MATERNITY SERVICES ANNUAL REPORT 2017

South/South West Hospital Group

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

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Foreword

I am proud to present our fourth and final transition annual report (2017) on maternity, gynaecology and neonatology services in the South/South West Hospital Group as the Maternity Directorate becomes fully established.

The Maternity Directorate incorporates the four maternity units in the group, namely Cork University Maternity Hospital (CUMH), South Tipperary General Hospital (STGH), University Hospital Kerry (UHK) and University Hospital Waterford (UHW). Clinical and executive authority over maternity, gynaecology and neonatology services in CUMH was formally delegated to Professor John R. Higgins as Clinical Director in 2017. This authority will extend to the maternity services in Tipperary, Kerry and Waterford in due course.

In this report, service and clinical performance results for 2017 are outlined, illustrating the clinical excellence that is delivered on a day-to-day basis. We include a section on the Health and Social Care Professionals to highlight the multi-disciplinary roles within the maternity services.

I wish to acknowledge the growing cooperation within the group under the leadership of Professor Higgins in providing a consistent sustainable service to patients across the region. Governance and management structures have been put in place to facilitate the sharing of expertise across the four units, in line with the National Maternity Strategy*. In addition, work is ongoing setting down protocols and procedures for the Maternity Directorate as a maternity network within a hospital group.

It is my pleasure to acknowledge the continuing work and dedication of our staff who deliver services for women and their newborn infants in our four units in Waterford, Clonmel, Cork and Tralee, of the managers who support them and the primary care practices who refer to us. I offer sincere thanks to you all.

Professor Geraldine McCarthy
Chairperson of the South/South West Hospital Group and Professor Emeritus, University College Cork.

*Creating a Better Future Together: National Maternity Strategy 2016-2026

Introduction

The South/South West Hospital Group serves a population of over 800,000 people and every day more than 8,800 staff contribute to our results in care, cure, research and education.

In February 2017 the Maternity Directorate in the South/South West Hospital Group (SSWHG) was established under the leadership of Clinical Director, Professor John R. Higgins.

The four maternity units that make up the Maternity Directorate include Cork University Maternity Hospital (CUMH), South Tipperary General Hospital (STGH), University Hospital Kerry (UHK) and University Hospital Waterford (UHW).

One fifth of all babies born in the Republic of Ireland are born in the Maternity Directorate of the SSWHG Group. In 2017 a total of 11,354 mothers delivered 11,577 babies across the four maternity units, which translates to an average of 32 babies born per day across the group.

The establishment of the Maternity Directorate marks an important development of clinical leadership for maternity services. The Maternity Directorate allows the four units to work together to provide a consistent, sustainable service to patients across the region. In this report we provide detail on the structures and strategic framework being put in place as the Maternity Directorate becomes established.

Gynaecology waiting list management remains one of our biggest challenges in 2017. The Gynaecology Waiting List Initiative was launched mid-2017 in CUMH and through this initiative an extra 1,500 patients have been seen or treated during the final seven months of 2017.

Sincere gratitude is extended to the staff of our four maternity units in the timely provision of data for this report. Their commitment to go beyond clinical care and contribute to this important process is ever appreciated.


Cork University Maternity Hospital

Our Hospitals

Cork University Maternity Hospital

Cork University Maternity (CUMH) Hospital opened in 2007 and involved the amalgamation of maternity services from Erinville Hospital, St. Finbarr's Maternity Hospital, Bon Secours Maternity Unit and gynaecology services from Cork University Hospital. In 2017, CUMH delivered 7,386 babies and over 16,000 patient contacts were recorded in gynaecology and colposcopy clinics.

CUMH maternity services comprises of:

- 12 bedded delivery suite
- 87 bedded postnatal ward
- 31 bedded antenatal ward
- 24 bedded gynaecology ward (16 gynaecology and 8 other)
- Stand alone outpatients department for antenatal, gynaecology, urodynamics, colposcopy & midwifery led scanning department.

Maternity Services at CUMH support the education of undergraduate Nursing & Midwifery Students from University College Cork (UCC).

Medical students from UCC also gain clinical experience as part of their placement and this lends to an interdisciplinary teaching environment. Facilities in the Department of Obstetrics and Gynaecology at CUMH allow students to participate in lectures with study space and video conferencing facilities to link with their colleagues at other sites.

The educational team of the Centre for Midwifery Education, CUMH is committed to the development and provision of programmes of education and training for registered Midwives and Nurses, to support service delivery. All programmes support the on-going maintenance of clinical competence and promote evidence based care.


South Tipperary General Hospital

South Tipperary General Hospital

South Tipperary General Hospital (STGH) opened in 2008. This hospital provides acute hospital services for the population of County Tipperary. In 2017, STGH delivered 982 babies and provided gynaecology and colposcopy clinics.

STGH Maternity Services comprises of:
- 2 bedded delivery suite and obstetric theatre
- 28 bedded maternity ward
- 10 bedded gynaecology ward
- Stand-alone outpatients department for antenatal, gynaecology, urodynamics, colposcopy & midwifery led scanning department.

Maternity Services at STHG support the education of undergraduate Medical students from University College Cork and University of Limerick and undergraduate Nursing & Midwifery students from University College Cork.

Facilities allow students to participate in lectures with study space and video conferencing facilities to link with their colleagues at other sites.


University Hospital Kerry

University Hospital Kerry

University Hospital Kerry (UHK) opened in 1984. The hospital provides acute general hospital services to the population of Co. Kerry. In 2017, UHK delivered 1,368 babies and provided gynaecology and colposcopy clinics.

