comparison to the general pregnant population, 2021.

	Home birth data N=248		HIPE data N=37,294	
	Nulliparous N=44 N(%)	Multiparous N=204 N(%)	Nulliparous N=13,958	Multiparous N=23,336
Intact	22(50)	101(49.5)	1,489(10.7)	9,615(41.2)
Episiotomy	0(0)	1(0.5)	7,545(54.1)	2,405(10.3)
1st degree tear	10(22.7)	64(31.4)	1,488(10.7)	3,718(15.9)
2nd degree tear	12(27.3)	38(18.6)	4,075(29.2)	7,697(33.0)
3rd degree tear	0(0.0)	0(0.0)	391(2.8)	198(0.8)
4th degree tear	0(0.0)	0(0.0)	33(0.2)	11(0)

Note: Values are shown as n(%) unless otherwise stated. *Perineal outcomes for all women who gave birth in hospital in 2018-2019 is based on Hospital In-Patient Enquiry (HIPE) data. HIPE data excludes women who had a caesarean section. An episiotomy and perineal tear was experienced by 1,063 (7.6%) of nulliparous and 308 (1.3%) of parous women. Because of this, the percentages for nulliparous and parous women add to more than 100%.

Estimated blood loss at birth

The average estimated blood loss for those who had a home birth was 281.7ml, information missing for one woman. The HSE's Home Birth Service guideline on the management of postpartum haemorrhage (PPH) defines a PPH as "the loss of 500mls or more of blood from the genital tract within 24 hours of the birth of the baby."[22] Less than 1.5% of women had a blood loss between 500 and 1000 ml (n=3, 1.2%, missing information for one woman, Figure 9) with approximately 98% of women who birthed at home losing less than 500ml (n=243 of 247, 98.3%). One woman who required transfer to the hospital during the 3rd stage of labour had a major obstetric haemorrhage with a total estimated blood loss of 3000mls recorded and was reported to the NPEC's Severe Maternal Morbidity audit. This woman required a blood transfusion and was later discharged home well.

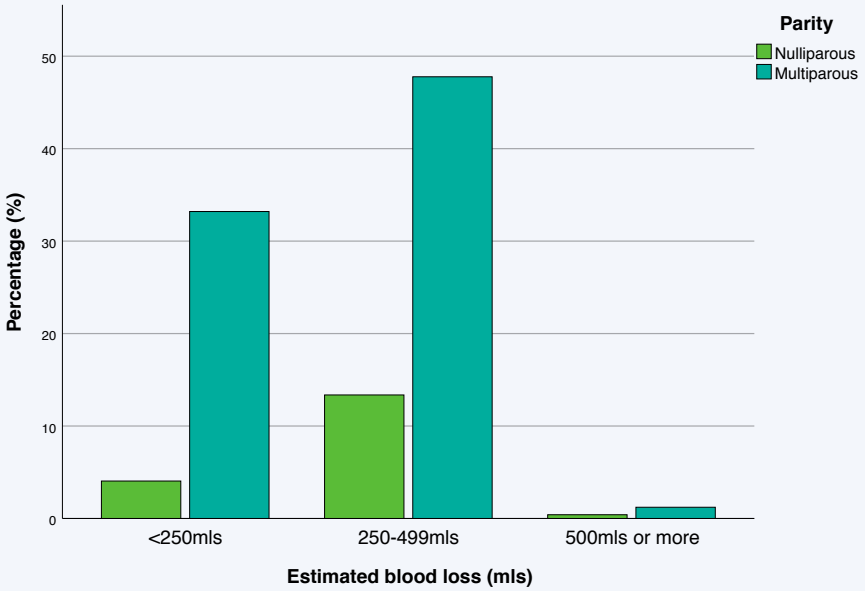


Figure 9: Estimated blood loss (mls) at delivery for women who gave birth at home, 2021.

