NATIONAL THROMBOSIS WEEK

IMPROVING PREVENTION AND BEST MANAGEMENT OF VTE-REDUCING THE RISK IN PREGNANCY

THROMBOEMBOLISM IN PREGNANCY

 Pregnancy increases the risk of venous thromboembolism (VTE) 4- to 5-fold over that in the nonpregnant state. The 2 manifestations of VTE are deep venous thrombosis (DVT) and pulmonary embolus (PE).

Maternal Mortality in the UK

2011-13

Saving Lives, Improving Mothers' Care

Surveillance of maternal deaths in the UK 2011-13 and lessons learned to inform maternity

care from the UK and Ireland Confidential Enquiries

into Maternal Deaths and Morbidity 2009-13

2012-14

2010-12

Maternal, Newborn and Infant Clinical Outcome Review Programme



Maternal, Newborn and Infant Clinical Outcome Review Programme



Saving Lives, Improving Mothers' Care Lessons learned to inform future maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-2012



December 2014























December 2015





Maternal, Newborn and Infant Clinical Outcome Review Programme



Saving Lives, Improving Mothers' Care

Surveillance of maternal deaths in the UK 2012-14 and lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-14



December 2016















9 per 100,000 maternities

8.5 per 100,000 maternities



10 per 100,000 maternities

BACKGROUND

- Maternal deaths have decreased, but there are still lessons we can learn
- Two thirds of women die from medical and mental health problems and one third from direct complications of pregnancy
- Three quarters of the women who died had medical or mental health problems before they become pregnant

CAUSES OF MATERNAL DEATH

Key messages from the report



Maternal deaths have decreased





to 10 per 100,000 women giving birth

Causes of mothers' deaths

Women with pre-existing medical and mental health problems need:

- · Pre-pregnancy advice
- · Joint specialist and maternity care

Think Sepsis



Almost a quarter of women who died had Sepsis (severe infection).

Women with sepsis need:

- · Early diagnosis
- · Rapid antibiotics
- · Review by senior doctors and midwives

Prompt treatment and action can make the difference between life and death

Prevent Flu



1 in 11 of the women died from Flu

More than half of these women's deaths
could have been prevented by a flu jab.

Flu vaccination will save mothers' and babies' lives

Causes of Death in women < 24 weeks UK & Ireland 2009-2014

Cause of death	Number of	Percentage of
	women	women
Amniotic Fluid Embolism	1	0.5
Anaesthetic deaths	1	0.5
Pre-eclampsia and eclampsia	1	0.5
Sepsis	19	10.0
Thrombosis and thromboembolism	22	11.5
Cardiac disease	24	12.6
Mental health problems	24	12.6
Early pregnancy-related causes	12	6.3
Ectopic pregnancy	9	4.8
Legal termination of pregnancy	2	1.0
Self-attempted abortion	1	0.5
Haemorrhage	2	1.1
Neurology	22	11.5
Indirect deaths	29	15.1
Unascertained	1	0.5
Coincidental deaths	33	17.3
Total	191	100



Conditions resulting in death

12 Deaths discussed here

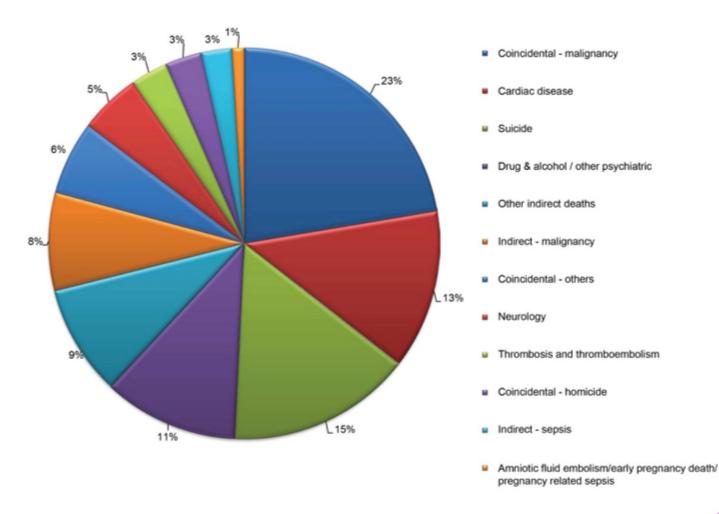
- 9 women died as a result of ectopic pregnancies
- 2 women died following legal termination of pregnancy
- 1 woman died following a self-attempted abortion

7 Early deaths in other chapters

- 1 HELLP secondary to a molar pregnancy
- 1 Cardiac death post termination
- 2 Pulmonary Embolism after second trimester miscarriage
- 3 Sepsis associated with miscarriage