UHK maternity services comprises of:
- 4 bedded delivery suite
- 24 bedded postnatal/gynaecology ward
- 9 bedded antenatal ward
- Stand-alone outpatients department for antenatal, gynaecology, urodynamics, & midwifery led scanning department.

Maternity Services support the education of undergraduate Nursing Students from the Institute of Technology Tralee (ITT).

Medical students from UCC also gain clinical experience as part of their placement and this lends to an interdisciplinary teaching environment. Facilities at UHK allow students to participate in lectures with study space and video conferencing facilities to link with their colleagues at other sites.

University Hospital Waterford

University Hospital Waterford

University Hospital Waterford (UHW) opened in 1952 (Ardkeen Hospital) and is one of the busiest regional hospitals in the Country. In 2017, UHW delivered 1,841 babies and provided gynaecology and colposcopy clinics.

UHW Maternity Services comprises of:

- 4 bedded delivery suite with a 3 bedded 1 stage room
- Obstetric theatre on delivery suite with a recovery room
- 24 bedded postnatal ward
- 32 bedded antenatal gynaecology ward that houses the early pregnancy unit and a specifically nominated bereavement room
- Stand-alone outpatients department for antenatal, gynaecology, urodynamics, colposcopy & midwifery led scanning department.

Maternity Services at UHW support the education of undergraduate Midwifery Students from the University of Limerick (UL) and undergraduate Nursing Students from Waterford Institute of Technology (WIT) as well as elective placements of Postgraduate Midwifery Students from Cork (UCC) & Dublin to the Integrated Hospital and Community Midwifery Service (IHCMS) to complete the midwifery and nursing education programme in Waterford.

Medical students from University College Cork (UCC) and Royal College of Surgeons Ireland (RCSI) also gain clinical experience as part of their placement and this lends to an interdisciplinary teaching environment. Facilities allow students to participate in lectures with study space and video conferencing facilities to link with their colleagues at other sites.

The Maternity Directorate, South/South West Hospital Group

In 2016, the SSWHG conducted a review into maternity and gynaecology services across the Group. Several recommendations were made in their report including the establishment of a maternity directorate to consolidate the quality and delivery of care and enhance the level of compliance across the Group.

The aim of the Maternity Directorate is to provide the highest possible standard of care to our patients through the delivery of clinical excellence enabled by:

1. **Integrated research, education and innovation**
2. **Clinical Leadership and**
3. **An Academic Health Centre Model**

The Maternity Directorate operates within a policy, strategic and quality framework as determined by the Health Service Executive. Our primary academic health partner, University College Cork, provides the framework for education, training, research and innovation.

Management and Communication

- Every two weeks an Executive Management Committee (EMC) meeting takes place. It is chaired by the Clinical Director and involves a wide representation of key areas such as clinical service, research, quality & safety, academic health partner UCC, health and social care professionals and administration

- Key areas of focus include:
  - Strategy and planning
  - Clinical service
  - Capital development
  - Education, training, research and innovation
  - Quality and patient safety
  - Communication

- A daily hub teleconference between the four Directors of Midwifery (DoMs), CUMH Business Manager and Clinical Director (or nominated representatives) takes place each weekday morning

- In addition, the following meetings and collaborations take place:
  - Services Working Group for Midwifery – meets monthly and includes the DoMs from each maternity site and chaired by the SSWHG Chief Director of Nursing & Midwifery.
  - Neonatology Network – facilitates important collaboration between neonatologists in CUMH and paediatricians in the maternity units who do not have the services of consultant neonatologists on site.
  - Consultant Forum - Consultant Obstetrician/Gynaecologist and Consultant Neonatologists of the Maternity Directorate meet monthly
  - Health and Social Care Professions Group – representing a variety of professions as related to Maternity Services meet every two months

- National Women and Infants Health Programme (NWIHP) – meet with the Maternity Directorate on a monthly basis to discuss the implementation plan for the National Maternity Strategy and other issues of importance

The Maternity Directorate is the first of its kind to be set up in the SSWHG. It will continue to evolve as the governance and authority extends over the other maternity units in early 2019. In due course, it will serve as a model for other directorates in the SSWHG and indeed elsewhere in the country.

Obstetric Report

Maternal and Delivery Characteristics

Table 1.0: Frequency (N) of maternities and births 2014 - 2017					
	SSWHG	CUMH	STGH	UHK	UHW
Mothers delivered 2017	**11,354**	**7,224**	**979**	**1,349**	**1,802**
Mothers delivered 2016	*11,745*	*7,442*	*1,017*	*1,389*	*1,897*
Mothers delivered 2015	*12,343*	*7,903*	*1,054*	*1,389*	*1,997*
Mothers delivered 2014	*12,473*	*7,878*	*1,434*	*1,087*	*2,074*
Babies born 2017	**11,577**	**7,386**	**982**	**1,368**	**1,841**
Babies born 2016	*12,011*	*7,629*	*1,032*	*1,410*	*1,940*
Babies born 2015	*12,620*	*8,113*	*1,062*	*1,406*	*2,039*
Babies born 2014	*12,746*	*8,071*	*1,454*	*1,102*	*2,119*

