Planned Home Births in Ireland

ANNUAL REPORT 2015

NATIONAL PERINATAL EPIDEMIOLOGY CENTRE

Office of the Nursing & Midwifery Services Director

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Tús Áite do Shábháilteacht Othar
Patient Safety First

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Acknowledgements

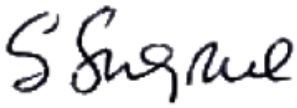
The Health Service Executive (HSE) in collaboration with NPEC is pleased to publish the 4th Annual Report on planned home births in 2015. The Office of the Nursing and Midwifery Services Directorate, through its Director Dr. Michael Shannon (to September 2015) and newly appointed Interim Director Ms Mary Wynne support the development of the home birth service. I wish to acknowledge both of them. The Office of the Nursing and Midwifery Services Directorate, through its Director Dr. Michael Shannon supports the development of the home birth service. I wish to acknowledge his support.

I wish to acknowledge the professionalism and expertise of the Designated Midwifery Officers in ensuring each woman approved for a home birth receives a quality home birth service on behalf of the HSE.

I would also like to thank the Self Employed Community Midwives who provide the home birth service on behalf of the HSE and hope to continue to work closely with them. They provide excellent quality care to low risk women across the country.

I wish to acknowledge NPEC for continuing to support the provision of an Annual Report. The online development has also assisted those who have been instrumental in collecting the data. To date the information collected has assisted the HSE through the identification of good practice.

The data presented in the Annual Report assists the Governance Group as well as health care professionals such as General Practitioners and Public Health Nurses to have confidence in the service and it is hoped this will continue so that further development of the services is progressed.



Sheila Sugrue
National Lead Midwife, Office of Nursing and Midwifery Services Director, HSE

Welcome to the Planned Home Births Annual Report 2015 from the Health Service Executive (HSE) in collaboration with the National Perinatal Epidemiology Centre (NPEC). At the NPEC we endeavour to provide Irish maternity services with a facility to undertake in-depth reviews of its own medical practices, through monitoring outcomes and regular audit. As such it is not only valuable that the HSE is auditing these data but essential to ensure that standards of home birth in Ireland are met. It is intended that results of these clinical audits will be reported in successive annual reports into the future.

Studies across Europe indicate that home birth should be an option for low risk women. Measurement of the outcome of care is central to the development of safe and high quality health care services. Support from The Office of Nursing and Midwifery Services Director, the Designated Midwife Officers and the Self Employed Community Midwives has been crucial in order to ensure that the data from this audit can provide a transparent account of the national home birth service, as provided by the SECMs on behalf of the HSE.

I extend my sincere thanks and appreciation to the many midwives who have supported and contributed data to the NPEC. Their work is greatly acknowledged. An important advancement within the NPEC has been the development and implementation of the online home births database which will allow for data to be audited in an even timelier manner in the future.

Lastly, I would like to thank the staff of the NPEC for their hard work and dedication to the mission of the Centre. Assessing the outcomes of maternity care provided, learning from the data and working together, we have great potential to improve the care of mothers and babies in Ireland. On behalf of all the staff at the NPEC, we look forward to a challenging and fruitful future.

Richard A Greene, Director, NPEC
National Perinatal Epidemiology Centre

Recommendations

The home birth service provides care to low risk healthy women. Over the course of her pregnancy a woman may need to be transferred to the nearest maternity unit/hospital to receive more specialised and/or complex care. Presently, women must book with a maternity unit maternity hospital to allow an SECM to refer women if such a need arises. The identification of a liaison consultant obstetrician in each maternity unit would further assist in the effective transfer of women to and from the home birth service, as required.

Following transfer, a structured notification system between the maternity unit and the self-employed community midwife responsible for the woman's care should be developed to improve communication between services.

All pregnant women should have an accurate weight, height and BMI measured and documented in the midwifery notes both at their first antenatal visit and during the last trimester in order to ascertain the impact of maternal weight on perinatal outcomes in Ireland.

A second midwife was contacted when a woman began labouring at home. Yet, the proportion of women who have a second SECM in attendance at the home birth varies throughout the country. Further investigation exploring factors impacting on the attendance of a second SECM at a homebirth is warranted.

Development of a national tool-kit for Self Employed Community Midwives to assist in the estimation of blood loss should be considered. A quantitative approach involving volume and weight assessment to estimate blood loss should be considered. Such an approach would allow for standardisation across the maternity services.

It is of importance that the home birth service provides care that is in line with evidence-based care guidelines. All Designated Midwifery Officers should continue to collect and submit anonymised data on home births to inform this national clinical audit. In doing so, this assist in ensuring that the necessary patient safety assurances are provided with consistency across each region in the country.

Executive Summary

This is the fourth national clinical audit on planned home births in Ireland under the care of Self Employed Community Midwives (SECMs). Anonymised data were reported by the five Designated Midwifery Officers on a total of 228 planned home births in 2015. Over half of all planned home births were arranged through the Health Service Executive (HSE) South home birth service (55%).

Almost three quarters of the women who intended on having a home birth had a previous birth (73%). Women intent on a home birth had an older age profile to all mothers who gave birth in the country with 75% aged 30-39 years versus 64% for all women giving birth. Body mass index (BMI) was reported for over half of mothers who planned to have a home birth (60%). Of the 60% with data, most were in the healthy range (71%), 22% were overweight, and 7% were obese.

Smoking prevalence is unknown for the pregnant population in Ireland. In UK countries, 12-19% of pregnant women smoke throughout their pregnancy. Data reported for this clinical audit indicated that none of the mothers were smokers. Regarding alcohol, the vast majority (89%) of the home birth pregnant women did not consume alcohol during pregnancy. As smoking and alcohol consumption are a risk factor for a range of adverse perinatal outcomes, it is encouraging to continue to see a lower rates of such behaviours in this population.

All but three women registered during pregnancy with their general practitioner. There are two recorded incidences where general practitioners refused to provide shared care. All woman registered with their local maternity unit. Of the women who intended on having a home birth 20% were referred to the maternity hospital during the antenatal period. Of these women 31% returned to the care of the SECM. Nulliparous women were twice as likely to be referred to the maternity hospital in the antenatal period as parous women (32% versus 15%). One quarter of mothers who transferred during the antenatal period were transferred for induction of labour. Half of women who were referred before birth had a spontaneous vertex delivery in the maternity hospital (51%). However it is important to note that the mode of delivery was unknown for one in four of the women who transferred into the care of the maternity hospital during antenatal care (25%) as care remained within the maternity hospital following transfer.

Of the 197 mothers who began labouring at home, 19% were transferred to a maternity hospital. Nulliparous women were six times more likely to transfer during labour than parous women (50% versus 8%). These results should be interpreted with some caution given that there was a much lower proportion of nulliparous women who began labouring at home compared to parous women (25% versus 75%). It took between 10 and 90 minutes to transfer these women from their homes to the maternity hospital. The majority of these transfers occurred in the first stage of labour (78%). Of these transfers, 38% were associated with failure to progress in labour and 22% were transferred with meconium stained liquor.

Of the 160 infants born at home 3% needed some form of resuscitation. Seven of all infants who were born at home were transferred to a maternity hospital; four of these babies were admitted to the neonatal intensive care unit. Almost all infants (98%) born at home in 2015 were examined by either a General Practitioner or a hospital Paediatrician.

On average, mothers stayed under the care of the SECM for 14 days after the birth and received an average of six postnatal visits. Eight mothers were transferred to a maternity hospital for postnatal care.

Mothers who birth at home are discharged 14 days after the birth of their babies from the care of the SECM while mothers who deliver in the

maternity hospital are generally discharged 3 days after the birth. On the day of the home birth, 99% of mothers were breastfeeding exclusively. The figure was 98% on the day of discharge from the care of the SECM. Mothers who birthed at home were twice as likely to be breastfeeding exclusively on day of discharge compared to all women who gave birth (98% versus 48%).

In summary, this national clinical audit provides information on planned home births in Ireland. This report offers an informative resource for clinicians to inform mothers in a clear and transparent manner in relation to planned home birth as a delivery option in Ireland. Clinical audit by the Home Birth Service in collaboration with the National Perinatal Epidemiology Centre will be on-going to ensure that care provision adheres to the standards and guidelines as included in the selection criteria and as specified in the Memorandum of Understanding and Agreement between the HSE and the SECMs. The National Perinatal Epidemiology Centre in collaboration with the Designated Midwifery Officers continue to develop the audit tool for home births in order for this to be achieved. It is hoped that hospital-based home birth services will also partake in the audit and therefore allow added information about options of care for women during pregnancy and delivery.