Late maternal deaths UK 2012-14

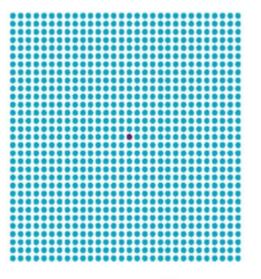




Direct Maternal Deaths 2012-14

- Thrombosis and thromboembolism the leading direct cause of death
 - 0.85 per 100,000 maternities
- Good care makes a difference

Less than 1 woman in every million who gives birth now dies from pre-eclampsia





Maternal Morbidity and Mortality Annual Report Topic Cycle

- 2014: Surveillance of maternal deaths in the UK 2009-12. Confidential enquiries on sepsis morbidity and deaths, haemorrhage, AFE, anaesthetic, neurological, respiratory, endocrine and other indirect deaths in the UK and Ireland.
- 2015: UK surveillance 2011-13. Lessons for care from confidential enquiries of maternal deaths due to psychiatric, thrombosis, malignancy, late and coincidental deaths.
- 2016 (This report): UK Surveillance 2012-14. Confidential enquiries on pre-eclampsia and eclampsia, cardiac morbidity and mortality, early pregnancy mortality, lessons for critical care.
- 2017: UK Surveillance 2013-15. Confidential enquiries on sepsis, haemorrhage, AFE, anaesthetic, neurological, respiratory, endocrine and other indirect deaths, morbidity from severe uncontrolled epilepsy and psychiatric morbidity.
- 2018: UK surveillance 2014-16. Lessons for care from confidential enquiries of maternal deaths due to psychiatric, thrombosis, malignancy, late and coincidental deaths, morbidity from severe haemorrhage.



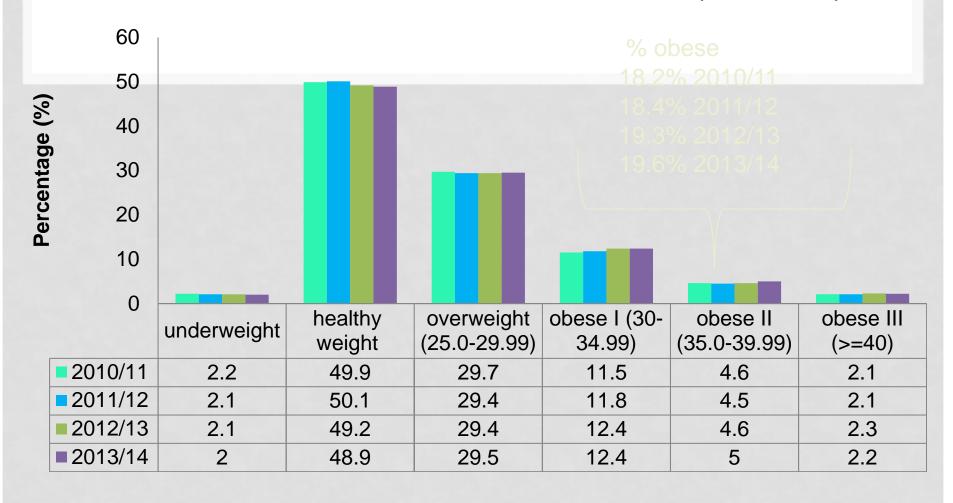
^{*}Call for topics for 2019 morbidity enquiry open until 31/12/2016

CO-EXISTING MEDICAL COMPLICATIONS

- Nearly three quarters of women who died had a co-existing medical complication
- There has been no significant change in the rate of indirect maternal death of the last ten years, when the rate of deaths from direct causes has halved
- The rate of indirect maternal deaths (6.87 per 100,000 maternities) is now twice that of direct deaths (3.25 per 100,000 maternities)

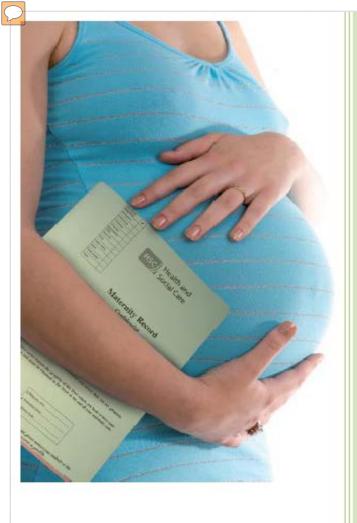
Actions are urgently needed to address deaths from indirect causes

*WEIGHT STATUS IN PREGNANCY, 2010/11-2013/14



LEARNING LESSONS TO IMPROVE CARE

 We owe it to those left behind to learn from the death of their mother, partner, daughter or friend and to make changes for the future to prevent other women from dying



Northern Irelands Regional Maternity Hand Held Record

Operational Guidance

HSC Health and Social Care

Dr Briege M Lagan with Ms Brenda Devine and Ms Verena Wallace



Antenatal VTE Risk Assessment - Booking	
(Risk assessment to be completed at booking)	