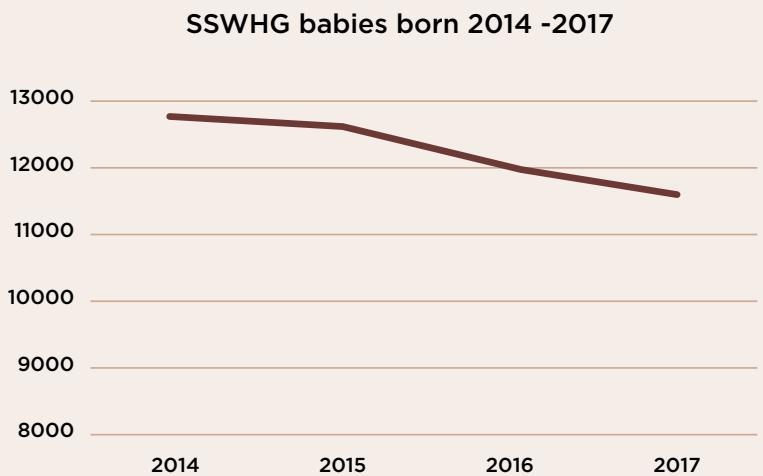

Figure 1.1: Number of babies born in SSWHG 2014 – 2017

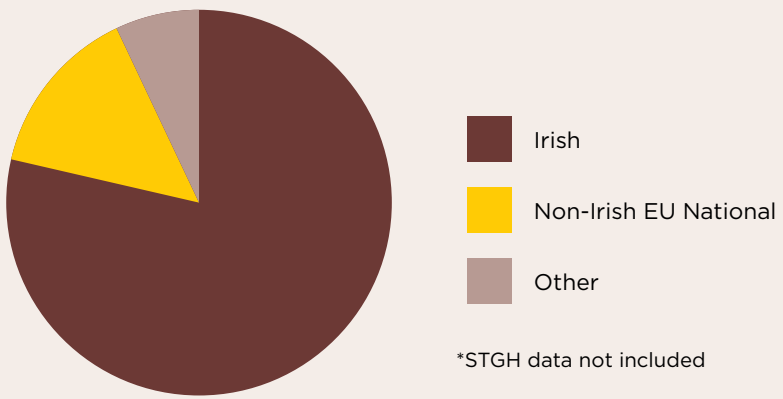

Figure 1.2: Distribution of maternal and delivery characteristics 2017 - Nationality

Table 1.1a: Distribution of maternal and delivery characteristics 2017					
Gestations	**SSWHG Frequency N (%) (N=11,354)**	**CUMH Frequency N (%) (N=7,224)**	**STGH Frequency N (%) (N=979)**	**UHK Frequency N (%) (N=1,349)**	**UHW Frequency N (%) (N=1,802)**
Singleton	**11,136 (97.7)**	7,065 (97.8)	978 (99.9)	1,330 (98.6)	1,763 (97.8)
Twin	**214 (2.2)**	156 (2.1)	–	19 (1.4)	39 (2.2)
Triplet	**4 (0.1)**	3 (0.1)	1 (0.1)	–	–

Table 1.1b: Distribution of maternal and delivery characteristics					
	SSWHG Frequency N (%) (N=11,354)	**CUMH Frequency N (%) (N=7,224)**	**STGH Frequency N (%) (N=979)**	**UHK Frequency N (%) (N=1,349)**	**UHW Frequency N (%) (N=1,802)**
Nulliparous	**4,242 (37.4)**	2,785 (38.6)	312 (31.9)	493 (36.5)	652 (36.2)
Multiparous	**7,112 (62.6)**	4,439 (61.4)	667 (68.1)	856 (63.5)	1,150 (63.8)

Table 1.2: Distribution of spontaneous and instrumental vaginal births for all infants, 2017					
	SSWHG N (%) (N=11,577)	CUMH N (%) (N=7,386)	STGH N (%) (N=982)	UHK N (%) (N=1,368)	UHW N (%) (N=1,841)
Vaginal delivery (Total)	**7,805 (67.4)**	**4,978 (67.4)**	**626 (63.7)**	**889 (65.0)**	**1,312 (71.3)**
Spontaneous vaginal	**5,834 (74.7)**	3,666 (73.6)	478 (76.4)	664 (74.7)	1,026 (78.2)
Ventouse	**1,368 (17.5)**	929 (18.7)	-	187 (21.1)	252 (19.2)
Forceps	**350 (4.5)**	286 (5.7)	-	35 (3.9)	29 (2.2)
Combined instrumental	**221 (2.8)**	73 (1.5)	148 (23.6)	-	-
Vaginal breech	**32 (0.5)**	24 (0.5)	-	3 (0.3)	5 (0.4)

Table 1.3: Incidence of caesarean delivery for all maternities, 2017					
	SSWHG N (%) (N=11,354)	CUMH N (%) (N=7,224)	STGH N (%) (N=979)	UHK N (%) (N=1,349)	UHW N (%) (N=1,802)
Caesarean delivery	**3,622 (31.9)**	**2,292 (31.7)**	**385 (39.3)**	**454 (33.7)**	**491 (27.2)**
Elective	**1,707 (47.1)**	1,071 (46.7)	190 (49.4)	215 (47.4)	231 (47.0)
Emergency	**1,915 (52.9)**	1,221 (53.3)	195 (50.6)	239 (52.6)	260 (53.0)

Elective and emergency figures are calculated on the total number of caesarean deliveries.
Breakdown of elective and emergency for STGH not available.

Maternal Mortality

Case A is the case of a woman who had a pre-existing diagnosis of cystic fibrosis.

(Indirect)

Case B is the case of a woman who died as a result of melanoma cancer four months' post delivery.

