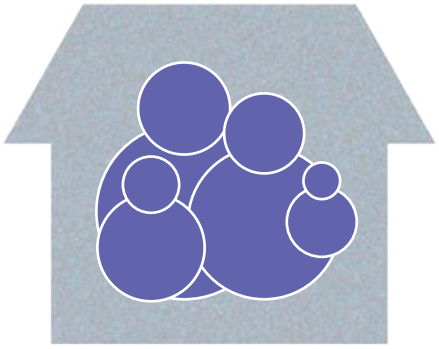

Planned Home Births in Ireland

ANNUAL REPORT 2012

NATIONAL PERINATAL EPIDEMIOLOGY CENTRE

Office of the Nursing & Midwifery Services Director

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Tús Áite do Shábháilteacht Othar
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Design/Artwork by Duggan 083 0071000

Citation for this report:
Meaney S, Sweeney S, Delaney J, Corcoran P, Greene RA, Sugrue S. Planned Home Births in Ireland Annual Report 2012; HSE National Home Birth Service provided by Self Employed Community Midwives. Cork: Health Service Executive, 2013

Funded by the Irish Health Service Executive

Printed by Woodland Print and Design, 307 Harbour Point Business Park, Little Island, Cork.

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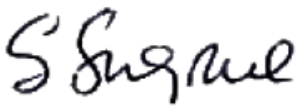
Acknowledgements

The Health Service Executive (HSE) is pleased to publish the data from the first Planned Home Birth Annual Report (2012). There is a long history of home birth in Ireland but in recent decades the figures have fallen to less than 0.5% of all births. The Office of the Nursing and Midwifery Services Directorate have over the last two years under the Chairmanship of Dr Michael Shannon, attempted to develop and support a safe, quality home birth service for women considered to be "low-risk" and therefore increasing choice available to women. I would like to acknowledge Michael's support and encouragement.

Measurement of the outcome of care is essential for the development of the home birth service and it is to this end that it was decided that a national clinical audit on planned home births was established and figures published in an Annual Report. The Report is supported by the Clinical Programme for Obstetrics and Gynaecology in the HSE.

A number of Designated Midwifery Officers recently joined the service and I would like to acknowledge their role in the delivery of a quality service, supporting the women who opt for home birth. They are instrumental in collecting and collating all of the relevant data which is contained within this Report and which may be used to contribute to midwifery research and development. I want to thank NPEC for designing the Data Set and for the new online development which will make it easier in the future.

The Self Employed Community Midwives who provide the home birth service on behalf of the HSE are passionate about their work. They provide excellent quality care to low risk women across the country. Without them there would be no service. It is my wish that the outcomes published in this Report will help support the further development of this service. The vision of a number of maternity services to support and encourage the development of the service is to be welcomed and nourished. On behalf of the Designated Midwifery Officers I look forward to collaborating together on future developments.



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

Welcome to the Planned Home Births Annual Report 2012 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

Background

In Ireland today 0.2% of births occur at home.[1] This rate is slightly lower than the home birth rate in the United States of America (0.7%),[2] much lower than England (2.2%) and Wales (3.1%)[3] and significantly lower than the Netherlands where almost one quarter of births are reported to be in the home.[4]

The Royal College of Midwives (RCM) and the Royal College of Obstetricians and Gynaecologists (RCOG) support home birth for women with uncomplicated pregnancies.[5] The World Health Organization (WHO) states that women may choose to deliver at home if they have a low risk pregnancy and receive appropriate care, however should complications arise during pregnancy, labour and delivery; a plan for transfer to a suitably equipped unit is necessary and should be in place in advance of the birth.[6] There is ample evidence showing that labouring at home increases a woman's likelihood of a birth that is both satisfying and safe, with implications for her health and that of her baby.

Recent research into planned home birth found that having a baby at home is as safe an option for women when it is supported and structured in a maternity care system with well-trained midwives and a good referral and transportation system.[7,8] Findings indicate that home births have similar rates not only of perinatal mortality and morbidity but also maternal mortality and morbidity, compared to their counterparts who delivered in a hospital setting.[4] Studies also indicate that mothers who birth at home are less likely to have medical interventions and have lower rates of caesarean section compared to planned hospital births.[4]

Home birth in Ireland

Up until the first half of the 20th Century, the majority of births in Ireland were home births. Following the establishment of the Department of Health, Comhairle na nOspideal (The National Hospital Advisory Council) was set up, in 1947, to decide where maternity services should be located. It advocated, as did the Peel Report in the UK, that a hospital was the safest place to give birth.[9]

During the 1950's and 1960's the construction and expansion of maternity hospitals brought about a rapid decline in home confinement. There were approximately 18,000 home births in 1957: by 1967 there were approximately 4,000 and by 1977, this figure was 265, representing less than 1% of the births in Ireland.[10] The Department of Health provided a grant to women who wished to have a home birth, with which they could employ the services of Independent Midwives. In 2003, a two-year pilot project demonstrated that a home birth service provided by domiciliary community midwives for low risk women was effective, viable and provided high levels of satisfaction to both women and midwives.[11]

The Domiciliary Birth Report of 2004 stated that 'home birth is a safe option for low risk women within an agreed criterion in Ireland'. It outlined that a safe outcome for the mother and baby is the most important factor and that the need for continuity of care is essential.[12] The newly formed Health Services Executive (HSE) accepted this report as a dynamic working document and a National Implementation Committee was established to address the recommendations, progress the work and involve

1 Economic and Social Research Institute. (2012) Perinatal Statistics Report 2011.National Perinatal Reporting System. Dublin : ESRI
2 Rooks J. Midwifery and childbirth in America, Temple University Press, Philadelphia 1997.
3 http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-279449 Last accessed November 8th 2013
4 de Jonge A, van der Goes BY, Ravelli AC et al Perinatal mortality and morbidity in a nationwide cohort of 529,688 low-risk planned home and hospital births. BJOG. 2009 Aug;116(9):1177-84
5 Royal College of Obstetricians and Gynaecologists/Royal College of Midwives. Joint statement No.2, April 2007
6 Maternal and Newborn Health/Safe Motherhood Unit of the World Health Organization, Care in Normal Birth: A practical guide.
7 Lindgren HE, Rådestad IJ, Christensson K, et al. Perceptions of risk and risk management among 735 women who opted for a home birth. Midwifery 2010; 26:163.
8 Ackermann-Liebrich U, Voegeli T, Günter-Witt K, et al. Home versus hospital deliveries: follow up study of matched pairs for procedures and outcome. Zurich Study Team. BMJ 1996; 313:1313.
9 Department of Health and Social Security. (1970) Domiciliary midwifery and maternity bed needs (Peel Report). London: HMSO
10 St Leger A. Born in Cork; A history of Erinville Maternity Hospital, St Finbarr's Maternity Unit and Bon Secours Maternity Hospital. Health Services Executive, Dublin 2006
11 Southern Health Board (2003) Domiciliary Midwifery Project for Cork City and County; Evaulation for the Southern Health Board home birth pilot project. Cork: Southern Health Board.
12 Health Service Executive (2004) Report to the Chief Executive Officers of the Health Boards / Domiciliary Births Group. Dublin: HSE.

the wider stakeholders. The decisions of this Committee were informed by the deliberations of four sub-committees representing all stakeholders. During the course of deliberations of the committee and associated subgroups, it emerged that the Irish Nursing Organisation (INO) which insured Self Employed Community Midwives (SECMs) signalled its intent to withdraw its insurance provision to SECMs. In this context, and supported by the then Minister for Health Ms Mary Harney TD, future clinical indemnity cover was to be provided by the HSE through the Clinical Indemnity Scheme. The HSE has committed through the National Home Birth Service to provide midwifery services to low risk women in order to facilitate an informed choice by women.