Infant outcomes

Infant characteristics

Of the 248 infants born at home, 118 were female (47.6%) and 130 were male (52.4%). The mean birth weight for infants born at home was 3,717 grams, ranging from 2,590 to 5,100 grams. Nulliparous women were more likely to have infants with lower weight than multiparous women (mean=3,495.5, SD=373.2 grams versus mean=3,765.1, SD=420.4 grams respectively; Table 27).

Table 27: Infant birthweight by parity, 2021.

	Nulliparous	Multiparous	p-value
Birthweight in grams (mean, 95%CI)	3495.5 (3382.0-3608.9)	3765.1 (3707.0-3823.1)	<0.001

Almost three quarters of infants who were born at home had a birth weight between 3,000 and 3,999 grams (n=179, 72.2%). Less than a quarter of infants (n=58, 23.4%) who were born at home had a birth weight greater than 4,000 grams (Figure 10). There were no low-birth-weight infants (less than 2,500 grams) born at home.

Figure 10: Distribution of birth weight in infants born at home, 2021.

Apgar scores

Data on Apgar scores at one minute and five minutes were available for 239 and 242 infants born at home (n=248) respectively. Only two infants had an Apgar score of less than six at one minute after birth (Figure 11). Both infants required some form of resuscitation including oxygen therapy, suction, and intermittent positive pressure respiration (IPPR).

One infant reached an Apgar score of nine at five minutes after birth and required no further additional care. The second infant had an Apgar score of five at five minutes and was transferred to hospital with admission to the NICU. This baby was discharged 6 days later and was reported to the audit as alive and well. At five minutes, the majority of infants had an Apgar score of either nine (n=51, 21.1%) or ten (n=189, 78.1%).

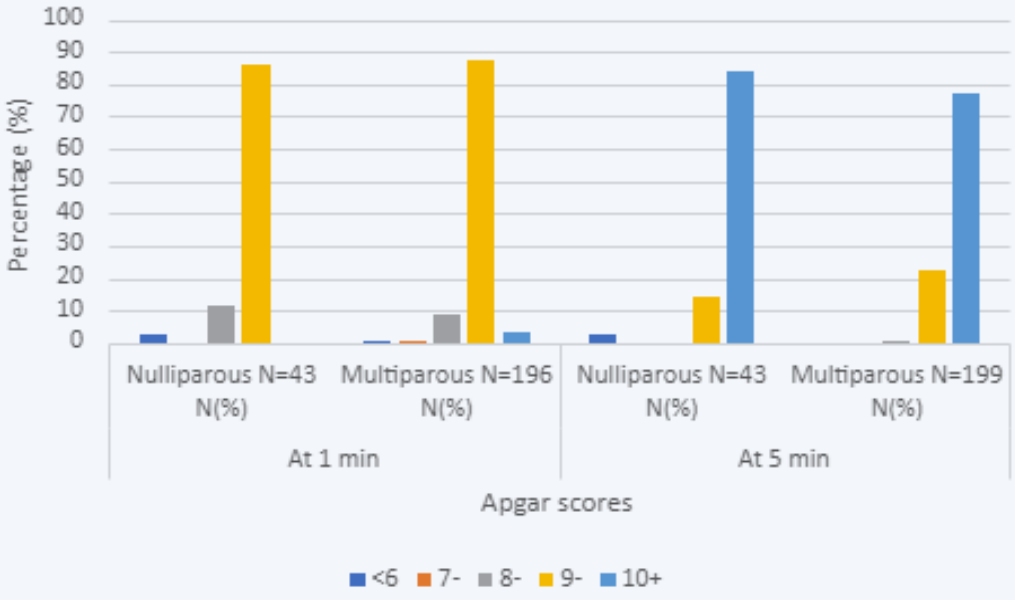


Figure 11: Apgar scores at 1 and 5 minutes for infants born at home, 2021.