(Indirect)

Perinatal Mortality

Table 2.0: Perinatal deaths

Perinatal deaths	SSWHG (N= 11,577)	CUMH (N=7,386)	STGH (N=982)	UHK (N=1,368)	UHW (N=1,841)
Stillbirths	47	28	10	1	8
Early neonatal deaths	19	12	2	3	2
Late neonatal deaths	6	4	–	–	2
Infant deaths	1	1	–	–	–

Stillbirth: Baby delivered without signs of life from 24 weeks gestation or with a birthweight ≥500g.[1]
Early neonatal death: Death of a live born baby occurring within 7 completed days of birth.
Late neonatal death: Death of a live born baby occurring after the 7th day and within 28 completed days of birth.

**As used by the National Perinatal Epidemiology Centre. [1] Stillbirths Registration Act, 1994.

Table 2.1: Perinatal mortality rates

	SSWHG (N= 11,577)	CUMH (N=7,386)	STGH (N=982)	UHK (N=1,368)	UHW (N=1,841)
Overall perinatal mortality rate per 1000 births	**5.7**	5.4	12.2	2.9	5.4
Perinatal mortality rate corrected for congenital anomalies	**3.7**	3.5	9.2	0.7	3.8
Stillbirth rate per 1000 births	**4.0**	3.7	10.1	0.7	4.3
Stillbirth rate corrected for congenital anomalies	**3.0**	2.9	7.1	0.7	2.7
Early neonatal death rate per 1000 births	**1.6**	1.6	2.0	2.2	1.1
Early neonatal death rate corrected for congenital anomalies	**0.7**	0.5	2.0	0.0	1.1

All infants weighing 500g and/or over 24 weeks' gestation are reported. All mothers who booked and delivered are included.

Table 2.2: CUMH Stillbirths (n=28)	
Cause	**Totals**
Congenital anomalies	6
Cord	1
Placental (all causes)	17
Abruption	3
Antepartum haemorrhage	1

Table 2.3: CUMH case review – Intrapartum deaths (n=4)				
Parity	**Gestation (Wks.)**	**Mode of delivery**	**BW (g)**	**Conclusion**
1+0	23+5	Breech	730	Intrapartum fetal death occurring extreme prematurity and an antepartum haemorrhage
3+2	27+6	SVD	2,100	Intrauterine fetal death in association with pre-term labour on a background of gross abdominal distension (ascites) due to underlying urinary tract obstruction due to the presence of posterior urethral values
1+0	22+6	Breech	510	Intrauterine fetal death due to placental insufficiency on a background of maternal vascular malperfusion and maternal pre-eclampsia
4+2	34+6	Breech	2,410	Intrauterine fetal death due to multiple fetal anomalies

Table 2.4: CUMH case review – Antepartum deaths (n=24)				
Parity	**Gestation (Wks.)**	**Mode of delivery**	**BW (g)**	**Conclusion**
P0	37+4	SVD	2,260	Placental; fetal vascular malperfusion, umbilical vein thrombus, placental hypoplasia and severe distal immaturity
P1	26+5	SVD	920	Intrauterine fetal death due to multiple fetal anomalies
P0	39+4	SVD	4050	Intrauterine fetal death due to placental distal villous immaturity/delayed villous maturation
P1	35+2	C/S	2600	Intrauterine fetal death due to fetomaternal haemorrhage
P2	29+2	Breech	420	Intrauterine fetal death due to Trisomy 21
P0	28+3	Breech	580	Intrauterine fetal death secondary to placental insufficiency
P1	25+6	SVD	530	Intrauterine fetal death on a background of placental insufficiency (complicated by maternal PET)
P3	35+2	SVD	3410	Intrauterine fetal death in association with severe placental distal villous immaturity and fetal macrosomia
P0	38	SVD	3300	Intrauterine fetal death due cord compression associated with true cord knot
P1	39+6	SVD	3530	Intrauterine fetal death due to due to significant retroplacental haemorrhage and consequent acute placental hypoxic ishaemia
P0	39+6	SVD	2960	Intrauterine fetal death due to placental insufficiency as a result of severe DVI with umbilical vascular thrombosis, placental fetal vascular obstruction and late acute chorioamnionitis
P1	28+6	SVD	540	Intrauterine fetal death due to placental insufficiency caused by abnormal placental development with maternal vascular malperfusion

Table 2.4 continued on following page

Table 2.4 continued

Parity	Gestation (Wks.)	Mode of delivery	BW (g)	Conclusion
P0	38+4	SVD	3300	Intrauterine fetal death due to fetomaternal haemorrhage
P2	31+5	SVD	1550	Intrauterine fetal death due to fetal vascular malperfusion
P0	31+5	SVD	1350	Intrauterine fetal death due to placental insufficiency caused by maternal vascular malperfusion with associated fetal growth restriction
P2	37+2	SVD	3140	Intrauterine fetal death due to placental abruption
P0	35+2	SVD	2050	IUFD due placental insufficiency as a result of severe fetal vascular malperfusion occurring in association with an abnormally long and hypercoiled umbilical cord, the presence of a nuchal cord may have further contributed to the cord obstruction
P0	32+6	SVD	1200	Intrauterine fetal death due to placental insufficiency as a result of maternal vascular malperfusion
P1	40+3	Vac	2500	Intrauterine fetal death due to a combination of fetal vascular malperfusion with fetal vascular thrombosis and distal villous immaturity
P1	31+5	SVD	1100	Intrauterine fetal death due to an abnormal placenta which had multiple areas of infraction and evidence of a large retroplacental haematoma involving 70% of the maternal surface, suggestive of a concealed abruption
P2	26+2	Breech	640	Intrauterine fetal death favoured to be the result of fetal vascular malperfusion
P0	24+2	Breech	220	Intrauterine fetal death due to major fetal anomlay- triploidy
P2	28+3	SVD	450	Intrauterine fetal death due to major fetal anomlay- triploidy
P0	40+2	SVD	3530	Intrauterine fetal death due to placental insufficiency as a reault of a combination of DVI, fetal vascular malperfusion (with chorionic plate vascular thrombosis) & a velamatous cord insertion