The HSE provides planned home birth services to families choosing this model of maternity care predominantly in association with SECMs, along with two hospital-based services in Waterford Regional Hospital and the National Maternity Hospital, Dublin. Since 2008, SECM's (previously known as Independent Midwives) sign an annual Memorandum of Understanding (MOU) with the HSE, to provide planned home birth services to eligible women. While it was acknowledged that this system did not provide for equity of access on a nationwide basis, "it is underpinned by a commitment to women centred care, an integrated model of service delivery and an overarching concern for the safety of mother, child and professionals involved".

The National Steering Committee for Home Births was set up in 2010 to further review the 2008 MOU in order to advance the HSE National Home Birth Service with the introduction of Designated Midwife Officers (Appendix A) in each region and the establishment of a national database for all planned home births.

Pathway of care in Ireland

As illustrated in Figure 1 when an expectant woman enquires about having a home birth, she can contact a Designated Midwife 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 women 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.[13]

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 2012. As outlined in the MOU between HSE and the SECMs, each SECM is required to partake in clinical audit. Each SECM forwards case notes to the DMO in their respective HSE area. The DMO then collates the data using a standardised audit tool and that data are forwarded to the National Perinatal Epidemiology Centre (NPEC) for analysis. This clinical audit is a national record of planned home births in the Republic of Ireland for 2012. 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 antenatally, during labour or postnatally. Consequently this report aims to provide baseline 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.

13Health Services Executive (2008) Delivery on choice Home birth options for women in Ireland Dublin: HSE

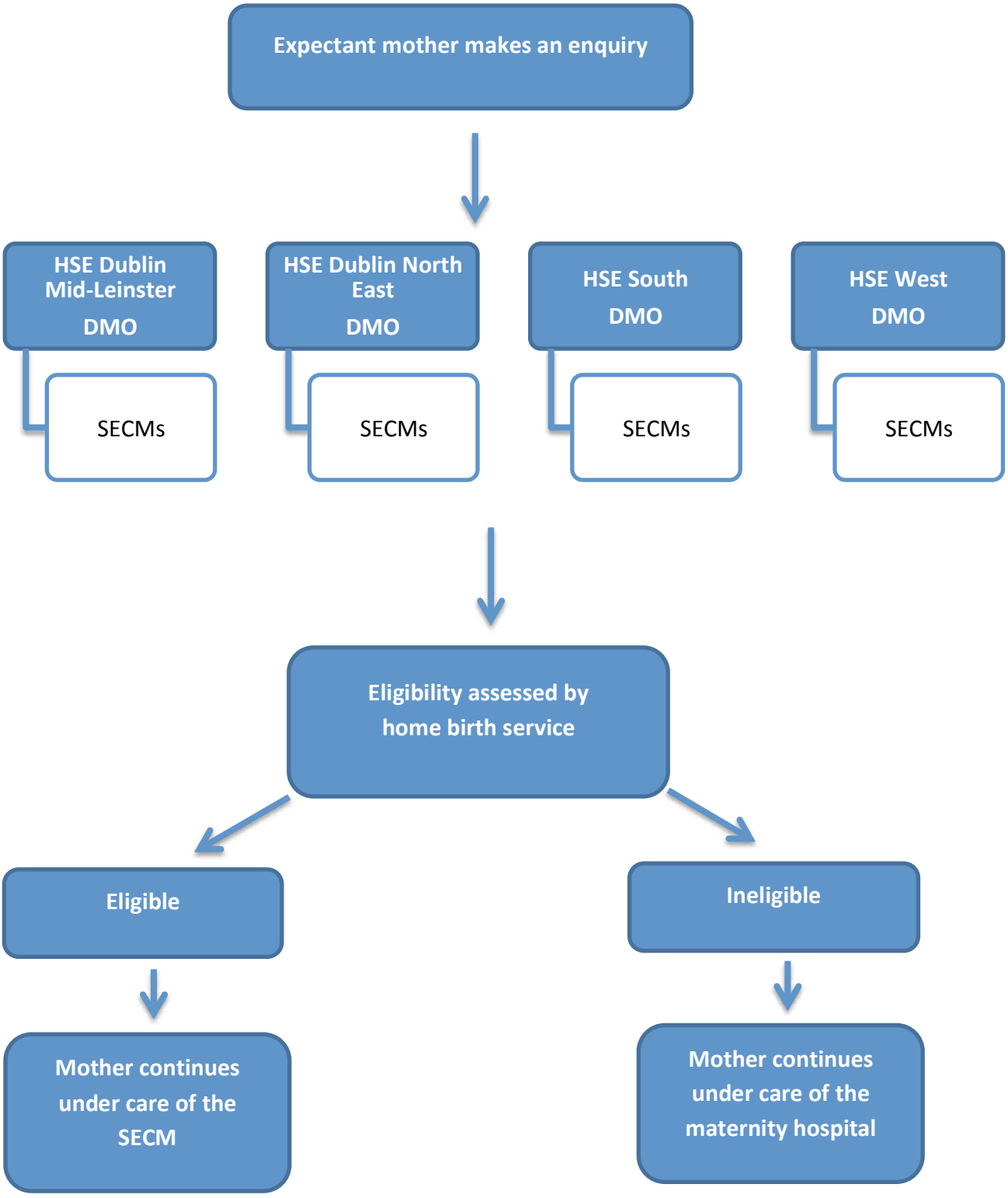


Figure 1: Pathway of care for planned home birth enquiries

Methods

Data recording

In 2012 there were 20 Self Employed Community Midwives (SECMs) involved in home birth deliveries in Ireland. All SECMs contributed data which were recorded and are presented in this report. Women who are considered low risk, within an agreed criterion, are eligible for home birth in Ireland. Upon engagement of a woman with the service, the SECM opens a case file (midwifery notes) for the woman. This is updated and maintained throughout the service. Following discharge from the service, the SECM forwarded the midwifery notes to the Designated Midwifery Officer (DMO) in their respective HSE area. The DMO reviewed the midwifery notes and completed the National Perinatal Epidemiology Centre (NPEC) home birth data collection form. Data were recorded by the DMOs on all home births delivered by SECMs between January 1 and December 31 2012. Figure 1 illustrates the flow of information involved.

Missing data

Missing or incomplete data were sought from respective SECMs and maternity units by the DMOs. For analysis purposes, percentages were calculated excluding cases with missing data. However, the extent of missing data is reported throughout the results section.

Comparison to national statistics

Comparisons are made with the most recent national statistics available taken from the Central Statistics Office's Vital Statistics Fourth Quarter and Yearly Summary as well as the Economic and Social Research Institute's Perinatal Statistics Report 2011.

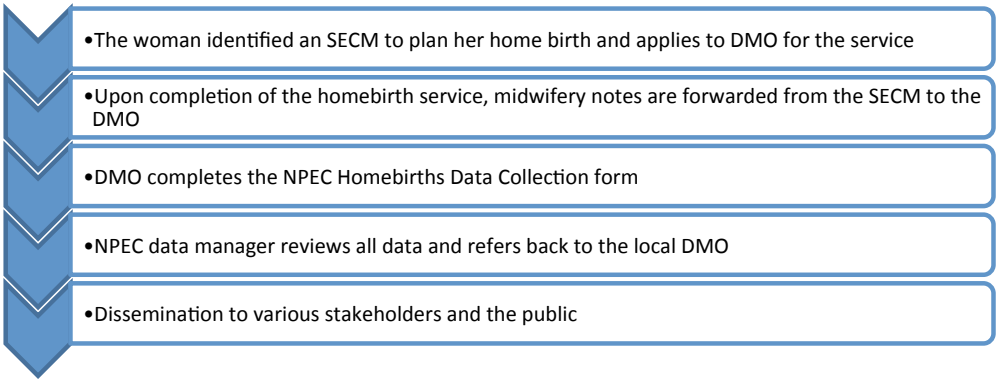


Figure 2: Flow of information in the NPEC data collection process.