Purpose of this report

The primary aim of this report is to present an overview and national statistics on the home births service in the Republic of Ireland for the year 2015. This clinical audit is a national record of planned home births in the Republic of Ireland for 2015. The purpose of the audit is to examine both the maternal and fetal outcomes of planned home births, including outcomes whereby the care of the woman is transferred for hospital care in the antenatal period, during labour or the postnatal 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 an expectant mother enquires about having a home birth, she can contact a Designated Midwifery Officer (DMO) or the SECM directly. The expectant woman and the SECM discuss the criteria for home births and agree on eligibility for the service. An application form and consent is signed between the SECM and the woman, and then forwarded to the DMO to confirm eligibility, as 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 expectant mothers GP and the Administration Department of the HSE, Local Health Office (LHO) about the forthcoming home birth. Expectant mothers intending to have a home birth are advised by the SECM to register with a GP and also to register and avail of antenatal services with their local maternity hospital. The SECM will be the primary carer for the mother and child up to the age of 14 days 12.

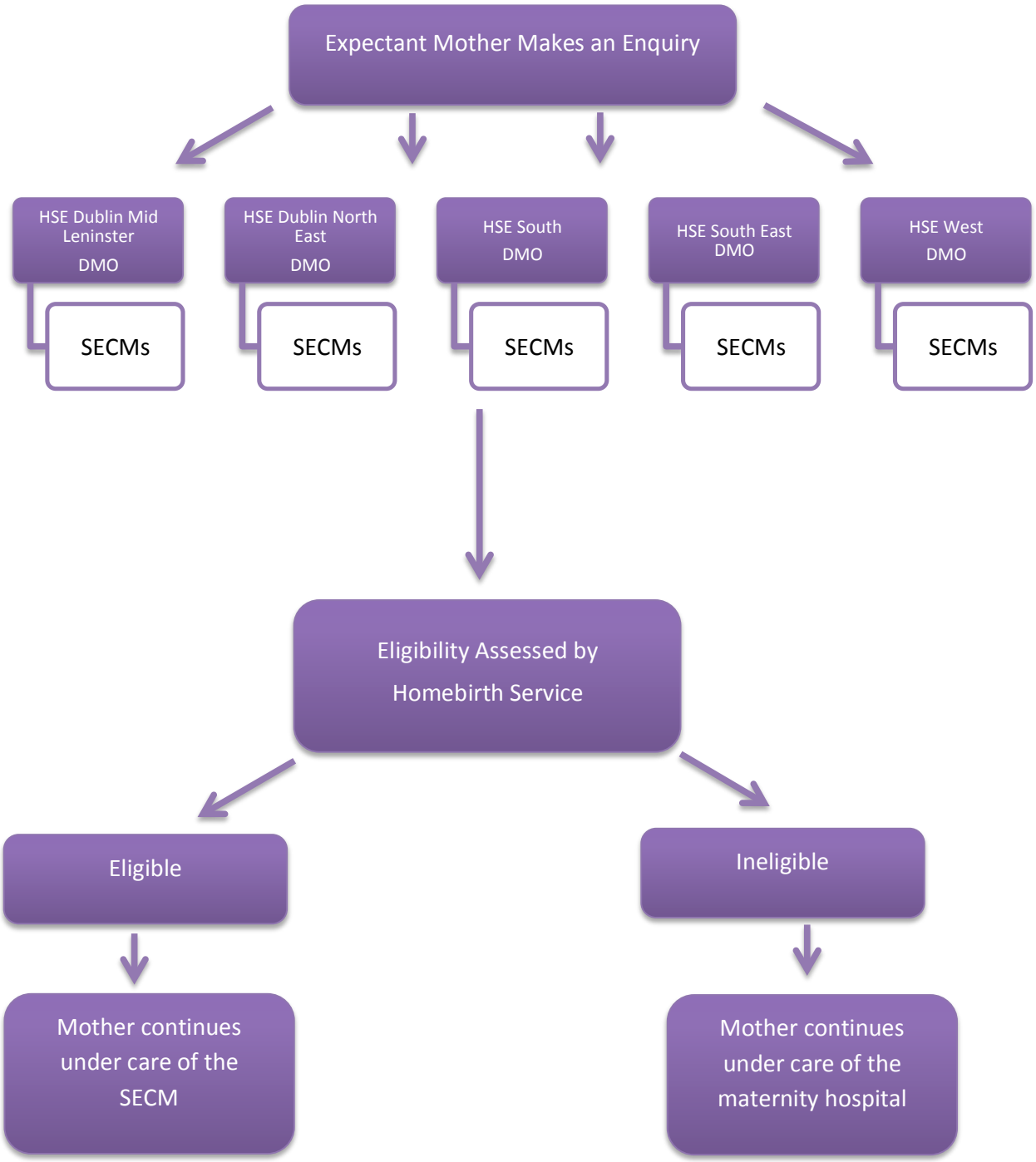


Figure 1: Pathway of care for planned home birth enquiries

Methods

Data recording

In 2015, 20 primary Self Employed Community Midwives (SECMs) in Ireland provided a home birth service on behalf of the Health Service Executive (HSE). As outlined in the MOU between HSE and the SECMs, each SECM is required to partake in clinical audit. Maternity records of midwifery care are sent by the SECM to the Designated Midwifery Officer (DMO) in their respective HSE area. The DMO reviews the maternity records then collates the data using a standardised audit tool and that data are forwarded to the National Perinatal Epidemiology Centre (NPEC) for analysis. Data on all of the women who registered with the home birth service between January 1 and December 31 2015 were collected from all DMOs using a standardised NPEC data collection form. Figure 1 illustrates the flow of information. Each SECM forwards case notes to the DMO in their respective HSE area.

Missing data

To ensure accuracy of information, missing or incomplete data were sought from respective SECM and maternity units by the DMO. For analysis purposes, cases with missing data were excluded from calculations. However, 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.

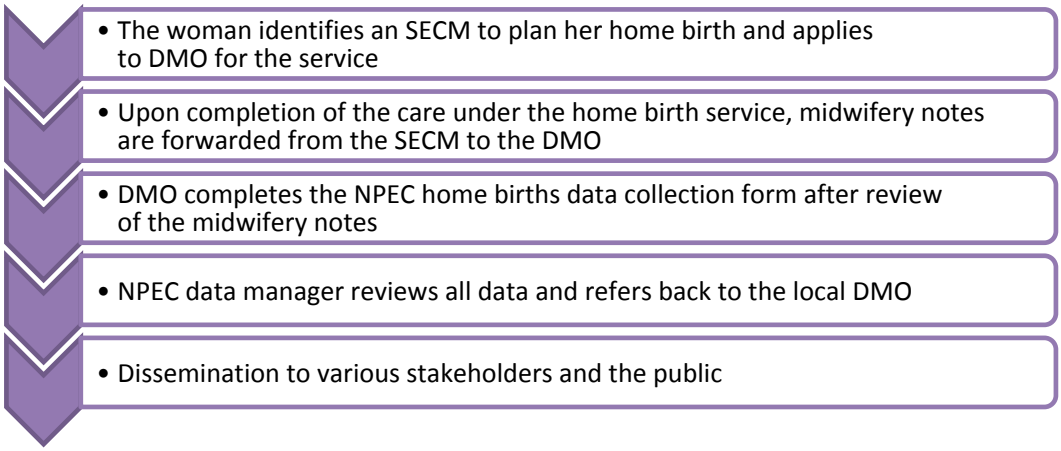


Figure 2: Flow of information in the NPEC data collection process.

Definitions and terminology

Women who are considered low risk, within an agreed criterion, are eligible for home birth in Ireland. To ensure comparison the DMO and the NPEC used the following definitions which are included in this report:

Exclusion Criteria: Table 1 and Table 2 of the HSE MOU/Agreement for home birth services outline medical and other factors requiring planned birth in an obstetric unit (Appendix B). Table 3 and Table 4 of the HSE MOU/ Agreement for home birth services outline medical and other conditions requiring referral to consultant obstetrician by the midwife for final assessment when planning place of birth.

Antepartum Referrals: Referral to hospital due to complications which have arisen during pregnancy.

Intrapartum Transfer: Hospital transfer during labour. Table 5 of the HSE MOU/Agreement for home birth services outlines indications for intrapartum transfer (Appendix D).

Postpartum Transfer: Hospital transfer following birth. Table 6 of the HSE MOU/ Agreement for home birth services outlines indications for postpartum transfer (Appendix E).

Booking: Data sought by the NPEC Home Births Data Collection Form relate to the time of booking with both the maternity hospital and/or the SECM. For the purposes of this report, booking relates to the mother's first antenatal visit with the Self Employed Community Midwife.

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 2015.

Gravida: The number of times the mother has been pregnant, irrespective of duration; prior to the home birth in 2015.