Table 2.5: CUMH – Early neonatal deaths (n=12)	
Cause	**Totals**
Congenital anomalies	8
Prematurity	2
Abruption	1
TTTS	1

Table 2.6: CUMH case review – Early neonatal deaths (n=12)				
GA	**BW (g)**	**Age (days)**	**Cause of Death**	**Place**
38+2	3,310	0	Prune belly/hypoplastic lungs	CUMH
38+4	3,100	6	Campomelic dysplasia	CUMH
34	2,030	5	Asphyxia/Klinefelters syn	CUMH
24+5	540	5	Perforation	Temple Street
37+1	1,910	1	Trisomy 18	CUMH
29+3	1,920	0	Unexplained hydrops	CUMH
23+2	580	2	Preterm/severe IVH	CUMH
40+2	3,160	0	Failed resus/ Trisomy 21	CUMH
26+4	1,010	0	RTA/abruption	CUMH
30+5	1,320	1	TTTS/ DIC	CUMH
38+3	3,010	0	Potters syndrome	CUMH
32+4	1,450	0	Diaphragmatic hernia/T13	CUMH

Table 2.7: CUMH case review – Late neonatal deaths (n=4)				
GA	**BW (g)**	**Age (days)**	**Cause of Death**	**Place**
39+5	3,750	13	Multi organ failure/HIE	CUMH
36+1	2,470	13	Severe HIE	CUMH
25+5	880	9	Perforation/nec	CUMH
26+1	580	18	Sepsis/prematurity	CUMH

Table 2.8: CUMH case review – Infant deaths (n=1)				
GA	**BW (g)**	**Age (days)**	**Cause of Death**	**Place or Transferred to**
32	1,680	61	–	Home

STGH Case Reviews

Table 2.9: STGH Stillbirths (n=10)	
Cause	**Totals**
Congenital anomalies	3
Polyhydramnios/IDDM	1
Placental	1
Respiratory Prematurity	2
Unexplained	3

Table 2.10: STGH case review – Stillbirths (n=10)				
Parity	**Gestation (Wks.)**	**BW (g)**	**Mode of delivery**	**Conclusion**
G4 P3+0	25	860	SVD	Placental abruption
G2 P1+0	35+5	2,965	SVD	Fetal Maternal haemorrhage
G12 P9+2	28	950	SVD	Abnormalities and Oesophageal atresia Trisomy 18
G5 P2+2	36	4,040	LSCS	Cardiac Anomaly
G8 P4+4	38+2	4,780	SVD	Polyhydramnios/IDDM
G1P0+0	23+4	508	SVD	PPROM
G2 P0+1	26+3	1,040	SVD	Unexplained
G8 P3+5	29	1,100	SVD	Unexplained
G3 P2+0	35	1,162	SVD	Trisomy 18
G2 P0+1	21+3	575	SVD	Preterm Labour

Table 2.11: STGH – Early neonatal deaths (n=2)	
Cause	**Totals**
PPROM	1
Ante Partum Haemorrhage	1

Table 2.12: STGH case review – Early neonatal deaths (n=2)				
GA	**BW (g)**	**Age (days)**	**Cause of Death**	**Place of Death**
31+2	1,600	–	PPROM	STGH
24+5	600	–	Ante Partum Haemorrhage	STGH

UHK Case Reviews

Table 2.13: UHK – Stillbirths (n=1)	
Cause	**Totals**
Placental	1

Table 2.15: UHK – Early neonatal deaths (n=3)	
Cause	**Totals**
Congenital anomalies	3

Table 2.14: UHK case review – Antepartum deaths (n=1)

Gestation (Wks.)	Mode of delivery	BW (g)	Conclusion
31+4	Emergency Caesarean Section	247	Widespread acute fetal vascular occulusion may be due to cord compression

Table 2.16: UHK case review – Early neonatal deaths (n=3)

GA	BW (g)	Age (days)	Cause of Death	Place of Death
33+2	1560	0	Osreochondrophtasia Thanatophoric Dysplasia Type1	UHK
34+6	1,760	0	Trisomy 13	UHK
32	1590	0	Abnormality including Neural Tube Defect	UHK

UHW Case Reviews

Table 2.17: UHW – Stillbirths (n=8)	
Cause	**Totals**
Congenital anomalies	3
Placental (all causes)	1
Fetal	2
Unexplained / Unclassified	2

Table 2.18: Antepartum deaths (n=8)

Parity	Gestation (Wks.)	Mode of delivery	BW (g)	Conclusion
P1	24 weeks	SVD	310G	Prematurity
P0	38 + 4	SVD	4640G	Vasa Praevia
P0	Term + 2	SVD	3200G	Feto-Maternal Haemorrhage
P0	37 + 3	C SECTION	2475G	Unknown
P0	24 + 1	C SECTION	173G	Prematurity
P1	24 weeks	SVD	790G	Ventriculomegaly
P3	22 weeks + 4	SVD	554G	Trisomy 21
P4	37 + 6	VENTOUSE	5565G	Trisomy 21