Name		
ID No:		

nanagement (to be assessed at ooking and repeated if admitted)	HIGH RISK Requires antenatal prophylaxis with LMWH
Any previous VTE except a single event related to major surgery	Refer to trust nominated thrombosis in pregnancy expert/team
Hospital admission _	
Single previous VTE related to major surgery	
High-risk thrombophilis = na VTE.	
Medical conorbidities e.g. canor, heart falure, active SU, IIID or inflammatory paleart ten-	INTERMEDIATE RISK
pathy, nephrotic syndrome, type I DM with. Dephropathy, sick le cell disease, current IVDU	Consider asternatal prophylaxis with LMWH
Any surgical procedure e.g. appendicectomy	
DHSS (first trimester only):	
Obesity (BMI = 34 kg/m ²)	
Agr + 35.	
Name of the Control o	Enter on manin ship for these
	Four or more risk factors: prophylaxis from first trimester
Smoker o	
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Partiya y	prophylaxis from first trimester
Smoker Gress various value Current per ectampsia Immobility, e.g. parapingta, PEP Immobility, e.g. parapingta, PEP Immobility of approvided or	prophylaxis from first trimester Three risk factors:
Smoker Gress various veins Current pre-eclampsia Immobility, e.g. paraplingts, PEP Family Noticey of unprovaked or extrager-ployaked VTE in first-degree in latine	prophylaxis from first trimester Three risk factors: prophylaxis from 26 weeks
Smoker Gress various veins Carrent pre-eclampsia Inmobility, e.g. paraphysis, PEP Family history of unprovaked or exhauges-ployaked VTE in first-degree in latine Low risk themshophilis	prophylaxis from first trimester Three risk factors: prophylaxis from 28 weeks
Smoker Cosso various evins Current pre-ectampsis Innochility, e.g. porapingis, PCP Zamby history of unprovoked or estrogen-provoked VTE in first-degree relative [7]	prophylaxis from first trimester Three risk factors: prophylaxis from 26 weeks
Seoker Corse various veins Carrent pre-eclampsia Inmobility, e.g. paragingts, PEP Family history of expressived or extrager-ployake dVTE in first-degree relative Low closs theoretophilis Multiple pre-granty	prophylaxis from first trimester Three risk factors: prophylaxis from 26 weeks

Total Rick Factor

Woght	AN and PN prophylactic dose of LWWH
< 50 kg	20 mg 00
50 - 90 kg	40 mg 00
91 - 130 kg	60 mg 00
151 - 170 kg	50 mg 00 (or 40 mg 50)
> 270 kg	0.6 $mg/kg/dey$
Prophylaxis	dose of LANVH presented
Yes	□ No

gnature and Frefersion	Dele	

Antenatal VTE Risk Assessment – Booking (Risk assessment to be completed at booking)

er

Risk assessment for venous thromboembolism (VTE)

- × If total science 4 a promptable consider throughpuphylips's Noot the first primater.
- If total terms 3 antistatally, comider thrombogrophylasis from 26 seeds.
- If total score a presentatific consider thrembogrouphylasis for at least so days.
- If admitted to hongital antenatally consider threatengoughylasis.
- $* \quad \text{if protonged admission is } y \text{ dayd} \text{ or readmission to hospital arthin the pumperture consider thromboprophylasts.}$

For parients with an identified bleeding risk, the balance of trials of bleeding and thrombonis should be discussed in consultation with a basestrologist with experitor in Occorbonis and Edending to pregnancy.

Mink factors for VTE

Pro-excising risk factors	This.	Bearing
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Family bistory of argument of acceptingen related VTE is first degree relative		1
Konney lose right thromologistis (inc VTS):		6
Age (- 35 years)		1
Ubesty		1000
Folly x 3:		1
Smoker		1
Scots epitions wine		
Obstately risk factors		
Pre-estimation outrest pregnancy		11
AST/52Y (propropted cody)		
Multiple programsy		
Companies profitor in believe		1
Notice consensus section :		1
Bid carily or printered against a delivery		1
Prilipaged latinos (+ 14 femril		1
PRINT, a life or translation)		1
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Standard slok factors

Any margin of programme or programmy in postupoliton decouple recommitme require of the performant, it is approach to being postupathors standard large.	
OHES (See Dissolate 444)	
Correct systemic infaction	1
Secoldly Adoptator	

TOTAL

Abbreviations. AFT assisted expends the inclusings, NY is alter britisation, GHAS unnion bype-simulation symbotom, YTI sensor

"If the known less risk the extension that is in a second with a family triality of VTE to a final degree velative profitation thromboprophyticals, about the continued for 6 weeks.