Results

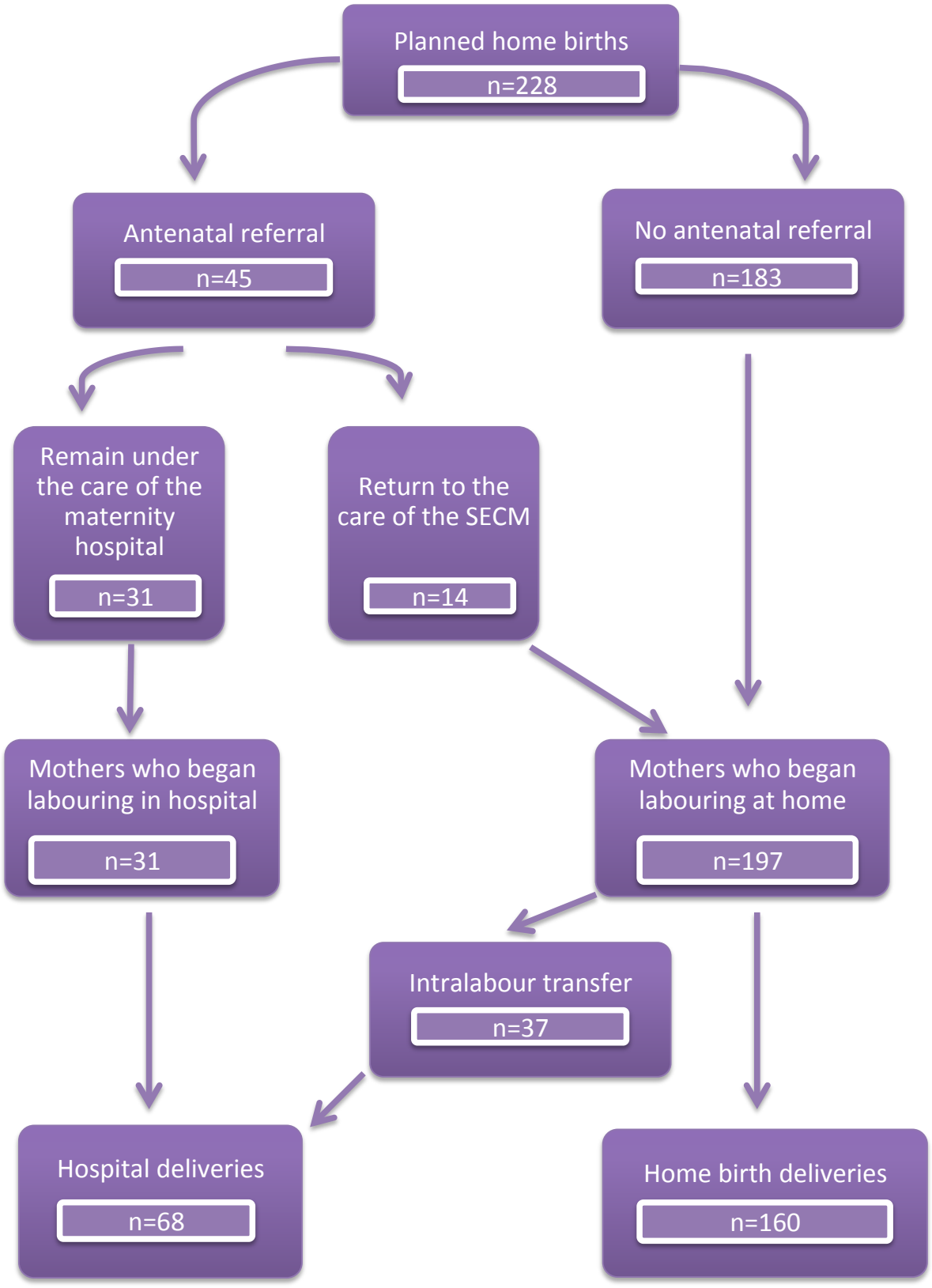


Figure 3: Flowchart of planned home births, 2015

For the period from January 1st to December 31st 2015, there were 228 mothers who intended on having a home birth. During this same period 65,904 births were recorded in the 19 maternity units throughout the Republic of Ireland1. The distribution of home births by Health Service Executive (HSE) region is markedly different to the overall distribution of births. The percentage of home births ranged from 10.5% in HSE Dublin North East, 12.7% in HSE Dublin Mid Leinster, 21.5% in HSE West and 55.3% in HSE South (Table 1). These figures see a reduction in home births in HSE Dublin North East and HSE Dublin Mid Leinster compared to the distribution of home births from 2013 and 2014. The overrepresentation of home births in HSE South persists from previous years (47.6%).

Table 1: Distribution of mothers intending on having a home birth by HSE area, 2013, 2014 and 2015

HSE area	Home births (2013)	Home births (2014)	Home births (2015)
Dublin North East	40(15.5)	38(15.1)	24(10.5)
Dublin Mid Leinster	50(19.4)	50(19.8)	29(12.7)
West	51(19.8)	44(17.5)	49(21.5)
South	117(45.3)	120(47.6)	126(55.3)

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

Compared to all births4, home births were not evenly distributed over the year. As outlined in Figure 4, the lowest number of births occurred in April and June (5.5%) and the highest occurred in July and September (10.5%) respectively.

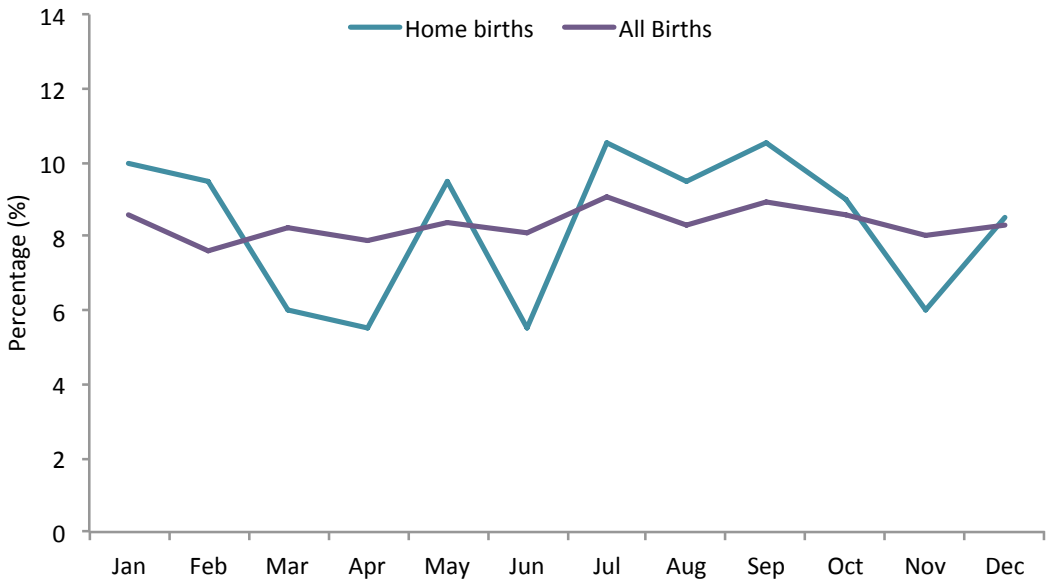


Figure 4: Percentage of births by month, for all births[1] and home births 2015

Maternal Characteristics

Age

The age range of the mothers who booked in for a home birth was 18-45years. Consistent with data from 2014, home birth women tended to be older than all mothers who gave birth in Ireland (Table 2). Three quarters of women (74.9%) intending to give birth at home were aged 30-39 years compared to 64.3% of all women.

Table 2: Age distribution of mothers intending on having a home birth, 2014 and 2015

Age group	Home births (2014*)	Home births (2015*)	All births, 2015 (%)[1]
<20yrs	1(0.4)	1(0.4)	1.8%
20-24yrs	8(3.2)	8(3.5)	8.7%
25-29yrs	33(13.1)	35(15.4)	18.8%
30-34yrs	100(39.8)	92(40.5)	36.1%
35-39yrs	94(37.5)	78(34.4)	28.2%
>40yrs	15(6.0)	13(5.7)	6.1%

Note: Values are shown as n (%) unless otherwise stated. *Maternal age unknown for one mother.

Marital status

As outlined in Table 3, consistent with previous years, almost all the women who intended on having a home birth were either married (65.4%; n=149) or with a partner (20.6%; n=47).

Table 3: Marital status of mothers intending on having a home birth, 2014 and 2015

Marital status	Home births (2014)	Home births (2015)
Married	180(71.4)	149(65.4)
Partner	29(11.5)	47(20.6)
Never Married	31(12.3)	31(13.6)
Separated	1(0.4)	0(0)
Divorced	0(0)	0(0)
Widowed	0(0)	0(0)
Unknown	11(4.4)	1(0.4)

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

1 Healthcare Pricing Office. (2017) Perinatal Statistics Report 2015. Dublin: Health Service Executive [in press]

Ethnicity

Almost three-quarters of the mothers who booked for a home birth were of white Irish ethnicity which is consistent with the percentage of white Irish who booked for a home birth in 2014 (73.7% versus 76.5%). The proportion of women with another white background, who booked for a home birth in 2015, is over representative of those in the female population aged 15-49 years (Table 4). The numbers of Asian/Asian Irish and Black/ Black Irish ethnicities are small but appear under representative of the population.