Definitions and terminology

To ensure comparison the Designated Midwifery Officer and the NPEC used the following definitions which are included in this report:

Exclusion criteria: The medical and other conditions that indicate increased risk for the pregnancy that and therefore suggesting planned birth at an obstetric unit (Appendix B). Table 3 and Table 4 outline medical and other conditions indicating individual assessment when planning place of birth (Appendix C)

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

Intrapartum transfer: Transfer to hospital due to complications (Appendix D) which have arisen during labour.

Postpartum transfer: Transfer to hospital due to complications (Appendix E) following birth.

Booking: Booking in this report relates to the mother's first antenatal visit with the SECM.

Results

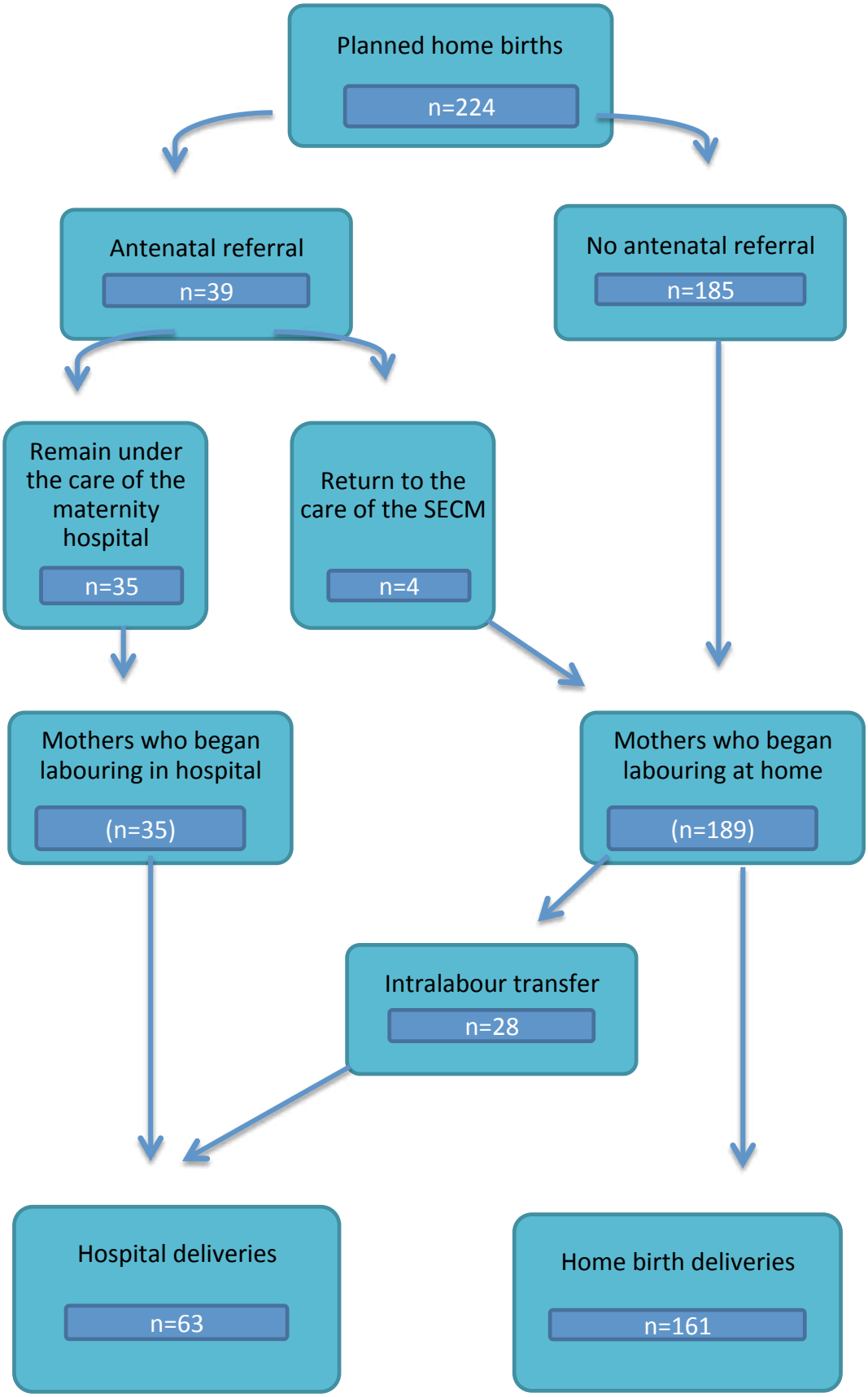


Figure 3: Flowchart of planned home births

For the period from January 1st to December 31st 2012, 224 women intended having a home birth. During the same period 70,520 births were recorded in the 20 maternity units throughout the Republic of Ireland. 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 8.9% in HSE Dublin North East, 18.3% in HSE Dublin Mid-Leinster, 25.0% in HSE West and 47.8% in HSE South (Table 1). These figures show an overrepresentation of home births in HSE South and an underrepresentation of home births in HSE Dublin North East.

Table 1: Distribution of women intending on having a home birth by HSE area, 2012

HSE area	Home births (N=224)	All births (%)
Dublin North East	20(8.9)	32.0
Dublin Mid-Leinster	41(18.3)	20.7
West	56(25.0)	22.2
South	107(47.8)	25.2

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

The monthly number of home births and hospital births was 17 and 5877, respectively. As outlined in Figure 4 there was a marked increase in home births in August compared to the overall average (12.1% versus 8.3%). Otherwise home births were evenly distributed over the year as was the case for all births.

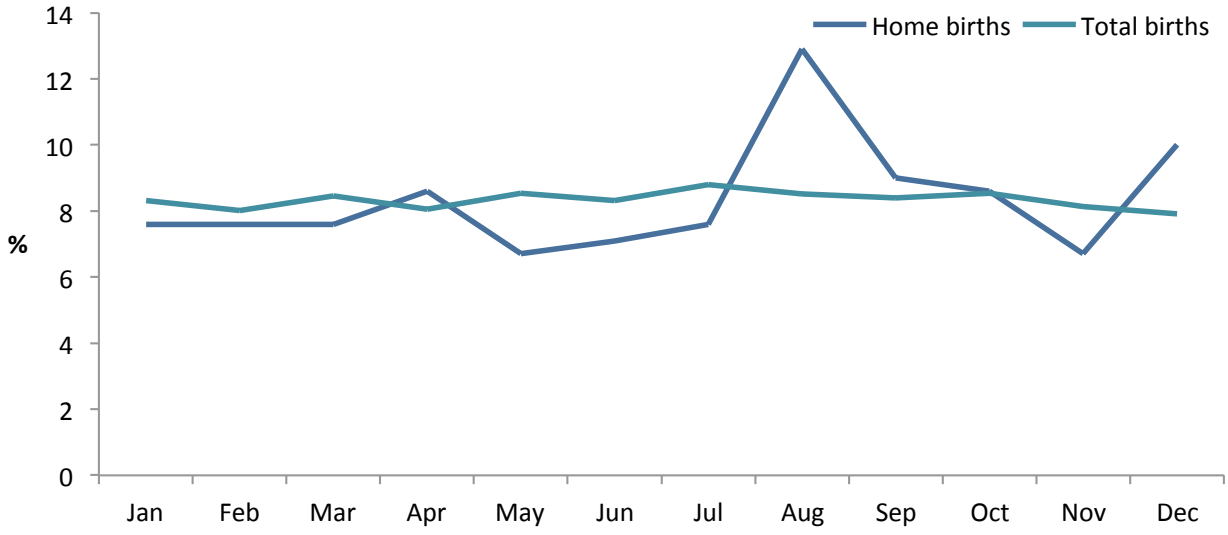


Figure 4: Percentage of births by month, 2012

Maternal Characteristics

Age

The age range of the women who booked in for a home birth was 23-45years. These women tended to be older than the population of women who gave birth in Ireland (Table 2). Over three quarters of women (78.0%) intending to give birth at home were aged 30-39 years compared to 62.1% of all women.