Resuscitation

Seven of the 248 infants born at home (2.8%) needed some form of resuscitation. Three infants were resuscitated with suction only, two infants received oxygen and two infants were resuscitated by intermittent positive pressure ventilation. One baby who required intermittent positive pressure ventilation was transferred to the maternity unit for review, the other baby had Apgar scores of 9 and 10 and continued to receive routine care in the home. Cardiac massage was not required by any baby born at home as a mode of resuscitation in 2021. Data are not mutually exclusive for forms of resuscitation needed.

Four infants of the 53 women (7.5%) who transferred into hospital during the first or second stage of labour were reported to have required some form of resuscitation (missing information for one infant), two of which required suction, two infants received oxygen and one was resuscitated by intermittent positive pressure ventilation. No infants were recorded as receiving cardiac massage. Four infants who were born in hospital following an intrapartum transfer were admitted to the Special Care Baby Unit (SCBU). All of which were reported to have been later discharged alive and well.

Newborn examination and screening

Twelve of the 248 infants born at home (4.8%) were suspected of having an anomaly at first examination, the most common of which was positional talipes (n=4), followed by tongue tie and sacral dimple (Table 28).

Table 28: Anomalies among babies who were born at home, 2021.

	Total N=12 N(%)
Congenital hip dislocation (CHD)	1(8.3)
Positional talipes	4(33.3)
Sacral dimple	2(16.7)
Skin tag	1(8.3)
Tongue tie	2(16.7)
Other non-fatal anomaly	2(16.7)

Note: Values are shown as n(%) unless otherwise stated.

The National Newborn Bloodspot Screening (NBBS) Programme was performed on 94.8% of the infants born at home (n=235 of 248), with 13 women declining the offer to perform this screening. Medical examination of the newborn was carried out by a general practitioner in 23.0% of cases where the infant was birthed at home (n=56 of 244, missing information for four women). A hospital paediatrician examined 75.0% (n=183) of the infants born at home. There were five infants who were examined by a midwife trained in Newborn Clinical Examination. Data on medical examination of the newborn was recorded for 96.2% of infants born in the maternity unit following transfer (n=51 of 53). Examination was undertaken by a hospital paediatrician for all these infants.

Vitamin K was offered to all babies after birth, as advised by the HSE to reduce risk of bleeding disorders.[23] Of the infants who were birthed at home, approximately 54% had vitamin K administered by intramuscular (IM) injection in 2021 (n=135 of 248, 54.4%). More than one fourth of infants who were born at home had vitamin K administered orally (n=65, 26.2%). Vitamin K was offered but declined for 19.4% (n=48) of infants born at home versus 13.5% (n=7 of 52, missing for one infant) of infants born in the hospital following transfer (Table 29).

Table 29: Vitamin K administration, 2021.

	Home N=248 N(%)	Hospital N=52 N(%)
Vitamin K administered IM	135(54.4)	34(65.4)
Vitamin K administered orally	65(26.2)	11(21.1)
Offered by declined	48(19.4)	7(13.5)

Note: Values are shown as n(%) unless otherwise stated. *Data missing for one infant who was transferred at the intrapartum stage to the hospital.

Infant transfers

Nine of the infants born at home were transferred to hospital for reasons specified in Table 30. Five infants were transferred by ambulance and 3 infants transferred by private car. The most common reason for infant transfer was to accompany their mother who required transfer to the maternity unit (n=4). One of these infants was admitted into the Special Care Baby Unit (SCBU) and two infants into the Neonatal Intensive Care Unit (NICU), the remaining babies were cared for on the ward following transfer.

Table 30: Reasons for infant transfer, 2021.

	2021 N=9 N(%)
Accompanying mother being transferred to the maternity unit	4(44.4)
Delay in passing urine or meconium	0(0)
Excessive weight loss	1(11.1)
Fetal anomaly	1(11.1)
Hypoglycaemia	0(0)
Jaundice	0(0)
Low Apgar score	1(11.1)
Respiratory symptoms	1(11.1)
Small for dates	0(0)
Thermoregulation concern	0(0)
Other	2(22.2)

Note: Values are shown as n(%) unless otherwise stated. Categories are not mutually exclusive.