Table 4: Ethnicity of mothers intending on having a home birth, 2014 and 2015

Ethnicity	Home births (2014*)	Home births (2015)	15-49 year old female population 2016
White Irish	192(76.5)	168(73.7)	79.2%
Irish Traveller	0(0)	0(0)	0.7%
Other white background	55(21.9)	55(24.1)	13.7%
Asian/Asian Irish	2(0.8)	2(0.9)	2.9%
Black/Black Irish	1(0.4)	0(0)	1.7%
Other/mixed	1(0.4)	3(1.3)	1.9%

Note: Values are shown as n (%) unless otherwise stated. Population data from the National Census 2016[2]
*Ethnicity unknown for one mother

Distance of the mother's residence to services

Data related to the distance of the woman's residence to the SECM and the nearest maternity hospital were available for 203 women. The furthest distance from the woman's residence to the SECM was 120 kilometres. As outlined in Figure 5, two-fifths of the women were within 30 kilometres of the SECM (40.6%; n=84). The furthest distance from the woman's residence to the maternity hospital was 150 kilometres. Half of women were within 30 kilometres of the maternity hospital (50.2%; n=102).

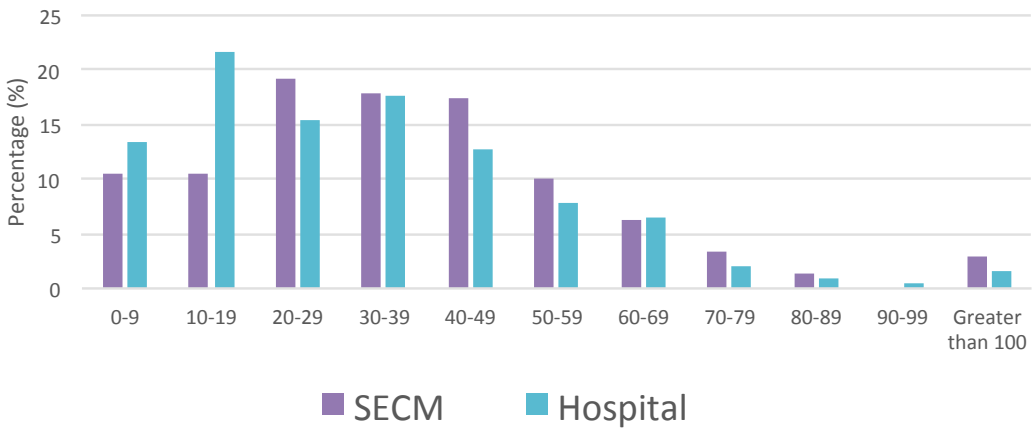


Figure 5: Distance (km) of woman from the SECM and the Maternity Hospital, 2015

2 Central Statistics Office. (2016) Vital Statistics Yearly Summary 2015. Cork: Central Statistics Office

Body mass index

Body mass index (BMI) was available for 60.7% (n=139) of women (Table 5). The BMI in over two thirds of women (70.5%; n=98) was in the healthy range (18.5-24.9kgm^{-2}). Almost one quarter (22.3%; n=40) were classified as overweight (25.0-29.9kgm^{-2}).

Table 5: Body mass index of mothers intending on having a home birth, 2014 and 2015

BMI Category (kgm^{-2})	Home births (2014*)	Home births (2015**)	Healthy Ireland Survey 2015 (%)[3]
Underweight (<18.5)	3(2.2)	0(0)	3
Healthy (18.5-24.9)	88(63.8)	98(70.5)	44
Overweight (25.0-29.9)	40(29.0)	31(22.3)	31
Obese (>30.0)	7(5.1)	10(7.2)	22

Note: Values are shown as n (%) unless otherwise stated. * BMI unknown for 114 mothers **BMI unknown for 90 mothers

Smoking and alcohol consumption

Smoking status of the mothers at their time of booking was recorded for all of the 228 women. None of the women were smokers at the time. Alcohol consumption was known for all of the 228 women. Of these the vast majority of mothers (88.6%; 202) did not consume alcohol during pregnancy. Of the 26 who drank alcohol during pregnancy 23 drank alcohol monthly or less and 3 women drank alcohol more than four times a month.

Previous pregnancy

As indicated in Table 6 almost three quarters of the women who intended on having a home birth had a previous birth (165 of 228, 72.4%). Table 7 specifies gravida/parity for all 228 women who intended on having a home birth in 2015. A quarter of women (n=58, 25.4%) were never pregnant before (gravida=0). Of the women who had been pregnant (gravida > 0), almost three quarters (n=122 of 170, 71.8%) had completed pregnancies (gravida = parity, indicated by green shading); 25% (n=43 of 170, 25.3%) experienced completed pregnancies but also experienced at least one pregnancy less than 24 weeks gestation and under 500g birthweight (gravida > parity > 0, indicated by orange shading) and 3% (n=5 of 170, 2.9%) experienced pregnancies which resulted in miscarriages i.e. their previous pregnancies never exceeded 24 weeks gestation or 500g birthweight (gravida > parity = 0, indicated by red shading).

Table 6: Distribution of parity of mothers intending on having a home birth, 2015

Parity	Home births (2015)	All Births 2015
Nulliparous	63(27.6)	24,867(37.8)
Parous	165(72.4)	42,042(62.2)

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

3 Ipsos MRBI (2015).Healthy Ireland Survey 2015. Dublin: The Stationery Office.

Table 7: Gravida/parity of mothers prior to pregnancy in 2015

Gravida \ Parity	0	1	2	3	4	5	Total
0	58						58
1	5	64					69
2	0	13	38				51
3	0	3	11	17			31
4	0	0	4	4	3		11
5	0	0	0	3	1	0	4
6	0	0	0	0	0	1	1
7	0	0	0	0	3	0	3
Total	63	80	53	24	7	1	228

Note: We refer to gravida and parity prior to the pregnancy in 2015. 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

Obstetric and medical conditions

All but three women registered during pregnancy with their general practitioner. There are two recorded incidences where general practitioners refused to provide shared care. All woman registered with their local maternity unit.

Of the 170 women who had a previous pregnancy, six (3.5%) were reported to have had medical or obstetric problems as outlined in Appendix B which included anaemia in the third trimester, history of depression, depression, gastric bypass immune thrombocytopenia purpura and a platelet count below 100,00.

Of the 228 women who intended on having a home birth, 39 mothers (17.1%) were reported to have a medical or an obstetric problem as outlined in Appendix B and or Appendix C (Table 8 & 9). All of the 39 women were reviewed by a consultant obstetrician in a maternity unit.

Table 8: Medical conditions and other factors requiring planned birth in an obstetric unit

	N=11
Thrush	1
Recurrent candida	1
Small for gestational age	2
Prolonged rupture of membranes	1
Gestational diabetes	2
Hyperemesis gravidarum	1
Risk factors associated with group B streptococcus	1
Endometriosis	1
Anaemia at 39 weeks gestation	1

Note: Factors are not mutually exclusive and therefore percentages add up to over 100%.

Table 9: Medical conditions and other factors requiring referral to consultant obstetrician by the midwife for final assessment when planning place of birth

	N=28
Age over 40 at booking	5
History of a large loop excision of the transformation zone procedure	7
Hypothyroidism	5
History of previous baby more than 4.5kgs	2
Uterine fibroid	1
Coeliac	1
History of depression	2
Genital herpes	1
History of breast surgery	1
Extensive vaginal, cervical or third-degree or fourth-degree perineal trauma	1
Body mass index at booking of >35	3
Under current outpatient psychiatric care	1

Note: Factors are not mutually exclusive and therefore percentages add up to over 100%

Planning for the delivery

Of the 228 women who intended on having a home birth, 217 (95.2%) had an antenatal ultrasound scan. Estimated date of delivery (EDD) was calculated using ultrasound scan in the majority of cases (80.2%; 182). For the remainder of the women, EDD was calculated using both scan and date of last menstrual period (LMP) (13.7%; 31) or LMP only (6.2%; 14). Gestation was recorded for 212 of the 217 women who had an antenatal ultrasound scan. One-fifth of women had an antenatal ultrasound scan at 12 weeks gestation or earlier (20.8%; 44) and two thirds of the women had a scan between 12 and 19 weeks gestation (66.0%; 140) (Table 10).

Table 10: Weeks gestation at antenatal ultrasound scan, 2014 and 2015

Gestation	Home births (2014*)	Home births (2015**)
Less than 12 Weeks	43(18.9)	44(20.8)
12-19 Weeks	139(61.0)	140(66.0)
20 Weeks or Later	46(20.2)	28(13.2)

Note: Values are shown as n (%) unless otherwise stated. * Gestation at scan unknown for 24 mothers. ** Gestation at scan unknown for 5 mothers.

The number of antepartum visits by the midwives to women intended on having a home birth ranged from one to 14 visits. The average number of visits to the women was seven. As indicated in Table 11, the majority of attendances by the midwife for both nulliparous and parous women were between four and nine (82.5% and 86.1%).

Table 11: Number of antenatal visits to the SECM, 2015

	Nulliparous (n=63)	Parous (n=164*)
Up to 3 visits	4(6.3)	6(3.7)
4-6 visits	32(50.8)	81(49.4)
7-9 visits	20(31.7)	60(36.6)
10-12 visits	5(7.9)	16(9.8)
13-15 visits	2(3.2)	1(0.6)

Note: Values are shown as n (%) unless otherwise stated. *Data missing for 1 woman

Antenatal referrals

Of the 228 women intending to have a home birth, 45 (19.7%) were referred to a maternity hospital due to complications arising during the antenatal period. Nulliparous women were twice as likely to be referred to the maternity hospital in the antenatal period as parous women (31.7% versus 15.2%; Table 10).