Neonatal deaths

Table 2.19: UHW – Early neonatal deaths (n=2)	
Cause	**Totals**
Prematurity with pulmonary haemorrhage	1
Prematurity	1

Table 2.20: UHW – Early neonatal deaths (n=1)				
GA	**BW (g)**	**Age (days)**	**Cause of Death**	**Place of Death**
27+4	1,000	0	Prematurity with pulmonary haemorrhage	UHW
–	510	0	Prematurity	UHW

Table 2.21: Late neonatal deaths (n=2)				
GA	**BW (g)**	**Age (days)**	**Cause of Death**	**Place of Death**
39+5	3750	Day 13	–	CUMH
38	3480	Day 10	Spinal Muscular Atrophy	UHW

Perinatal pathology

Table 2.22: Autopsy Rate					
	SSWHG Frequency N(%)	**CUMH Frequency N(%)**	**STGH Frequency N(%)**	**UHK Frequency N(%)**	**UHW Frequency N(%)**
Stillbirths	34 (72)	25 (89.2)	6 (60)	–	3 (37.5)
Early neonatal deaths	8 (42)	6 (50)	–	2 (66)	–

Overall Autopsy rate for stillbirths and early neonatal deaths = 63%

HIE Rates and Management

Table 3.0: CUMH inborn infants with Hypoxic Ischaemic Encephalopathy						
Gestation	**Mode of Delivery**	**Sarnat grade**	**Therapeutic Hypothermia**	**Seizures on EEG**	**MRI**	**Outcome**
38+1	EmLSCS	1	Yes	No	Normal	Normal ND at 14 months
37+3	SVD	1	Yes	No	Unilateral Punctate Ischaemic Focus	Normal ND at 10 months
35+5	EmLSCS	1	Yes	No	Bilateral DNGM ischaemia	Normal ND at 11 months
41+5	Forceps	1	No	No	Not performed	Normal ND at 7 months
40+4	SVD	1	Yes	No	Normal	Normal ND at 6 months
37+6	EmLSCS	1	No	Yes	Bilateral punctate ischaemic foci	Bilateral SNHL at 5 months
37+3	EmLSCS	1	No	Yes	Small bilateral ischaemic foci in WM.	Normal ND at 5 months
38+3	EmLSCS	1	Yes	No	Unilateral punctate ischaemic focus	Normal ND at 2 months
40+5	Vacuum	1	Yes	No	Normal	Normal ND at 5 months
36+2	EmLSCS	1	Yes	No	Bilateral punctate ischaemic foci	Normal ND at 5 months
39+5	EmLSCS	2	Yes	Yes	Left Carotid Artery occlusion, cerebral bilateral infarcts	Right Upper limb hemiplegia
41+4	EmLSCS	2	Yes	Yes	Bilateral DNGM ischaemia	Normal ND at 12 months
38+0	Vacuum	2	Yes	No	Unilateral Punctate Ischaemic foci	Normal ND at 9 months
40+6	Forceps	2	Yes	No	Normal	Normal ND at 8 months
41+1	SVD	2	Yes	Yes	Basal ganglia ischaemia	Central hypotonia at 9 months
40+0	Vacuum	2	Yes	Yes	Normal	Normal ND at 7 months
41+1	Vacuum	2	Yes	Yes	Atretic parietal cephalocoele, coarctation of lateral ventricles	Central Hypotonia at 8 months
36+1	EmLSCS	3	Yes	Yes	Bilateral DNGM and cortical ischaemia	RIP DOL 13

Table 3.1: CUMH Outborn infants with Hypoxic Ischaemic Encephalopathy							
Place of Birth	**Gestation**	**Mode of Delivery**	**Sarnat grade**	**Therapeutic Hypothermia**	**Seizures on EEG**	**MRI**	**Outcome**
Limerick	40+3	Forceps	1	No	No	Not performed	OPD Locally
Kerry	40+2	Vacuum	1	No	No	Normal	OPD Locally
Kerry	38+6	Forceps	1	No	No	Not performed	Normal ND at 3 months
Limerick	40+4	EmLSCS	1	Yes	Yes	Basal ganglia, cortical and subcortical ischaemia	OPD Locally
Clonmel	41+0	EmLSCS	1	Yes	Yes	Normal	OPD Locally
Waterford	37+6	Forceps	2	Yes	Yes	Unilateral punctate ischaemic focus	OPD Locally
Limerick	40+2	SVD	2	Yes	No	Normal	OPD Locally
Limerick	40+2	SVD	2	Yes	Yes	Normal	OPD Locally
Waterford	39+5	EmLSCS	3	Yes	Yes	Global ischaemia	RIP DOL 13

Table 3.2: CUMH Neonatal Encephalopathy, Inborn and Outborn infants (non Hypoxic Ischaemic aetiology)						
Gestation	**Mode of Delivery**	**Diagnosis**	**Therapeutic Hypothermia**	**Seizures on EEG**	**MRI**	**Outcome**
38+5	SVD	Benign familial neonatal seizures	No	Yes	Unilateral punctate ischaemic focus	Normal ND at 4 months
39+6	SVD	Neonatal Seizures (no cause)	No	Yes	Normal	Normal ND at 2 months
41+4	EmLSCS	Neonatal Seizures (no cause)	No	Yes	Normal	Normal ND at 5 months

Gynaecology Service Report

General and specialist Gynaecology care is provided throughout the SSWHG. Clinics are run at the four main hospital units as well as outreach clinics in different areas. The following clinics/services are provided in the SSWHG region;