Other infant outcomes

There were two cases of shoulder dystocia reported from the 248 women who gave birth at home (0.8%). There is some variance in the literature regarding rates of shoulder dystocia, with 1% reported by one study for high income countries, and 2.7% reported in a large US study of a low-risk cohort.[24, 25] Both of these infants were liveborn, one of which required resuscitation with oxygen therapy and suction. Both babies achieved Apgar scores of 9 and 10 respectively at 5 minutes. Neither baby required a transfer after birth and no additional care was required.

Perinatal mortality

There were no cases of perinatal mortality reported among the 429 women who were registered for home birth in 2021.

The perinatal mortality rate for all women who registered for a home birth from 2012 to 2021 was 3.06 perinatal deaths per 1,000 births (Table 31).

Table 31: Perinatal mortality rates for planned home births, 2012-2021.

	Planned Home Births, 2012-2021	
	Number	Rate (95% CI)
Total births	2614	
Stillbirths	5	1.92(6.21-4.46)
Early neonatal deaths	3	1.15(0.24-0.35)
Total perinatal deaths	8	3.06(1.32-6.02)

Note: Rate per 1,000 births; 95% CI=95% Poisson confidence interval.

In the years 2012-2021 there were five stillbirths and three early neonatal deaths, all of which were reported by the relevant hospitals to the NPEC perinatal mortality national clinical audit. Seven of the eight babies were born in hospital following transfer from the care of the HSE Home Birth Service and one baby was born at home.

Postpartum care and infant feeding

Women who gave birth at home were discharged from the care of the home birth service, on average, 13 days after the birth of their babies. In some circumstances the community midwives may provide care beyond this agreed timeframe, this is provided on an individual basis. For 2021, 17.7% women who gave birth at home received postpartum care beyond 14 days (n=44 of 248).

The average number of postpartum visits by the community midwife among the 248 women who gave birth at home was 5.4 visits. It ranged between one and 10 visits, with 91.1% of women having between 4 and 7 total number of postpartum visits in 2021 (n=226 of 248).

Method of feeding was recorded on both day one and on day of discharge from the care of the community midwives. As outlined in Table 32, the vast majority of women who gave birth at home were exclusively breastfeeding on both day one (n=239 of 248, 96.4%) and on day of discharge (n=237 of 248, 95.6%). Women who birthed at home were twice as likely to breastfeed exclusively on day of discharge than the total population of women who gave birth in Ireland in 2020 (19)(95.6% versus 44.2%).

Table 32: Method of feeding, 2021.

	Day one		Day of discharge		Total population of women who gave birth[19]
	Home N=248 N(%)	Hospital N=52 N(%)	Home N=248 N(%)	Hospital N=52 N(%)	2020 N=56,734
Exclusive breastfeeding	239(96.4)	37(71.2)	237(95.6)	41(78.8)	44.2
Partial breastfeeding	5(2)	13(25.0)	7(2.8)	9(17.3)	17.1
Artificially feeding	4(1.6)	2(3.8)	4(1.6)	2(3.8)	38.7

Note: Values are shown as n(%) unless otherwise stated. *Among women who were transferred and gave birth in hospital (n=52), the information was missing for one woman.

Postpartum transfers

There were 15 reported postpartum complications among the 248 women who gave birth at home in 2021. Seven of these women required transfer to the hospital in the postpartum period (which is considered from birth to 6 weeks). The remaining women had a complication that did not require transfer of care and was managed in the community setting. One further woman was transferred to accompany her infant who required transfer to the maternity unit. In total, eight women were transferred to the hospital in the postpartum period. Six women were transferred by ambulance, and two by private car. Indications for transfer are outlined in Table 33. Six of the women were transferred shortly after the birth, and a further 2 women were transferred on day 2 and 3 respectively due to complications arising in the days after the birth.