Table 12: Antenatal referral by parity, 2015

	Nulliparous (n=63)	Parous (n=165)
No antenatal referral	43(68.3)	140(84.8)
Antenatal referral	20(31.7)	25(15.2)

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

Table 13: Reasons for antepartum transfer, 2015

	Nulliparous (n=20)	Parous (n=25)
Breech presentation	3	-
Late miscarriage	1	-
Induction of labour	5	6
Reduced fetal movements	2	-
Obstertic Cholestasis	1	-
Large for gestational age	1	-
Recurrent urinary tract infection	1	-
Pre-term rupture of membranes	1	1
Prolonged rupture of membranes	1	1
Placental malposition	1	-
Post maturity	1	1
Group B Streptococcus infection	1	1
Small for gestational age	1	-
Anaemia at 37 weeks gestation	-	1
Antepartum haemorrhage	-	3
Maternal request	-	1
Gestational diabetes mellitus	-	1
Hypertension and proteinuria	-	1
Immune thrombocytopenic purpura	-	1
Unstable lie	-	1
Platelet count below 100 000	-	1
Polyhydramnios diagnosed on ultrasound	-	1
Meconium Stained Liquor on SROM	-	1
Suspected macrosomia	-	1
Twin Pregnancy	-	1
Unavailability of an SECM	1	1

*Not mutually exclusive

One white Irish nulliparous woman was transferred, at 25 weeks gestation, to a maternity hospital for review following complaint of reduced fetal movements. A male infant weighing greater than 500 grammes was delivered at 25 weeks gestation. The baby was transferred to the neonatal intensive care unit and subsequently died within 7 completed days of birth. An external physical examination of the baby and placental histology were undertaken at the maternity hospital. Cause of death was attributed to extreme prematurity, disseminated intravascular coagulation, intraventricular haemorrhage and pulmonary haemorrhage.

Over half of all women who were referred to the maternity hospital during the antenatal period had a spontaneous vertex delivery (51.1%; n=23). Nulliparous women were more likely to have a caesarean section delivery than parous women (Table 14). The mode of delivery was unknown for one quarter of women (24.4%; n=11).

Table 14: Mode of delivery for women with an antenatal transfer, 2015

	Nulliparous (n=20)	Parous (n=25)
Spontaneous Vertex	5(25.0)	18(72.0)
Vaginal Breech	2(10.0)	1(4.0)
Ventouse	0(0)	0(0)
Forceps	2(10.0)	0(0)
Caesarean Section	4(20.0)	2(8.0)
Unknown	7(35.0)	4(16.0)

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

Of the 45 women referred to the maternity hospital for antenatal care a third of the women (31.1%; n=14) were returned to the care of the SECM. There were two adverse outcomes identified for women who initially registered with the home birth service and who subsequently transferred to the maternity hospital during antenatal care.

Intrapartum Transfers

Of the 197 women who began labouring at home 37 (18.8%) were transferred to a maternity hospital. Of these women 29.7% were transferred by ambulance (n=11). It took between 10 and 90 minutes to transfer these women from their homes to the maternity hospital. The average time it took to transfer women from their home to the maternity hospital was 33 minutes. As demonstrated in Table 15, nulliparous women were six times more likely to transfer during labour than parous women (50.0% versus 8.2%).

Table 15: Intrapartum transfer rates by parity, 2015

	Nulliparous (n=50)	Parous (n=147)
Home birth not transferred	25(50.0)	135(91.8)
Intrapartum transfer	25(50.0)	12(8.2)

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

Over three quarters of intrapartum transfers occurred during the first stage of labour (86.2%; n=25). As outlined in Table 16, no women required transfer during the 3rd stage of labour.

Table 16: Stage of labour when transferred, 2015

	Nulliparous (n=21*)	Parous (n=8*)
1st Stage	17(80.9)	6(75.0)
2nd Stage	4(19.1)	2(25.0)
3rd Stage	0(0.0)	0(0.0)

Note: Values are shown as n (%) unless otherwise stated. *Data missing for four woman

Medical interventions

As indicated in Table 17, a third of intrapartum transfers to the maternity unit were associated with failure to progress in labour (37.8% n=14). One in 5 women were transferred with meconium stained liquor.

Table 17: Reasons for intrapartum transfer, 2015

	Nulliparous (n=25)	Parous (n=12)
Failure to progress in labour	11(44.0)	3(25.0)
Meconium stained liquor	5(20.0)	3(25.0)
Prolonged rupture of the membranes	3(12.0)	-
Maternal request for analgesia	2(8.0)	-
Preterm labour	-	1(8.3)
Induction of labour	-	3(25.0)
Breech presentation	1(4.0)	-
Midwife unavailable	1(4.0)	-
Fetal tachycardia	1(4.0)	-
Antepartum haemorrhage	-	1(8.3)
GBS positive	-	1(8.3)
Intrapartum haemorrhage	1(4.0)	-

As indicated in Table 18, the mode of delivery was unknown for three women who transferred during labour to the maternity unit. Of the 34 recorded, three quarters of women had a spontaneous vaginal delivery (73.5%; n=25).

Table 18: Mode of delivery for women with an intrapartum transfer, 2015

	Nulliparous (n=25)	Parous (n=12)
Spontaneous Vertex	16(64.0)	9(75.0)
Vaginal Breech	2(8.0)	0(0.0)
Ventouse	0(0.0)	0(0.0)
Forceps	1(4.0)	0(0.0)
Caesarean Section	5(20.0)	1(8.3)
Unknown	1(4.0)	2(16.7)

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

Of the 37 women who transferred during labour, 10 (27.0%) had either an epidural or spinal anaesthesia. Two women (5.4%) had a general anaesthetic and no women were reported to have had a blood transfusion.

One white, non-Irish European, para 0+2 woman began labouring at home and during the second stage of labour the woman was transferred to a maternity hospital by ambulance. A female infant, delivered vaginally and weighing over 2000 grammes, was stillborn before admission to the maternity unit. The stillbirth was referred to the Coroner and a post mortem examination and placental histology were undertaken. The findings from the Coroner's report are still outstanding at the time of publishing this report.

Of the babies who were born in hospital following an intrapartum transfer, two (5.4%) were admitted to the neonatal unit. Two of the 37 babies (5.4%) needed resuscitation. Of these one baby was resuscitated with suction only and one baby was resuscitated by intermittent positive pressure ventilation.

A total of seven adverse incidents were documented for women who had an intrapartum transfer to the maternity hospital.

Home birth deliveries

Delivery

The distribution of home births by HSE region was similar to the distribution of planned home births (Table 19).

Table 19: Distribution of mothers intending on having a home birth by HSE area, 2015

	Planned Home births	Home births
Dublin North East	24(10.5)	14(8.8)
Dublin Mid Leinster	29(12.7)	20(12.5)
West	49(21.4)	37(23.1)
South	126(55.3)	89(55.6)

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

Of the women who birthed at home rupture of membranes occurred spontaneously in the vast majority of cases (Table 20). Liquor was clear in almost all cases (Table 21) however, parous women were twice more likely to have stained liquor than nulliparous women (9.6% versus 4.0%).

Table 20: Rupture of membranes, 2015

	Nulliparous		Parous	
	Home	Hospital	Home	Hospital
Spontaneous	25(100)	27(71.0)	131(97.0)	14(46.7)
Artificial	0(0)	4(10.5)	4(3.0)	7(23.3)
Unknown	0(0)	7(18.4)	0(0.0)	9(30.0)

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

Table 21: Liquor colour, 2015

	Nulliparous		Parous	
	Home	Hospital*	Home	Hospital**
Clear	24(96.0)	18(81.8)	121(89.6)	13(68.4)
Meconium	1(4.0)	3(13.6)	6(4.4)	5(26.3)
Other	0(0)	1(4.5)	7(5.2)	1(5.3)

Note: Values are shown as n (%) unless otherwise stated. *Data missing for sixteen women. **Data missing for 12 women

As indicated in Table 22, A Self Employed Community Midwife (SECM) was present at the vast majority of births (94.4%). A second midwife was also present at the majority of births (85.0%). Of the 160 women who birthed at home, nine babies were born before the arrival of either an SECM or a second midwife (5.6%).

Table 22: Who was present at the birth by HSE area, 2015

	Overall (n=160)	Dublin NE (n=14)	Dublin Mid-Leinster (n=20)	West (n=37)	South (n=89)
SECM	151(94.4)	13(92.9)	18(90.0)	36(97.3)	84(94.4)
Second Midwife	136(85.0)	10(71.4)	13(65.0)	34(91.9)	79(88.8)
Doula	2(1.3)	0(0)	0(0)	0(0)	2(2.2)
Partner	149(93.1)	14(100)	18(90.0)	34(91.9)	83(93.3)
Other	23(14.4)	2(14.3)	6(30.0)	7(18.9)	8(9.0)

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

Duration of labour

Over half of all the women laboured between three and six hours (mean duration 4.9 hours). The longest labour for women who birthed at home was 21 hours. As expected (Figure 6), parous women laboured faster with almost one third of those women having laboured for less than three hours (31.3%).