1886 pt = 1; 887 t 48 + 2

Antenatal VTE Risk Assessment - Hospitalised (Risk assessment to be completed on EVERY admission) Name:

ID No:

Antenatal assessment and management (to be assessed at booking and repeated if admitted)

Any previous VTE except a single event related to major surgery

•

HIGH RISK

Requires antenatal prophylaxis with LMW H

Refer to trust-nominated thrombosis in pregnancy expert/team

INTERMEDIATE RISK Consider antenatal prophylaxis

with LMWH

Hospital admission

Single previous VTE related to major surgery \Box

High-risk thrombophilia + no VTE □

Medical comorbidities e.g. cancer, heart failure, active SLE, IBD or inflammatory polyarthropathy, nephrotic syndrome, type I DM with nephropathy, sickle cell disease, current IVDU

Any surgical procedure e.g. appendicectomy

OHSS (first trimester only)

Obesity (BMI > 30 kg/m²)

Age > 35

Parity≥3 ☐ Smoker ☐

Gross vari cose veins 🗖

Current pre-eclampsia
Immobility, e.g. paraplegia, PGP

Family history of unprovoked or

estrogen-provoked VTE in first-degree relative

Low-risk thrombophilia

Multiple pregnancy 🗖

IVF/ART

Transient risk factors:
Dehydration/hyperemesis; current systemic infection; long-distance travel

Three risk factors: prophylaxis from 28 weeks

Four or more risk factors: prophylaxis from first trimester

Fewerthan three risk factors

LOWER RISK

Mobilisation and avoidance of dehydration

Weight	AN and PN prophylactic
	dosc of LMWH
< 50 kg	20 mg 00
50 - 90 kg	40 mg 00
91 - 150 kg	60 mg 00
151 - 170 kg	80 mg 00 (or 40 mg 80)
> 170 kg	0.6 mg / kg / day
- 110 Mg	o.o mg/ kg/ day
	torner it d
Prophylaxis dose	of LMWH prescribed
	o
Yes	No No

Total Risk Pactor Score:	
Comment	

Signature and Profession	Date	Time

SHSCT 11 16, Adapted from RCOG, 2015 GTG 27s

Antenatal VTE Risk Assessment – Hospitalised

(Risk assessment to be completed on EVERY admission)

Risk assessment for venous thromboembolism (VTE)

- . If total score a 4 antenatally, consider thromboprophylaxis from the first trimester.
- . If total score 3 antenatally, consider thromboprophylaxis from 28 weeks.
- . If total score a 2 postnatally, consider thromboprophylaxis for at least so days.
- If admitted to hospital antenatally consider thromboprophylaxis.
- If prolonged admission (s 3 days) or readmission to hospital within the puerperium consider thromboprophytaxis.

For patients with an identified bleeding risk, the balance of risks of bleeding and thrombosis should be discussed in consultation with a haematologist with expertise in thrombosis and bleeding in pregnancy.

Risk factors for VTE

Pre-existing risk factors	Tick	Score
Previous VTE (except a single event related to major surgery)		
Previous VTE provished by major surgery		3
Known high risk thrombophilis		3
Medical committation e.g. cancer, heart fallors; active systemic topon erythematicums, milammatory polyarthropathy as inflammatory bower disease; expensel; candisme, type I dialectes meditus with nephropathy; sickle call disease; cursed intravenues fireguese.		1
Family history of unprovoked or estrogen-related VTE in first-degree relative		- 1
Known low-risk thrombophilia (no VTE)		15
Age (- 35 years)		1
Obesity		1003
Parity x 3		1
Smoker		1
Gross varicose wites		1
Obstetric risk factors		
Pre-eclampsia in current pregnancy		1
ART/NY (antenutal only)		1
Multiple pregnancy		
Caesarean section in labour		2
Elective caesarean section		1
Mid-cavity or rotational operative delivery		1
Prolonged labour (+ 24 hours)		1
PPH (» s litre or transfusion)		- 1
Preterm birth < 32" weeks in current pregnancy		
SUBSirth in current pregnancy		1
Transient risk factors		
Any surgical procedure is pregnancy or postportum racingl immediate requir of the perineum, e.g. appendicectomy, postportum shellination		3
Hyperemesis		3
OHSS (first trimester only)		
Current systemic infection		1
Service Administration of the Control of the Contro		

Abbreviations: ART assisted reproductive technology; NV in vitro fertilisation, DRSS ovarian hyperstimulation syndrome; VTE venous thromboembolism.

"If the known low-risk thrombophilia is in a woman with a family history of VTE in a first-degree relative postpartum thromboprophylaxis should be continued for 6 weeks.

*BM(x 30 = 3; BM(x 40 = 2

TOTAL



THANK YOU

QUESTIONS?