Table 2: Age distribution of mothers intending on having a home birth, 2012

Age group	Home births (N=223*)	All births, CSO 2012 (%)[1]
<20yrs	0(0)	2.3
20-24yrs	6(2.7)	9.3
25-29yrs	27(12.1)	20.6
30-34yrs	96(43.0)	36.7
35-39yrs	78(35.0)	25.4
>40yrs	16(7.2)	5.8

Note: Values are shown as n (%) unless otherwise stated. *Maternal age unknown for one woman.
Abbreviation: CSO, Central Statistics Office

Marital status

As outlined in Table 3 almost all the women who intended on having a home birth were either married (61.6%; n=138) or with a partner (29.0%; n=65).

Table 3: Marital status of women intending on having a home birth, 2012

Marital status	Home births (N=224)
Married	138(61.6)
Partner	65(30.2)
Never married	12(5.6)
Separated	0(0)
Divorced	0(0)
Widowed	0(0)

Note: Values are shown as n (%) unless otherwise stated. Unknown for 9 women.

1. Central Statistics Office. (2013) Vital Statistics Fourth Quarter and Yearly Summary 2012. Cork: CSO.

Ethnicity

The distribution by ethnic group of the women who booked for a home birth reflected that of the female population aged 15-49 years (Table 4).

Table 4: Ethnicity of women intending on having a home birth, 2012

Ethnicity	Home births (N=220*)	15-49 year old female population 2011, CSO (%)
White Irish	181(82.3)	80.4
Irish Traveller	0(0)	0.7
Other white background	33(15.0)	12.5
Asian/Asian Irish	1(0.5)	2.4
Black/Black Irish	3(1.4)	1.6
Other/mixed	2(0.9)	1.0

Note: Values are shown as n (%) unless otherwise stated. *Maternal ethnicity unknown for four women.

Gestation at booking

Gestation at the time of the women's antenatal scan was unrecorded in a fifth of the cases (n=47). Of those recorded almost two-thirds booked with the SECM between 12 and 19 weeks gestation and over one-quarter booked at 20 weeks gestation or later (Table 5). It must be noted that in Ireland most women attend a general practitioner in early pregnancy prior to their first contact with the maternity services thereby undergoing earlier review by a health professional.

Table 5: Weeks gestation at date of booking, 2012

Gestation at booking	Home births (N=177*)
Less than 12 Weeks	21(11.9)
12-19 Weeks	107(60.5)
20 Weeks or Later	49(27.7)

Note: Values are shown as n (%) unless otherwise stated. *Gestation at booking unknown for 47 women

Body mass index

Body mass index (BMI) was available for only 43.3% (n=97) of the women (Table 6). The BMI of over half of those women (58.8%; n=57) was in the healthy range (18.5-24.9kgm-2). Just over a quarter (28.9%; n=28) were classified as overweight (25.0-29.9kgm-2). For women who were recorded as obese, all cases were recorded as having a BMI of 30. Women with a BMI greater than 30 are not eligible for a home birth.

Table 6: BMI of women intending on having a home birth, 2012

BMI of mothers intending on having a home birth, 2012 (kgm-2)	Home births (N=97*)	2007 SLÁN** %
Underweight (<18.5)	3(3.1)	2
Healthy (18.5-24.9)	57(58.8)	44
Overweight (25.0-29.9)	28(28.9)	31
Obese (>30.0)	9(9.3)	23

Note: Values are shown as n (%) unless otherwise stated. *BMI unknown for 127 women. **SLÁN, Survey of Lifestyle, Attitudes and Nutrition

Smoking and alcohol consumption

Smoking status of the women at their time of booking was recorded for 222 (99.1%) of the 224 women. Ten women (4.5%) were smokers at the time, two of whom gave up during pregnancy. These figures suggest a 20% (2 of 10) cessation rate although this estimated rate is based on small numbers. Thus, eight of 222 women (3.6%) smoked throughout their pregnancy. The prevalence of smoking during pregnancy or in the last trimester is not routinely known for all Irish pregnancies but rates of 12%, 15%, 16% and 19% have been reported for England, Northern Ireland, Wales and Scotland, respectively.

Alcohol consumption was known for 206 of the 224 women (92.0%). Of these the vast majority of women (175 of 206, 85.0%) did not consume alcohol during pregnancy. Of the 31 who drank alcohol during pregnancy eight drank alcohol 2-4 times a month and 23 drank alcohol monthly.

Previous pregnancy

As indicated in Table 7, three quarters of the women who intended on having a home birth had a previous birth (161 of 218, 73.5%). Table 8 specifies gravida/parity for 219 of the 224 women who intended on having a home birth in 2012. A quarter of the women (n=52, 23.7%) were never pregnant before (gravida=0). Of the women who had been pregnant (gravida > 0), three quarters (n=123 of 167, 73.7%) had complete pregnancies (gravida = parity, indicated by green shading); 23% (n=38, 22.8%) experienced completed pregnancies but also at least one pregnancy less than 24 weeks gestation and under 500g birthweight (gravida > parity > 0, indicated by orange shading) and 4% (n=6, 3.6%) had miscarriages, their previous pregnancies never exceeded 24 weeks gestation or 500g birthweight (gravida > parity = 0, indicated by red shading).

Table 7: Distribution of parity of women intending on having a home birth, 2012

Parity	Home births (N=219*)	All Births ESRI (%)
Primiparous	58(26.5)	73.8
Multiparous	161(73.5)	26.2

Note: Values are shown as n (%) unless otherwise stated. *Parity unknown for 5 mothers.

Table 8: Gravida/parity of women prior to pregnancy in 2012

Gravida \ Parity	0	1	2	3	4	5	6	7	Total
0	52								52
1	6	65							71
2	0	11	36						47
3	0	3	9	14					26
4	0	0	3	1	6				10
5	0	1	1	2	2	1			7
6	0	0	0	1	0	0	0		1
7	0	0	0	0	0	2	1	1	4
8	0	0	0	0	0	0	0	1	1
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
Total	58	80	49	18	8	3	1	2	219

Note: Data unknown for five cases. We refer to gravida and parity prior to the pregnancy in 2012. 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 and only one woman did not register with her local maternity unit.

Of the 161 women who had a previous pregnancy 10 (6.2%) were reported to have had medical or obstetric problems. As outlined in Appendix B, these problems included baby born before arrival, previous forceps delivery, history of pernicious anaemia, premature rupture of membranes (PROM), retained products of conception, postpartum haemorrhage, herpes and baby with respiratory problems.

Of the 224 women who intended on having a home birth six women(2.7%) were reported to have an obstetric problem as outlined in Appendix C which included; postnatal depression, hyperglycemia, PPH, polyhydramnios (mal-presentation) and placenta praevia.

Of the 224 women who intended on having a home birth eight (3.6%) were known to have medical conditions as outlined in Appendix C including hemochromatosis carrier, carpel tunnel syndrome, palpitations, history of asthma, diabetes, penicillin and food allergies.

Planning for the delivery

It was reported that 7% of the women (16 of 222, 7.2%, unknown for two women) did not have an ultrasound scan. The estimated date of delivery was calculated by last menstrual period in 151 of 224 (67.4%) of cases and/or by scan in 89 of 224 (39.7%) of cases.

The number of antepartum visits by the midwives to women who intended on having a home birth ranged from two to 17. The average number of visits was seven. Primiparous women tended to receive more visits. Thirty percent (29.9%) received at least 10 visits which was the case for 22.0 of the multiparous women (Table 9).