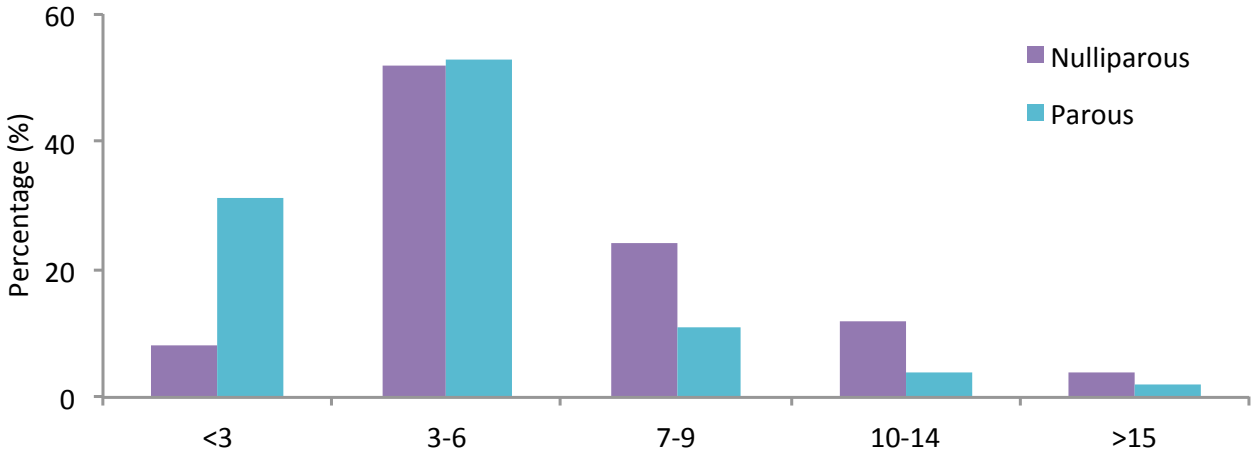


Figure 6: Duration of labour (hours completed) by parity, 2015

As documented in Table 23 there was some variation in maternal position for birth. Half of women gave birth while kneeling (50.0%; 80). One fifth of parous women birthed on all fours (21.4%; n=29).

Table 23: Maternal position for birth by parity, 2015

	Nulliparous		Parous	
	Home	Hospital	Home	Hospital
Kneeling	10(40.0)	2(5.3)	70(51.9)	4(13.3)
All fours	5(20.0)	1(2.6)	29(21.4)	5(16.7)
Standing	3(12.0)	0(0.0)	8(5.9)	1(3.3)
Squatting	2(8.0)	0(0.0)	5(3.7)	1(3.3)
Sitting	2(8.0)	4(10.5)	7(5.2)	3(10.0)
Other	3(12.0)	16(42.0)	15(11.0)	8(26.7)
Unknown	0(0)	15(39.5)	1(0.7)	8(26.7)

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

Management of the third stage of labour

The vast majority of women who gave birth at home had a physiological third stage of labour (87.5 %; n=140). One in every 6 nulliparous women had active management at home (16.0%; Figure 7). Of the women who birthed in a maternity unit management of the third stage of labour was recorded in 48 of the 68 cases (70.6%). Of these women two thirds (72.9%; n=38) had active management. Of the 55 women who had active management, either in the hospital or in the home, syntocinon and/or syntometrine was administered in 41 cases.

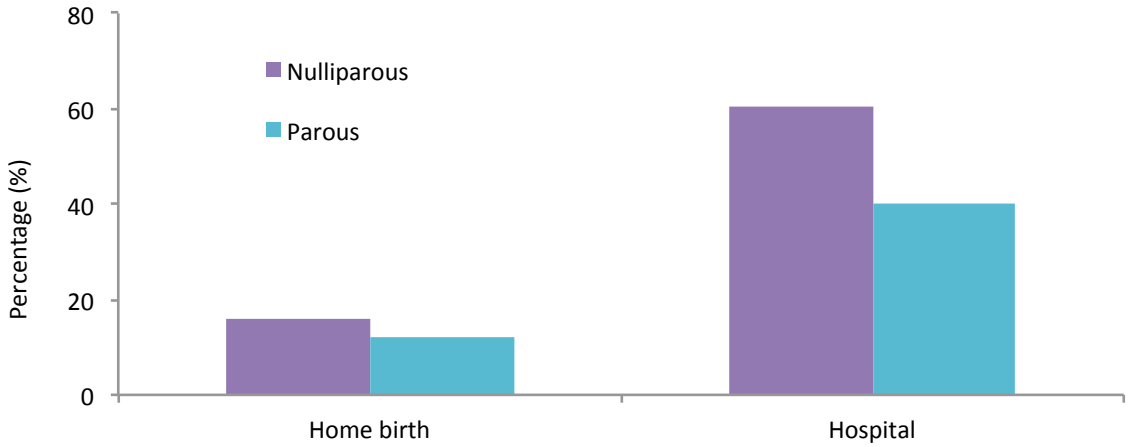


Figure 7: Active management of the third stage of labour, 2015

Pain Relief

Type of pain relief was recorded for all 160 women who gave birth at home (Figure 8). Over half of the women used no pain relief (56.9%; n=91). Of the 160 recorded, 41 women who had a home birth had a water birth (25.6%).

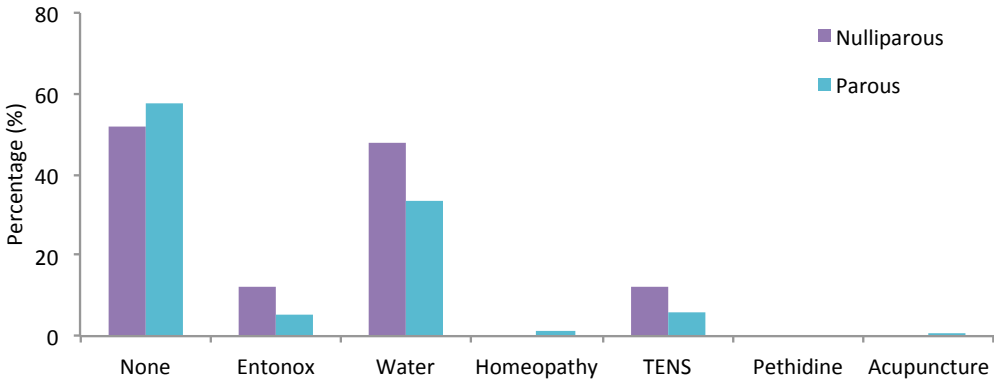


Figure 8: Pain relief used by women delivered in the home, 2015

Other incidences at birth

Two cases of shoulder dystocia occurred. For more than half of the women (57.5%) who gave birth at home the perineum remained intact (Table 24). Of those who birthed at home, parous women were more likely to have their perineum intact than nulliparous women (59.3% versus 38.7%). A higher number of nulliparous women underwent perineal suturing than parous women (32.0% versus 27.4%).

Table 24: Perineal Outcomes, 2015

	Nulliparous		Parous	
	Home	Hospital*	Home	Hospital**
Intact	15(60.0)	8(22.9)	77(57.0)	12(46.2)
Episiotomy	1(4.0)	10(28.6)	2(1.5)	1(3.8)
1st Degree Tear	1(4.0)	1(2.9)	29(21.5)	2(7.7)
2nd Degree Tear	6(24.0)	5(14.3)	27(20.0)	7(26.9)
3rd Degree Tear	1(4.0)	1(2.9)	0(0.0)	0(0.0)
4th Degree Tear	1(4.0)	0(0.0)	0(0.0)	0(0.0)

Note: Values are shown as n (%) unless otherwise stated. *Data missing for 13 women. **Data missing for eight women.

Estimated blood loss at delivery

The average estimated blood loss for those who delivered at home was 254 ml. The women who birthed at home generally lost either 100-249ml or 250-499ml of blood. The maximum recorded blood loss was estimated at 600 ml (Figure 9).