- General Gynaecology & Telephone Follow Up
- Urogynaecology
- Gynaecological Oncology
- Colposcopy
- Paediatric / Adolescent Gynaecology
- Infertility
- Ambulatory Gynaecology
- Postmenopausal Bleeding
- Hereditary Gynaecological Cancers
- Perineal
- Pre-Operative Assessment
- Endometriosis
- Hysteroscopy
- Postmenopausal Bleeding Clinic
- Continence Advice
- Smear Clinics

Health and Social Care Professions Group

A diverse range of Health and Social Care Professionals are involved in safe, high quality maternity care. The Health and Social Care Professions Group (HSCPs) in the Maternity Directorate represents the following range of professions as related to maternity services:

- Dietetics
- Occupational Therapy
- Pharmacy
- Physiotherapy
- Social Work
- Speech and Language Therapy

The majority provide services to maternity units and in the general hospital setting.

Table 5.0: 2017 Staff Numbers for Health and Social Care Professions

HSCP's	TOTAL	CUMH	STGH	UHK	UHW
Dietetics	**2.17**	2	0.07	0.1	0
Occupational Therapy	**0.6**	0.6	0	0	0
Pharmacy	**3.1**	2.6	0	0.5	0
Physiotherapy	**7.25**	5.75	0.4	0.6	0.5
Social Work	**6.75**	5.75	0.5	0	0.5
Speech & Language Therapy	**1**	1	0	0	0
Total	**20.87**	17.7	0.97	1.2	1

Staff

Table 6.0: Overall SSWHG Maternity Services Staff Numbers					
Overall SSWHG	**Total number**	**CUMH**	**STGH**	**UHK**	**UHW**
Consultants*	26.5	16.5	3	4	3
Midwives	587.12	390	42.62	52	102.50
NCHDs	67	26	12	13	16
HSCPs*	21.5	17.7	1.6	1	1.2
Administration	69.5	56	0.7	4.8	8

*includes Cons Ob/Gyn 12.5 WTE (17), Cons Neonatologists 4

**includes Dietetics (2.8), Occupational therapy (0.6), Pharmacy (3.1), Physiotherapy (7.25), Social Work (6.75), Speech and language therapy (1)

Research and Innovation

Department of Obstetrics and Gynaecology, UCC

The department is located on the fifth floor of Cork University Maternity Hospital. It provides formal undergraduate teaching to UCC medical students. The department also provides a unique postgraduate programme namely the MSc in Obstetrics and Gynaecology programme aimed at clinical trainees in the specialty. The aim of the department is to lead the development of teaching and research in obstetrics and gynaecology in Ireland and to become a centre of excellence internationally. This academic agenda is fully integrated with the delivery of clinical care in Cork University Maternity Hospital, thus providing a high quality academic service across a broad range of clinical, educational and research activities.

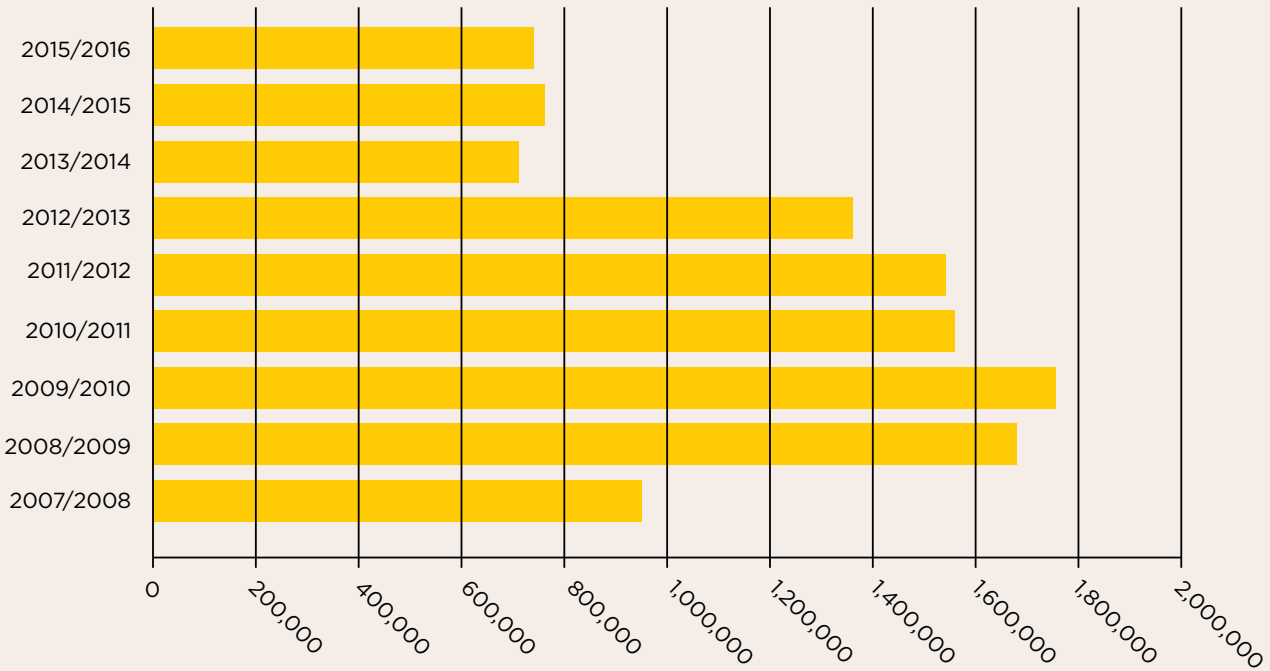

Figure 1.3: Research Income in the Department of Obstetrics and Gynaecology, 2007-2017

The National Perinatal Epidemiology Centre (NPEC)

The National Perinatal Epidemiology Centre is based in the UCC Anu Research Centre in Cork University Maternity Hospital. The overall objective of the Centre is to collaborate with Irish maternity services to translate clinical audit data and epidemiological evidence into improved maternity care for families in Ireland.