Table 9: Number of antenatal visits to the SECM, 2012

	Primiparous (n=57)	Multiparous (n=159)
Up to 3 visits	3(5.3)	9(5.7)
4-6 visits	18(31.6)	60(37.7)
7-9 visits	19(33.3)	55(34.6)
10-12 visits	16(28.1)	32(20.1)
13-15 visits	1(1.8)	2(1.3)
More than 15 visits	0(0.0)	1(0.6)

Antenatal referrals

Of the 224 women intending to have a home birth, 39 (17.4%) were referred to a maternity hospital due to complications arising during the antenatal period. Primiparous women were slightly more likely to be referred to the maternity hospital antenatally than multiparous women (22.4% versus 16.1%; Table 10).

Table 10: Transfer rates by parity, 2012

	Primiparous (n=58)	Multiparous (n=161)
No antenatal referral	45(77.6)	135(83.9)
Antenatal referral	13(22.4)	26(16.1)

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

The vast majority of the women (28 of 31, 90.3%) were transferred by private car with two of 31 (6.5%) transferred by ambulance (Table 11).

Table 11: Mode of transport for antepartum transfers, 2012

	Primiparous (n=13)	Multiparous (n=18*)
Private car	13(100)	15(83.3)
Ambulance	0(0.0)	2(11.1)
Other	0(0.0)	1(5.6)

Note: Values are shown as n (%) unless otherwise stated. *Unknown for 8 women

Of the 13 primiparous women referred antenatally almost half (46.2%, n=6) were due to breech presentation. Multiparious women were more likely to transfer as they had past their estimated date of delivery. Almost half of all women who were referred to the maternity hospital during the antenatal period had a spontaneous vertex delivery. Primiparous women were almost three times more likely to have a caesarean section delivery than multiparous women (Table 12).

Table 12: Mode of delivery for women with an antenatal transfer, 2012

	Primiparous (n=13)	Multiparous (n=26)
Spontaneous Vertex	6(46.2)	12(46.3)
Vaginal Breech	0(0.0)	0(0.0)
Ventouse	1(7.7)	0(0.0)
Forceps	0(0.0)	0(0.0)
Caesarean Section	6(46.2)	4(15.4)
Unknown	0(0.0)	10(38.5)

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

Of the 39 women referred to the maternity hospital for antenatal care four (10.3%) women were returned to the care of the SECM, one case of hypertension, one case of post maturity, one case of breech presentation and one case low platelet count. Of the women remaining under the care of the maternity hospital one woman miscarried. No other adverse outcomes were recorded during the antenatal period for any of the other women who were referred.

Intrapartum transfers

Of the 189 women who began labouring at home 28 (14.8%) were transferred to a maternity hospital to deliver the baby. Over half of these transfers were by ambulance (53.6%; n=15) and almost half (n=13, 46.4%) of the women were primiparous. As demonstrated in Table 13, primiparous women were almost three times more likely to be transferred during labour than multiparous women (28.3% versus 10.7%)

Table 13: Transfer rates by parity, 2012

	Primiparous (n=46)	Multiparous (n=140)
Home birth not transferred	33(71.7)	125(89.3)
Intrapartum transfer	13(28.3)	15(10.7)

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

Over two thirds of intrapartum transfers occurred during the first stage of labour (65.4%; n=17). Multiparous women were more likely to transfer during the 2nd or 3rd stage compared to primiparous women (40.0% versus 27.3%) as outlined in Table 14.

Table 14: Stage of labour when transferred, 2012

	Primiparous (n=11*)	Multiparous (n=15)
1st Stage	8(72.7)	9(60.0)
2nd Stage	2(18.2)	4(26.7)
3rd Stage	1(9.1)	2(13.3)

Note: Values are shown as n (%) unless otherwise stated. *Unknown for two women

Medical interventions

Half of intrapartum transfers to the maternity unit were associated with failure to progress in labour (50.0% n=14). Labour was augmented by syntocinon for most of these women (10 of 14, 71.4%)".

Almost half of women who transferred during labour to the maternity unit had a spontaneous vaginal delivery (46.4%; n=13). The mode of delivery was similar for women irrespective of parity (Table 15).

Of the 28 recorded, three women (10.7%) had an epidural and four women (14.2%) had a general anaesthetic (16.1%). One adverse outcome was identified; undiagnosed breech presentation, which was reported.

Table 15: Mode of delivery for women with an intrapartum transfer, 2012

	Primiparous (n=13)	Multiparous (n=15)
Spontaneous Vertex	6(46.2)	7(46.6)
Vaginal Breech	0(0.0)	2(13.3)
Ventouse	1(7.7)	2(13.3)
Forceps	1(7.7)	0(0.0)
Caesarean Section	2(15.4)	3(20.0)
Unknown	3(24.1)	1(6.6)

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

Home birth deliveries

Delivery

Of the 189 women who began labouring at home 161 gave birth at home (85.2%). The distribution of home births by HSE region was similar to the distribution of planned home births (Table 16). Parity was recorded in 158 of cases. Over three-quarters of the women who had a home birth delivery were multiparious (79.1%, n=125) while 33 (20.8%) were primiparous.

Table 16: Distribution of women intending on having a home birth by HSE, 2012

	Home births (N=161)	Planned home births (N=224)
Dublin NE	18(11.2)	20(8.9)
Dublin Mid-Leinster	30(18.6)	41(18.3)
West	38(23.6)	56(25.0)
South	75(46.6)	107(47.8)

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

Of the women who birthed at home rupture of membranes occurred spontaneously and liquor was clear for almost all cases (Tables 17 and 18). Multiparous women were marginally more likely to have meconium stained liquor than primparous women (7.2% versus 3.0%).

Table 17: Rupture of membranes, 2012

	Primiparous (n=33)	Multiparous (n=125)
Spontaneous Rupture of Membranes	33(100)	119(95.2)
Artificial Rupture of Membranes	0(0.0)	4(3.2)
Unknown	0(0.0)	2(1.6)

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

Table 18: Liquor colour, 2012

Liquor	Primiparous (n=33)	Multiparous (n=125)
Clear	30(90.9)	115(92.0)
Meconium	1(3.0)	9(7.2)
Other	2(6.1)	1(0.8)

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

A Self Employed Community Midwife (SECM) was present at the vast majority of births (95.7%). A second midwife was present at almost two thirds of births (65.2%). However, women were more likely to have a second midwife at the birth if they were registered to have the home birth with HSE South or the HSE West (Table 19). A number of other auxiliary health care professionals or family members were also present at the birth. In a number of cases the SECM or second midwife was contacted and in transit however due to the women's short labour the baby was born before arrival.

Table 19: Who was present at the birth by HSE area, 2012

	Overall	Dublin North East (n=18)	Dublin Mid-Leinster (n=30)	West (n=38)	South (n=75)
SECM	154(95.7)	17(94.4)	25(83.3)	38(100)	75(100)
Second Midwife	105(65.2)	0(0.0)	4(13.3)	31(81.6)	70(93.3)
Doula	3(1.9)	0(0.0)	0(0.0)	1(2.6)	2(2.7)
Partner	154(95.7)	17(94.4)	29(96.7)	34(89.5)	74(98.7)
Other	24(14.7)	3(16.7)	8(26.7)	6(15.8)	7(9.3)

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

Duration of labour

The majority of women laboured between three and six hours (mean duration 5.6 hours). The longest labour for women who birthed at home was 24 hours. As expected (Figure 5) multiparous women laboured faster than primiparous women with the vast majority having laboured for less than seven hours (81.1% versus 33.3%).