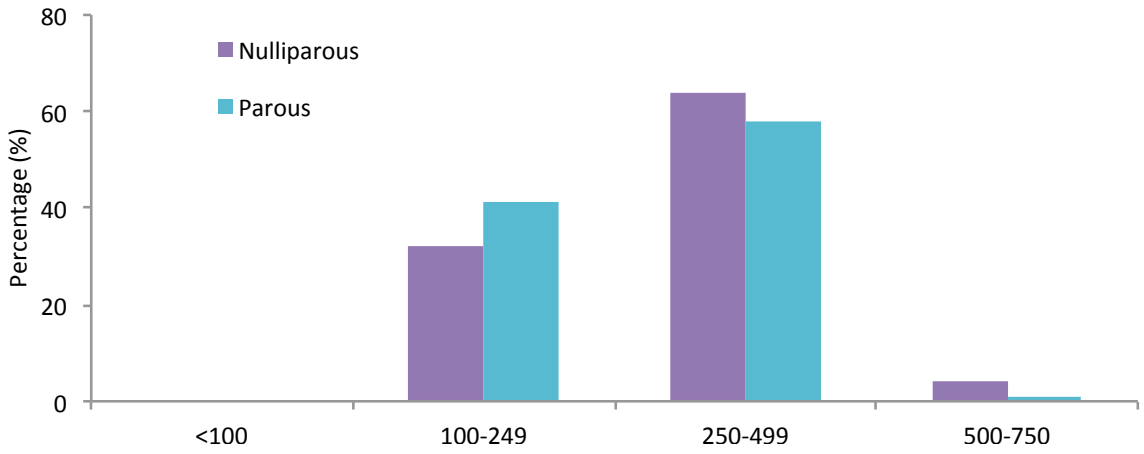


Figure 9: Estimated blood loss at delivery for women who delivered in the home, 2015

Characteristics of babies who were delivered at home

Sex

Of the 160 babies born at home, 77 were male (48.1%) and 80 were female (50.0%). Sex was unrecorded in three cases.

Birth weight

The mean birth weight for infants born at home was 3,702 grams. This is 255 grams or 7.4% greater than the mean birth weight for all infants born in the country in 2015 (3,447 grams)4. Three quarters of infants delivered at home had a birth weight between 3,000 and 3,999 grams (73.8%). One fifth of babies (21.9%) who were delivered at home had a birth weight between 4,000 and 4,499 (Figure 10). There were no low birth weight babies (less than 2,500 grams) born at home compared to 5.7% of all infants born in the country in 2015.[1]

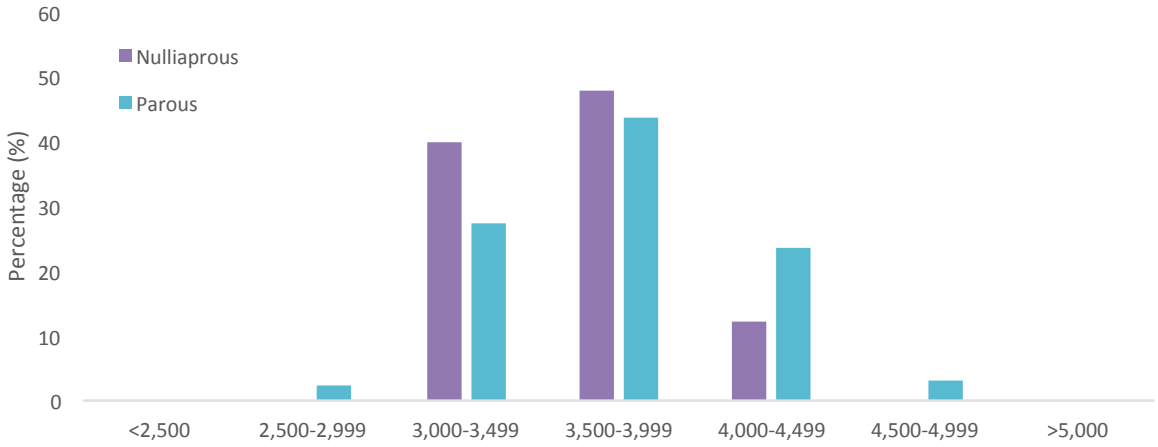


Figure 10: Distribution of birth weight in babies delivered in the home, 2015

Apgar scores

At one minute after birth over three quarters of babies (79.8%) had an Apgar score of nine (Figure 11). At five minutes the majority of babies had an Apgar score of either nine (35.1%) or ten (63.6%).

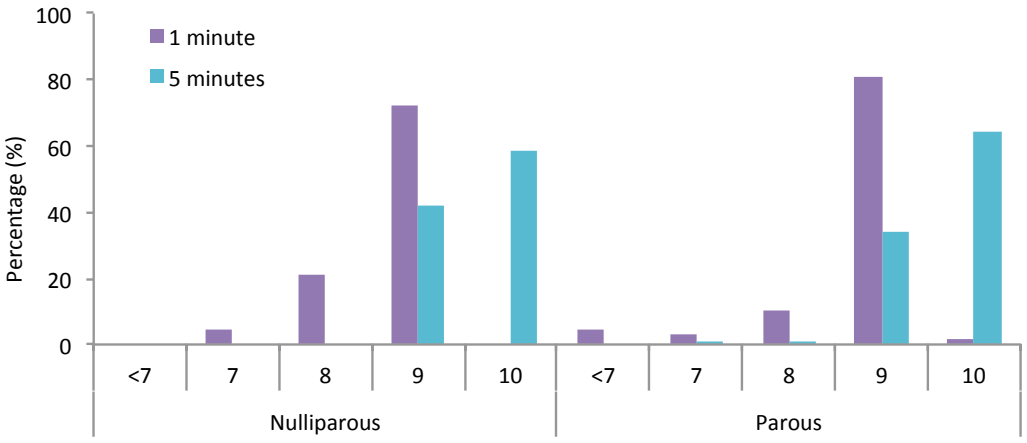


Figure 11: Apgar scores at 1 and 5 minutes for babies delivered in the home, 2015

Resuscitation

Five of the 160 babies born at home (3.1%) needed some form of resuscitation. Two babies received tactile simulation, two of the five babies were resuscitated with suction only, one baby received oxygen and one baby was resuscitated by intermittent positive pressure ventilation as well as receiving oxygen.

Delivery examination and screening

Five of the 160 babies (3.1%) were suspected of having a congenital abnormality specifically: congenital adrenal hyperplasia, talipes of right foot, suspected developmental dysplasia of the hip and two babies with suspected tongue tie. The National Newborn Bloodspot Screening Programme was performed on 97.5% of the babies (n=156). As outlined in Table 25, medical examination of the newborn was carried out by a general practitioner in 89.4% (n=143) of cases where the baby was birthed at home. For those babies born in the maternity unit this examination was undertaken by a hospital paediatrician (88.2%; n=60).

Table 25: Medical examination of the newborn, 2015

	Home	Hospital
General Practitioner	143(89.4)	0(0)
Hospital Paediatrician	14(8.8)	60(88.2)
Not carried out	1(0.6)	0(0.0)
Unknown	2(1.2)	8(11.8)

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

Of the babies who were birthed at home, two thirds had vitamin K administered either orally (47.5%, n=76) or by intramuscular injection (21.5%; n=35). Vitamin K was not administered to 29.4% (n=47) of babies born at home versus 8.9% (n=5) of those babies born in the hospital following transfer (Table 26).

Table 26: Vitamin K administration, 2015

	Home*	Hospital**
Administered orally	76(47.5)	11(19.6)
Administered IM	35(21.9)	40(71.4)
Not administered	47(29.4)	5(8.9)

Note: Values are shown as n (%) unless otherwise stated. *Data missing for two infants. **Data missing for 12 infants

Method of feeding

Method of feeding was recorded on both day one and on day of discharge from the care of the SECM. As outlined in Table 27, the vast majority of mothers were exclusively breastfeeding on both day one (n=159, 99.4%) and on day of discharge (n=157, 98.1%). Mothers who birthed at home were twice as likely to breastfeed exclusively as the total population[1] on day of discharge (98.1% v 48.0%).

Table 27: Method of feeding, 2015

	Day one		Day of Discharge	
	Home	Hospital*	Home	Hospital**
Exclusive breastfeeding	159(99.4)	58(98.3)	157(98.1)	56 (96.6)
Partial breastfeeding	0(0)	1(1.7)	1(0.6)	2 (3.4)
Artificial	1(0.6)	0(0.0)	2(1.3)	0(0.0)

Note: Values are shown as n (%) unless otherwise stated. *Missing for nine women. **Data missing for ten women.

Infant Transfers

Seven of the 160 babies delivered at home (4.4%) were transferred to hospital for reasons specified in Table 28. Three of the seven babies were transferred by ambulance with four of the babies transferred by private car. Four of the seven babies were admitted into the Neonatal Intensive Care Unit.

Table 28: Reasons for infant transfer, 2015

	N
Tachypnoea	1
Low apgar score	1
Indeterminate sex at birth, subsequently infant was identified as female	1
For observation and slow respirations	1
Facial Congestion	1
Weight loss of 500 grams by day 3	1
Cyanosis 6 hours post-delivery	1

Postnatal transfers

Eight women were transferred in the postnatal period for care in a maternity unit. Of the eight women five were transferred by private car and the remaining three women were transferred by ambulance. Indications for transfer are outlined in Table 29.

Table 29: Reasons for maternal transfer postpartum, 2015

	N
Primary Postpartum haemorrhage	2
Hypertension	2
Third degree tear	1
Fourth degree tear	1
Puerperal psychosis	1
LSCS wound dehiscence and wound infection	1

Medical interventions undertaken in the maternity hospital included; administration of blood products (12.5%; n=1), psychiatric consultation (12.5%; n=1) the administration of oral medications (12.5%; n=1), LSCS wound re-sutured (12.5%; n=1), local anaesthetic and perineal suturing (12.5%; n=1) and spinal anaesthetic and perineal suturing (12.5%; n=1).