Achievement of our mission is carried out using a range of research methodologies, including prospective surveillance, Hospital In-Patient Enquiry (HIPE) data analysis, and systematic reviews.

The specific roles of the Centre are:

- To collaborate with government agencies to collate outcome data from maternity hospitals in Ireland
- To evaluate and publish *nationally representative* perinatal mortality and severe maternal morbidity data on an annual basis
- To contribute to the development of clinical protocols and guidelines based on analysis of data
- To act as a resource for the Minister of Health and the Department for Health and the Department of Children and Youth Affairs.

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INFANT 2017

INFANT (Irish Centre for Fetal and Neonatal Translational Research) is Ireland's first and only national perinatal research centre and seeks to address the largely unmet global clinical need for innovation in the perinatal domain. Based in Cork University Maternity Hospital and hosted by UCC with partners in RCSI, NUIG, and TCD, INFANT is founded upon over a decade of world class collaborative research and a diverse array of national and international academic and industry partnerships.

Since launch in Autumn 2013 INFANT has undergone a period of exponential growth in its 5 years to date. During this phase of rapid growth we have developed an active grant portfolio of over €35 million. This means INFANT has leveraged over €5 for every €1 of initial SFI award, employing over 100 staff, working with 25+ industry partners and 25+ international collaborators.

Our strategy in terms of clinical domain focus is to embrace maternal and child health, focusing particularly on interventions or events that occur in pregnancy, birth, the neonatal period and early infant development. The research framework for this is a refinement and extension of the core perinatal focus where INFANT began, with thematic research programmes in biomarkers, biomedical engineering, connected health nutrition and therapeutics.

This strategic expansion reflects the importance of early life (from conception to the second birthday) as a critical period of human development, when healthy growth and neurological development establish the foundations for life-long health. This will remain a core focus although in the very long term a life course approach that addresses the profound effects that perinatal complications can have on those that survive beyond the neonatal period, into childhood and adult life, will close the loop on the legacy of perinatal disease.

The INFANT strategy is to strive for scientific excellence and disruptive innovation in our quest to become the world's leading centre for translational perinatal research. We have a clear vision of how we will achieve this and will enable us to deliver scientific excellence, innovation and societal and economic impact now and for the next generation.

Some key achievements during 2017 were:

- INFANT secured €6.6M of new funding in 2017, of which €4.5M is Non-Exchequer Non-Commercial sourced and €0.8M from Industry
- INFANT received a €1M Philanthropic Donation to support the Centre's mission
- Prof Alan Irvine, Trinity College Dublin and Consultant Paediatric Dermatologist in Our Lady's Children's Hospital joined the INFANT PI group to deepen and extend paediatrics capability
- INFANT Researchers Dr Cathal McCarthy and Dr Jane English won Emerging Investigator Awards from the Health Research Board to help broaden the investigator talent pool with exciting projects in pre-eclampsia and autism biomarkers
- INFANT FI, Dr Andriy Temko won first prize in an international AI *Kaggle Challenge* organised by NIH for his work on predicting seizures
- INFANT PI Prof Deirdre Murray was awarded one of the first places in the prestigious NSF I-Corps to support researchers to develop entrepreneurial skills.
- INFANT led Cork Science Festival for 2017 and hosted 2 International Conferences, the International Stillbirth Alliance Conference, September 2017 and the 10th International Conference on Brain Monitoring and Neuroprotection in the Newborn, October 2017.

University College Cork School of Nursing & Midwifery

Located in the Brookfield Health Sciences Complex, the School offers two registerable midwifery programmes in partnership with the Cork University Maternity Hospital; a 4-year BSc in Midwifery and an 18 month post registration Higher Diploma in Midwifery. The BSc in Midwifery has 20 students in each year of the programme and the Higher Diploma in Midwifery has 32 students in each intake. There are currently 76 undergraduate and 21 postgraduate student midwives in the service. Student midwives are supported in practice by the Midwifery Practice Development Officer, Clinical placement Co-ordinators, Postgraduate Clinical Co-ordinator, Allocations Liaison Officer and Link Lecturers. Midwives provide preceptor support to students to ensure that their midwifery competencies are achieved. Midwifery lecturers support students in practice settings and contribute to the PROMPT and NRP multidisciplinary training sessions.

The School offers continuing education for midwives including an MSc Midwifery and two Continuing Professional Development (CPD) modules in conjunction with the Cork University Maternity Hospital.

Department of Neonatology

The Neonatal Research Centre was opened in 2009 and this facility is located directly adjacent to the neonatal unit and provides office and desk space for seven research staff. In collaboration with the Neonatal Brain Research Group (NBRG) UCC and the INFANT Centre, the development of the research centre remains a major advance for the research activities of the Department of Neonatology, bringing science and technology closer to the cot side. The INFANT Centre at University College Cork is hosted by the UCC Department of Obstetrics and Gynaecology at Cork University Maternity Hospital and consists of multidisciplinary researchers with outstanding academic, clinical and research track records. These researchers collectively aim to deliver novel screening and diagnostic tests and innovative therapeutic strategies for adverse pregnancy and neonatal outcomes.

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