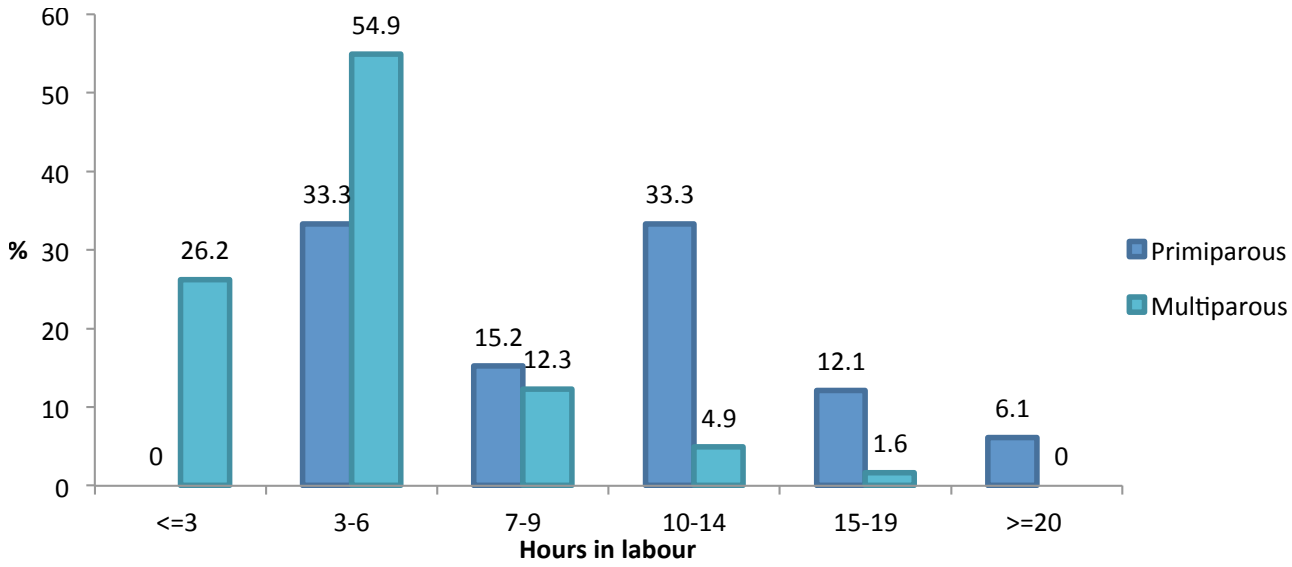


Figure 5: Duration of labour (hours completed) by parity, 2012

As documented in Table 20 there was clear variation in maternal position for birth. Multiparous women favoured either kneeling (42.7%; n=53) or being on all fours (33.1%; n=41). Primiparous women were more likely to stand or squator to be in a lateral birthing position. (24.2 %; n=8) compared to multiparous women (0.8%; n=1)

Table 20: Maternal position for birth by parity, 2012

	Primiparous (n=33)	Multiparous (n=124)
Kneeling	7(21.2)	53(42.7)
All fours	6(18.2)	41(33.1)
Standing	3(9.1)	5(4.0)
Squatting	5(15.2)	8(6.5)
Sitting	1(3.0)	10(8.1)
Lateral position	8(24.2)	1(0.8)
Other	3(9.1)	6(4.8)

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

Management of the third stage of labour is outlined in Figure 6. Over three quarter of cases are managed physiologically with minor variation by parity. Of the women who were actively managed syntocinon and syntometrine was used in 15 cases respectively. Use of syntocinon was more common with primiparous women (62.5%; n=5 of 8) while syntometrine was used in almost half of the cases where multiparous women were actively managed (46.2%; n=12).

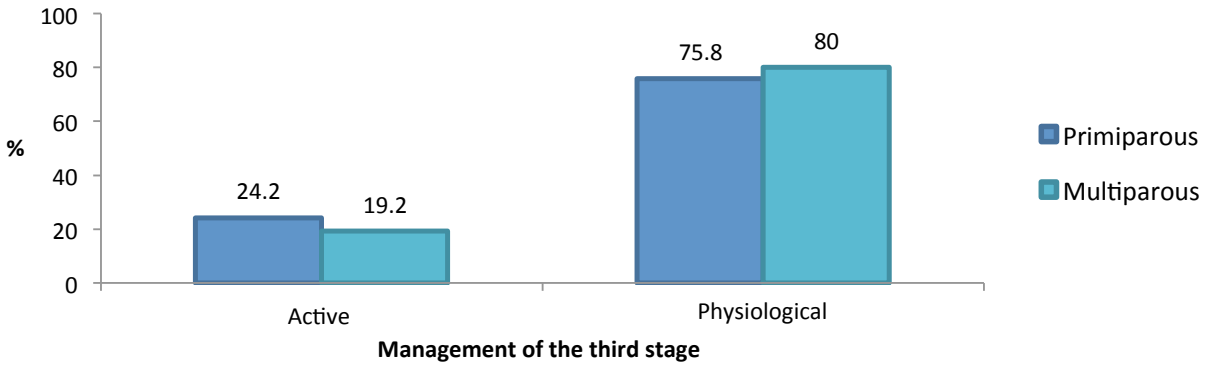


Figure 6: Management of the third stage

Pain relief

Use of pain relief was recorded for 153 of the 161 women who gave birth at home. Approximately half (54.5% of primiparous and 48.0% of multiparous) used no pain relief. 42 women who had a home birth had a water birth (27.3%). As illustrated in Figure 6 this accounts for over one third of primiparous women (36.4; n=12) and almost one fifth of multiparous women (24.2%; n=29).

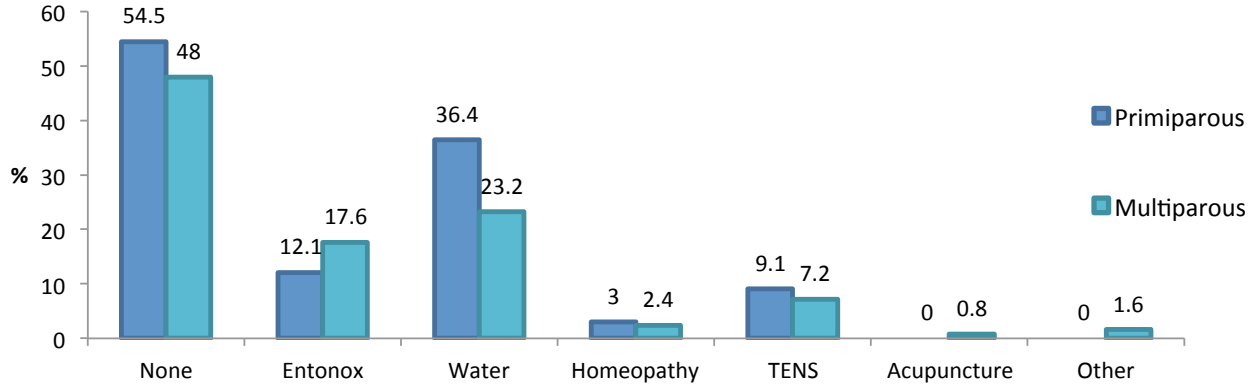


Figure 7: Pain relief used by women delivered in the home, 2012

Other incidences at birth

Shoulder dystocia occurred in four of the 161 cases of home birth (2.5%), and there was one case of undiagnosed breech presentation (0.6%). For two thirds of the women who gave birth at home the perineum remained intact (Table 21). There was little variation between primiparous and multiparous women. Although proportionally more primiparous women had an episiotomy (6.1% versus 1.6%) the number of cases involved were very small. While the occurrence of tears was similar in both groups, primiparous women were almost twice as likely to be sutured (34.3% versus 18.7%).

Table 21: Perineum post birth

	Primiparous (n=33)	Multiparous (n=125)
Intact	21(63.6)	80(64.0)
Episiotomy	2(6.1)	2(1.6)
1ST Degree Tear	5(15.2)	25(20.0)
2nd Degree Tear	5(15.2)	18(14.4)
3rd Degree Tear	0(0.0)	0(0.0)
4th Degree Tear	0(0.0)	0(0.0)

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

Blood loss

The average estimated blood loss was 258 ml. The women who birthed at home generally either lost 100-249ml or 250-499ml of blood. The maximum blood loss was estimated at 800ml. Primiparous women were more likely than multiparous women to experience blood loss in excess of 500ml, although it should be borne in mind that this was observed for two women in each group (Figure 8).