Appendix A: Designated Midwife Officers

HSE Area	Contact
Dublin Mid-Leinster	Anne Clarke Designated Midwifery Officer HSE Dublin Mid Leinster Mill Lane Palmerstown Dublin 20 Tel: (01) 6201698 Mobile: 086 4107217 Email: homebirth.dublinml@hse.ie
Dublin North East	Ann O'Byrne Designated Midwifery Officer HSE DNE, Health Service Executive Dublin North City 2nd Floor, Ballymun Health Care Facility Ballymun Dublin 9 Tel: (01) 8467159 Mobile: 087 9457094 Email: homebirth.dne@hse.ie
South	Jo Delaney & Siobhán Sweeney Designated Midwifery Officers Home Birth Service Cork & Kerry Old Dr's Residence, St. Finbarrs Hospital Cork Tel: (021) 4923483 Mobile: 087 2889499 Email: Homebirth.South@hse.ie
West	Mary T Gibbons Designated Midwifery Officer, HSE West Office of Nursing/Midwifery Service Directorate. Mobile: 087 0525060 E-mail: mary.gibbons@hse.ie

HSE Area	Contact
Carlow Kilkenny South Tipperary	Michelle Waldron Designated Midwifery Officer Project Officer NMPDU HSE South, Office Complex Kilcreene Hospital Campus Co. Kilkenny Tel: (056) 7785620 Mobile: 087 7585024 Email: michelle.waldron@hse.ie
Waterford	Janet Murphy Designated Midwifery Officer, Waterford Tel: (051) 842207 Mobile: 087 9243538 E-mail: Janet.Murphy1@hse.ie
Wexford	Susan Ryan Team Leader Integrated Hospital/Community Midwifery Service Maternity Unit, Wexford General Hospital, Newtown Road, Wexford. Tel: (053) 9142233 ext 3463 Mobile: 087 9192905 Email: susane.ryan@hse.ie

Note: The above details are of Designated Midwifery Officers in their current post at time of publication. In 2014, Michelle Waldron was the DMO for Dublin North East until she left her post in October 2015 and took up the post as DMO in the South East. Eithne Coen exited her post in the South East in November 2015. Ann O'Byrne took up post in Dublin North East in October 2015.

A list of the Self Employed Community Midwives is available from the following link to the HSE website;
http://www.hse.ie/eng/services/list/3/maternity/home birth.html

Appendix B: Medical conditions and other factors suggesting/requiring planned birth in an obstetric unit

Table 1: Medical conditions indicating increased risk suggesting planned birth at an obstetric unit

Disease area	Medical condition
Cardiovascular	Confirmed cardiac disease Hypertensive disorders
Respiratory	Asthma requiring an increase in treatment or hospital treatment or requiring steroid treatment in last year Cystic fibrosis
Haematological	Haemoglobinopathies – sickle-cell disease, beta-thalassaemia major History of thromboembolic disorders Immune thrombocytopenia purpura or other platelet disorder or platelet count below 100 000 Von Willebrand's disease Bleeding disorder in the woman or unborn baby Atypical antibodies which carry a risk of haemolytic disease of the newborn
Infective	Risk factors associated with group B streptococcus whereby antibiotics in labour would be recommended Infective Hepatitis B or Hepatitis C Carrier of/infected with HIV Toxoplasmosis – women receiving treatment Current active infection of chicken pox/rubella/genital herpes in the woman or baby Tuberculosis under treatment
Immune	Scleroderma Systemic lupus erythematosus
Endocrine	Diabetes Maternal thyrotoxicosis
Renal	Abnormal renal function Renal disease requiring supervision by a renal specialist
Neurological	Epilepsy Myasthenia gravis Previous cerebrovascular accident
Gastrointestinal	Liver disease associated with current abnormal liver function tests
Psychiatric	Psychiatric disorder requiring current in-hospital care and / or requiring specialist care.

Table 2: Other factors indicating increased risk suggesting planned birth at an obstetric unit

Factor	Additional information
Previous pregnancy complications	Unexplained stillbirth/neonatal death or previous death related to intrapartum difficulty [to be discussed with neonatologists] Previous baby with neonatal encephalopathy Pre-eclampsia requiring preterm birth Placental abruption with adverse outcome Eclampsia Uterine rupture Primary postpartum haemorrhage requiring additional pharmacological treatment or blood transfusion Caesarean section Shoulder dystocia
Current pregnancy	Multiple birth Placenta praevia Pre-eclampsia or pregnancy-induced hypertension Post-term pregnancy [For medical review by 42 weeks] Preterm labour< 37 +0 Preterm pre-labour rupture of membranes Term pregnancy (37+0 to 42+0) pre-labour rupture of membranes for more than 24hrs Placental abruption Anaemia – haemoglobin less than 10g/dl at onset of labour Confirmed intrauterine death Induction of labour Substance misuse Alcohol dependency requiring assessment or treatment Onset of gestational diabetes Malpresentation – breech or transverse lie Recurrent antepartum haemorrhage
Fetal indications	Small for gestational age in this pregnancy (less than 5th centile or reduced growth velocity on ultrasound) Abnormal fetal heart rate (FHR)/Doppler studies Ultrasound diagnosis of oligo/polyhydramnios
Previous gynaecological history	Myomectomy Hysterotomy

Appendix C: Medical conditions and other factors requiring referral to consultant obstetrician by the midwife for final assessment when planning place of birth

Table 3: Medical conditions indicating individual assessment when planning place of birth

Disease area	Medical condition
Cardiovascular	Cardiac disease without intrapartum implications
Haematological	Atypical antibodies not putting the baby at risk of haemolytic disease Sickle-cell trait Thalassaemia trait
Immune	Nonspecific connective tissue disorders
Endocrine	• Hyperthyroidism • Unstable hypothyroidism such that a change in treatment is required
Skeletal/neurological	Spinal abnormalities Previous fractured pelvis Neurological deficits
Gastrointestinal	Liver disease without current abnormal liver function Crohn's disease Ulcerative colitis

Table 4: Other factors indicating individual assessment when planning place of birth

Disease area	Medical condition
Previous complications	Stillbirth/neonatal death with a known non-recurrent cause Pre-eclampsia developing at term Placental abruption with good outcome History of previous baby more than 4.5 kg Extensive vaginal, cervical, or third- or fourth-degree perineal trauma Previous term baby with jaundice requiring exchange transfusion Retained placenta requiring manual removal in theatre
Current pregnancy	Antepartum bleeding of unknown origin (single episode after 24 weeks of gestation) Body mass index at booking of ≥ 35 or < 18 kg/m^2 Blood pressure of 140 mmHg systolic or 90 mmHg diastolic on two occasions Clinical or ultrasound suspicion of macrosomia Para 6 or more Recreational drug use Under current outpatient psychiatric care Age over 40 at booking
Fetal indications	Fetal abnormality
Previous gynaecological history	Major gynaecological surgery Cone biopsy or large loop excision of the transformation zone Fibroids Female circumcision

Appendix D: Indications for intrapartum transfer

Table 5 Indications for intrapartum transfer

Spontaneous rupture of membranes > 24 hours
Indications for electronic fetal monitoring (EFM) including abnormalities of the fetal heart rate (FHR) on intermittent auscultation
Delay in the first or second stages of labour
Meconium stained liquor
Maternal request for epidural pain relief
Obstetric emergency – antepartum haemorrhage, cord presentation/prolapse, postpartum haemorrhage, maternal collapse or a need for advanced neonatal resuscitation
Retained placenta
Maternal pyrexia in labour (38.0 °C on one occasions or 37.5 °C on two occasions 2 hours apart)
Malpresentation or breech presentation diagnosed for the first time at the onset of labour, taking into account imminence of birth
Either raised diastolic blood pressure (over 90 mmHg) or raised systolic blood pressure (over 140 mmHg) on two consecutive readings taken 30 minutes apart
Uncertainty about the presence of a fetal heartbeat
Third or fourth degree tear or other complicated perineal trauma requiring suturing

Appendix E: Indications for postpartum transfer

Table 6 Indications for Postpartum transfer

Disease area	Medical condition
Mother	Postpartum haemorrhage (>500mls) or any amount that causes the mothers condition to deteriorate Pyrexia (38.0 °C on one occasions or 37.5 °C on two occasions 2 hours apart) Concerns for psychological wellbeing Signs of thromboembolic disease
Infant	Congenital or genetic abnormality Respiratory symptoms – tachypnoea (RR>60/minute), grunting, recession Cyanosis, plethora, pallor Bile-stained vomiting, persistent vomiting or abdominal distension Delay in passing urine or meconium >24 hours Fits, jitteriness, abnormal lethargy, floppiness, high pitched cry Jaundice <24 hours
Other	Please write in a condition/diagnosis

NATIONAL PERINATAL
EPIDEMIOLOGY CENTRE

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