Table 33: Reasons for maternal transfer in the postpartum period, 2021.

	Postpartum complications N=15 N(%)	Postpartum transfers N=8 N(%)
Accompanying infant being transferred to the maternity unit	–	1(12.5)
Breast concern: blocked duct, mastitis, engorgement	2(13.3)	0(0)
Excessive abdominal/ pelvic pain	0(0)	0(0)
Extensive tear or requires complicated suturing	1(6.7)	1(12.5)
Hypertension	0(0)	0(0)
Maternal pyrexia	0(0)	0(0)
Offensive lochia	0(0)	0(0)
Post-partum haemorrhage	4(26.7)	3(37.5)
Signs of thromboembolic disease	1(6.7)	1(12.5)
Woman generally unwell or seems unduly anxious	2(13.3)	1(12.5)
Wound infection and/or excessive pain	0(0)	0(0)
Other	6(40)	1(12.5)

Note: Values are shown as n(%) unless otherwise stated.

Adverse incidents

There were 59 adverse incidents identified among women who gave birth at home in 2021 (n=248). A HSE National Incident Report Form (NIRF) was completed in all the cases. Almost 97% were incidents classified as Category 3 (n=56) and 3.4% were Category 2 (n=2), missing for one case. Forty of the adverse incident reports were in relation to unintended waterbirth alone. A NIRF form was required for these cases due to the implementation of the temporary pause on waterbirth in the home setting by the HSE, effective since November 2020. Fourteen of the incident report forms were in relation to BBAs, and the five remaining incidents were in relation to a variety of other reasons. There were no Category 1 incident's reported for 2021.

Appendix A: Designated Midwifery Officers

HSE Area/Hospital	Contact	
Dublin Mid Leinster	**Margaret Hanahoe** Designated Midwifery Officer, Home Birth Service Dublin Mid Leinster Email: Margaret.Hanahoe@hse.ie Tel: 086 4107217	
Dublin North East	**Ann O'Byrne** Designated Midwifery Officer, Home Birth Service Dublin North City Email: Homebirth.DNE@hse.ie Tel: (01) 8467159. Mobile: 087 9457094	
South	**Jo Delaney & Denise Malone** Designated Midwifery Officers, Home Birth Service Cork and Kerry Email: Homebirth.South@hse.ie Tel: (021) 4923483. Mobile: 087 2889499	
South East	**Michelle Waldron** Designated Midwifery Officer, Home Birth Service Carlow, Kilkenny and South Tipperary Email: Michelle.Waldron@hse.ie Tel: (056) 7785620. Mobile: 087 7585024	
West	**Carmel Cronolly McFadden** Designated Midwifery Officer, Home Birth Service West Email: Carmel.Cronolly2@hse.ie Tel: 087 9707382	
Waterford	**Victoria Byrne** CMM2 Domino and Home Birth Service, University Hospital Waterford Email: Victoria.Byrne@hse.ie Tel: (051) 842045	
Wexford	**Nuria Tasies** CMM2 IHCMS/Domino/Homebirth Service **Niamh Doyle** DMO Wexford, Wexford General Hospital Email: Nuria.Tasies@hse.ie and Niamh.Doyle1@hse.ie Tel: 087 4532357	
Further DMO's providing data from 2022/2023	**Paula Barry** Home Birth Service Coombe Hospital **Melanie Adams** Midland Regional Hospital Portlaoise **Emmeliene Farrell** Home Birth Service Carlow/Kilkenny	**Sinead Heaney** Home Birth Service South Tipperary **Dr Julie Higgins** Home Birth Service Saolta University Health Care Group **Teresa McCreery** and **Katie Orton** Home Birth Service National Maternity Hospital

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Annex 1: Midwifery Practice Guidelines HSE Home Birth Service 2018

www.hse.ie/eng/services/list/3/maternity/new-home-birth-policies-and-procedures/hb004-midwifery-practice-guidelines-hse-home-birth-service.pdf

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