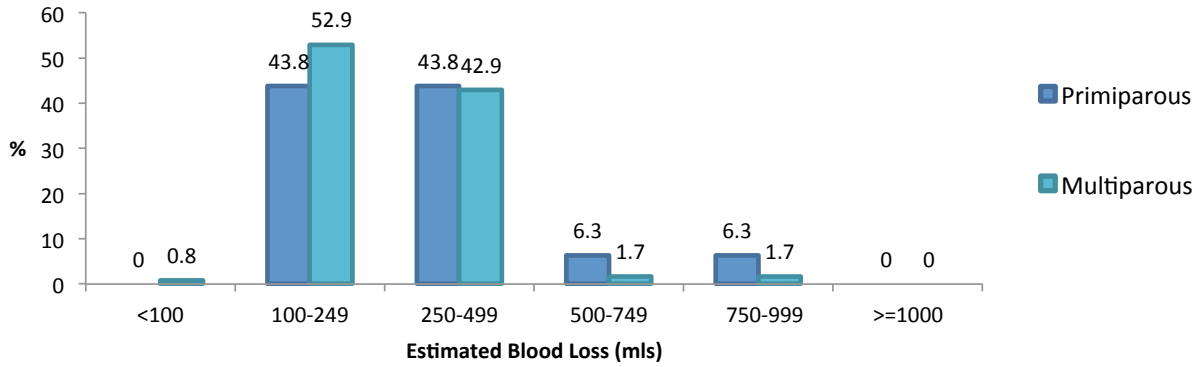


Figure 8: Estimated blood loss for women who delivered in the home, 2012

Characteristics of babies who were delivered at home

Sex

There was one baby born at home for which the sex of the baby was missing. Of the 160 other babies, 80 were male (50%) and 80 were female (50%). These are comparable to all babies in the country whereby 51.3% were male and 48.7% were female in 2011.

Birth weight

The mean birth weight for infants born at home was 3,697 grams. This is 230 grams or 6.6% greater than the mean birth weight for all infants born in 2011 (3,467 grams). For over two thirds of births delivered at home (69.0%) the birth weight was between 3,000 and 3,999 grams. Almost a quarter of babies (23.6%) who were delivered at home had a birth weight between 4,000 and 4,499 (Figure 9). There were no low birth weight babies (2,500 grams) whereas this was the case for 5% of all babies born in the country in 2011.

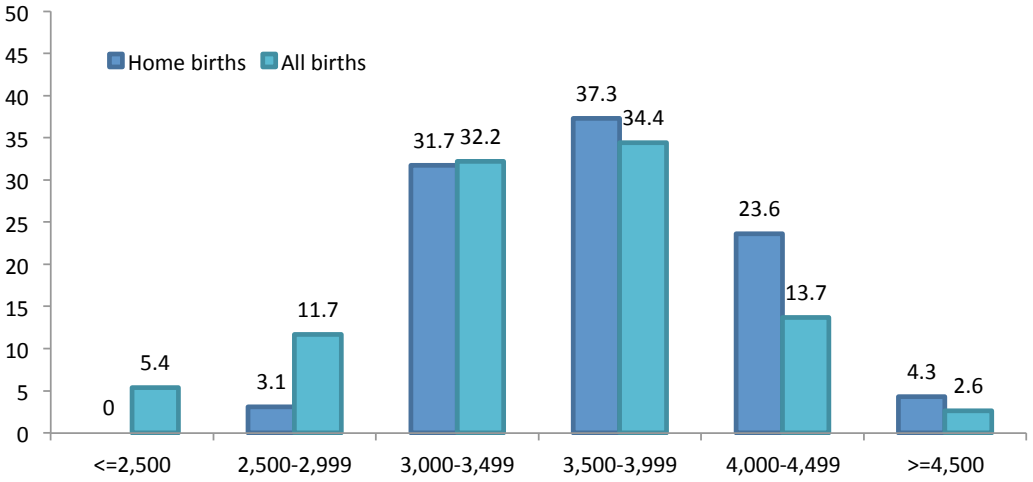


Figure 9: Distribution of birth weight in babies delivered in the home, 2012

Apgar scores

At one minute after birth at home, almost one third of the babies (30.3%) had an Apgar score of eight while over two thirds of babies (68.4%) had a score of nine (Figure 10). At five minutes all babies had an Apgar score of either nine (53.8%) or 10 (46.2%).

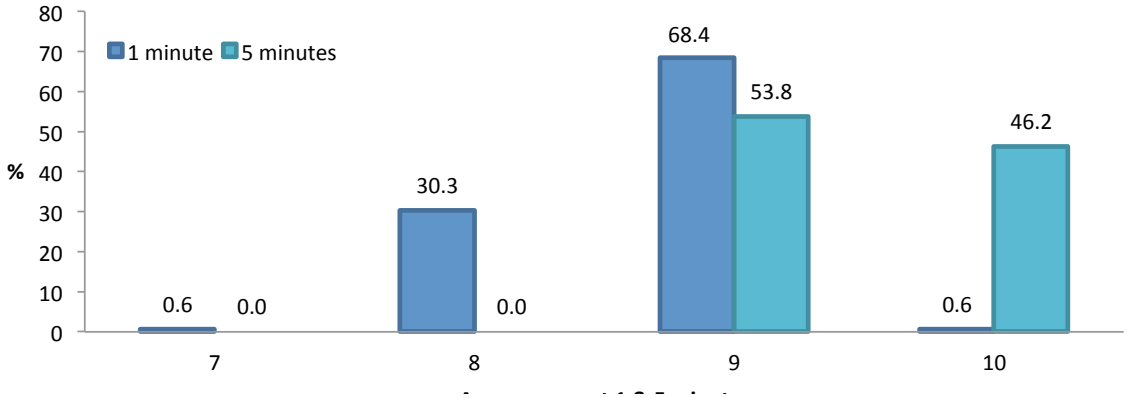


Figure 10: Apgar scores at 1 and 5 minutes for babies delivered in the home, 2012

Resuscitation

Ten of the 161 babies born at home (6.2%) needed some form of resuscitation. Six of these 10 babies were resuscitated with suction only, three received oxygen and one baby was resuscitated by stimulation with a warm towel.

Delivery examination and screening

Four of the 161 babies (2.5%) were suspected of having a congenital abnormality, specifically hydronephrosis and spina bifida occulta.

A newborn bloodspot screen was performed on 98.1% of the babies (157 of 160, unknown of one baby). Medical examination of the newborn was carried out by a general practitioner in over 90% of cases (92.6%, 150 of 161) and by a hospital paediatrician in 4.3% of cases (7 of 161). Thus, 3.1% of babies were not examined by a doctor (4 of 161; see Table 22).

Table 22: Medical examination of the newborn, 2012

	N=161
Yes, by General Practitioner	150(92.6)
Yes, by Hospital Paediatrician	7(4.3)
No	4(3.1)

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

Almost two thirds of babies had vitamin K administered either orally (40.4%, n=65) or intramuscular injection (20.5%; n=33). Vitamin K was not administered to 39.1% (n=63) of newborns (Table 24).

Table 23: Vitamin K administration, 2012

	N=161
Yes, administered orally	65(40.4)
Yes, administered IM	33(20.5)
No	63(39.1)

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

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 24, the vast majority of women were exclusively breastfeeding on both day one (n=156, 97.5%) and on day of discharge (n=153, 96.2%). Day of discharge from the care of the SECM was, on average, 16 days after the birth. Almost all births occur in maternity units and are usually discharged after three days. In 2011, 46.6% of all babies were being exclusively breastfed on day of discharge. Despite the much later day of discharge, women who birthed at home were twice as likely to breastfeed exclusively as the total population on day of discharge (96.2% v 46.6%1). It is likely that this difference would be more striking if exclusively breastfeeding were assessed at the same time post-delivery.

Table 24: Method of feeding, 2012

	Day one (n=160)	Day of Discharge (n=159)
Exclusive breastfeeding	156(97.5)	153(96.2)
Partial breastfeeding	3(1.9)	5(3.1)
Artificial	1(0.6)	1(0.6)

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

Baby Transfers

Three of the 161 babies delivered at home (1.8%) were transferred to hospital by ambulance and admitted to the Neonatal Intensive Care Unit for reasons specified in Table 25.

Table 25: Reasons for baby transfer, 2012

	N
Tetralogy of fallot	1
Baby grunting (respiratory)	1
Tachypnoea 3 hours post-delivery. Persistent pulmonaryhypertension	1

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

Postnatal transfers

Three primiparous women were transferred postnatally to a maternity unit. Of the three women two were transferred by ambulance. Indications for transfer included; nausea, palpitations, unable to sleep and anxiety, retained placenta and severe hypertension. Medical interventions undertaken in the maternity hospital included; manual removal of placenta, administration of antihypertensives and stemetil injection.

Women's feedback on the home birth service

There are a number of reasons why women choose to birth at home rather than in a hospital setting. Previous studies have indicated that there are a number of reasons including; dissatisfaction with previous hospital care, the aspiration to have a low-intervention birth and the wish to birth in a comfortable and familiar setting rather than in a clinical one.[14]

Women who registered with the Home birth Service in the HSE: South Area provided the following feedback while completing a satisfaction survey on the home birth service in 2012, four to six months following the birth:

My partner and I were delighted with the service and the care we received. I would like to see the home birth option more widely advertised and positively promoted as it would have been my preferred choice for the two previous births but I did not find information easily to hand at the time, but when I did take the time to look into it this time I was happily surprised to find this amazing service. Thank you.

I received excellent care from my midwife. I had three home births in England and the service in Kerry is excellent.

The two midwives in question were fabulous. Long may your service last.

I am delighted with the service received. Such a personal and excellent service would not be possible in a hospital setting. I have no hesitation in promoting the home birth service to anyone.

Great to get another angle on the home birth service. I got great care and personal attention. My midwife gave me great confidence. Disappointed that I had to transfer but felt I had a great start at home which helped me carry on even after transfer.

I had a far better experience at home. Less intervention compared to the hospital. In the hospital the midwives were great but I was treated like a number as it was so busy and not very dignified. The home birth was different.

I feel that this service is the best kept secret. Having had a wonderful home birth the last time I really didn't think it could be improved on but this birth was just as wonderful, the care and practical support is so fantastic particularly in the days and weeks after the birth when most women are left to manage alone at the time when they really need support even more. The midwife was so unobtrusive during the birth and is like a revered family member whose visits are welcome by all the family after the birth. Thanks to all the midwives. Ye do more than ye know.

I have had four home births now with the same two midwives and each time the care and support has been excellent. Also surprisingly the hospital gave me great support also. I hope this service is available for my daughters in the future. Keep up the good work

It's always a matter of clicking with your midwife. Not sure if this was the case but I did feel at ease and able to be myself. Overall, a good experience.

13Health Services Executive (2008) Delivery on choice Home birth options for women in Ireland Dublin: HSE

Summary

This is the first national clinical audit on planned home births in Ireland under the care of Self Employed Community Midwives (SECMs). Anonymised data were reported by the four Designated Midwife Officers on a total of 224 planned home births in 2012. Almost half of all planned home births were arranged through the Health Service Executive (HSE) South home birth service (48%) while one quarter were organised through the HSE West service (25%).

Three quarters of the women who booked in for a home birth (74%) had previously given birth and one in four were first-time mothers (26%). This is a complete reversal of the percentage of all mothers who gave birth in 2012 whereby 40% were nulliparious, 33.8 primiparious and 26% multiparious. Women intent on a home birth had an older age profile to all mothers who gave birth in the country with 78% aged 30-39 years versus 62% for all giving birth. Body mass index (BMI) was not reported for most women who planned to have a home birth (57%). Of the 43% with data, most were in the healthy range (59%), 29% were overweight, and 9% had a BMI of 30. In line with the selection criteria, no women with a BMI greater than 30 were booked for home birth. Efforts will be made to improve the completeness of data on BMI.

Smoking prevalence is unknown for the pregnant population in Ireland. In UK countries, 12-19% of pregnant women smoke throughout their pregnancy. This was the case for just 4% of the women with a planned home birth in Ireland in 2012. Data reported for this clinical audit also indicated that two of the ten mothers who smoked (20%) stopped smoking during pregnancy. As smoking is a risk factor for perinatal outcomes it is encouraging to see a lower rate of smokers in this population. Regarding alcohol, the vast majority (92%) of the home birth pregnant women did not consume alcohol during pregnancy.

Of the women who intended on having a home birth 17% were referred to the maternity hospital antenatally. Primiparous women were more likely to be referred than parous women (22% versus 16%). Almost half of the primiparous mothers who transferred antentally were due to breech presentation (46%) while multiparious women were more likely to transfer as they had past their estimated date of delivery. One quarter of women who were referred antenatally delivered by caesarean section (26%) and primiparous mothers were three times more likely to be delivered by caesarean section than multiparous mothers (46% versus 15%).

Of the women who began labouring at home, 15% were transferred to a maternity hospital. Half (50%) of these transfers were attributed to failure to progress in labour. Over two thirds of transfers occurred in the first stage of labour (65%) and most of the women travelled by ambulance (54%). Primiparous mothers were almost three times more likely to be transferred than multiparous mothers (28% versus 11%). Of the mothers who transferred during labour 18% were recorded as being delivered by caesarean section, with multiparous mothers marginally more likely to be delivered by caesarean section than primiparous mothers (20% versus 15%).

There was no maternal or perinatal death associated with the 224 planned home births in 2012. Of the babies born at home 6% needed some form of resuscitation. Three of all babies who were born at home were transferred to a maternity hospital and admitted to the neonatal intensive care unit. A General Practitioner or hospital paediatrician examined 96% of the babies born at home.

On average, mothers stayed under the care of the SECM for 16 days after the birth and received an average of six postnatal visits. Three women (2%) were transferred to a maternity hospital for postnatal care.

On the day of the home birth, 98% of mothers were breastfeeding exclusively. The figure was 96% 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 (96% versus 47%). It is important to note that mothers who birth at home are discharged on average 16 days after the birth of their from the care of the SECM while mothers who have their baby in the maternity hospital are discharged 3 days after the birth.

In summary, this national clinical audit of planned home births in Ireland provides baseline information for maternity care professionals and prospective women. Clinical audit will be on-going to ensure that care provision adheres to the standards and guidelines as included in the selection criteria, as specified in the memorandum of understanding between the HSE and the SECMs. Specific issues warranting in depth investigation, for example the presence of meconium stained liquor, will be reviewed and addressed in future reports. The SECMs work across the four HSE areas and as such must contend with differing geographical constraints therefore information relating to the woman's distance from the SECM as well as the closest maternity hospital will be examined in the future. The National Perinatal Epidemiology Centre in collaboration with the Designated Midwife Officers continues 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. This report is the most informative resource for clinicians to inform women in a clear and transparent manner in relation to planned home birth as a delivery option in Ireland.

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: anne.clarke2@hse.ie
Dublin North East	Michelle Waldron Designated Midwifery Officer HSE DNE, Project Officer NMPDU Swords Business Campus Balheary Road Swords Co. Dublin Mobile: 087 7585024 Email: michelle.waldron@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: Home birth.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

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 indicating increased risk suggesting planned birth at 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 neonataologists] 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 indicating individual 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

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

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

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