



# MDE

Confidential  
Maternal Death Enquiry  
Ireland

MDE Ireland:  
Data Brief No 1. December 2015

Release of this data brief coincides with publication in December 2015 of the second report incorporating Irish data in the long-established UK Confidential Enquiry into Maternal Deaths (CEMD)<sup>1</sup>. It covers the same timeframe as the latter and aims to present surveillance data on maternal deaths in Ireland for the years 2011 to 2013.

It is recommended that this data brief is read in conjunction with the MBRRACE-UK 2015 report<sup>1</sup> which details enquiry findings and lessons learned from women who died from specific causes in the UK and Ireland.

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## MATERNAL MORTALITY IN IRELAND: 2011-2013

For the years 2011 – 2013, a total of 27 maternal deaths, occurring during or within 42 days of pregnancy end, were identified by MDE Ireland. Of these 27 deaths, 7 were classified as from direct causes, 15 as from indirect causes, and the remaining 5 were attributed to coincidental causes. Definitions of maternal deaths are outlined in Table 1.

One in three women (n=7; 32%) who died from direct and indirect causes were still pregnant at the time of death.

**Table 1: Definitions of Maternal Deaths: (World Health Organisation 2010)**

Maternal Death	Deaths of women while pregnant or within 42 days of the end of the pregnancy* from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes
Direct	Deaths resulting from obstetric complications of the pregnant state [pregnancy, labour and puerperium], from interventions, omissions, incorrect treatment or from a chain of events resulting from any of the above.
Indirect	Deaths resulting from previous existing disease, or disease that developed during pregnancy and which was not the result of direct obstetric causes, but which was aggravated by the physiological effects of pregnancy.
Late	Deaths occurring between 42 days and 1 year after the pregnancy end* that are the result of Direct or Indirect maternal causes.
Coincidental †	Deaths from unrelated causes which happen to occur in pregnancy or the puerperium.

\* Includes giving birth, ectopic pregnancy, miscarriage or termination of pregnancy.  
† Termed "Fortuitous" in the International Classification of Diseases (ICD)

To facilitate international comparisons, all maternal death rates (MMR) are presented as a rolling three year average. This includes deaths due to direct and indirect causes during pregnancy and up to 42 days postpartum, but excludes coincidental causes.

For the years 2011 – 2013 there were 22 direct or indirect maternal deaths among 211,669 maternities, giving a maternal mortality rate (MMR) of 10.4 per 100,000 maternities (95% CI 6.5-15.7). Table 2 demonstrates a rolling three year average MMR since the inception of MDE Ireland in 2009 to 2013. These rates are plotted in the middle year of the triennium in figures 1 and 2.

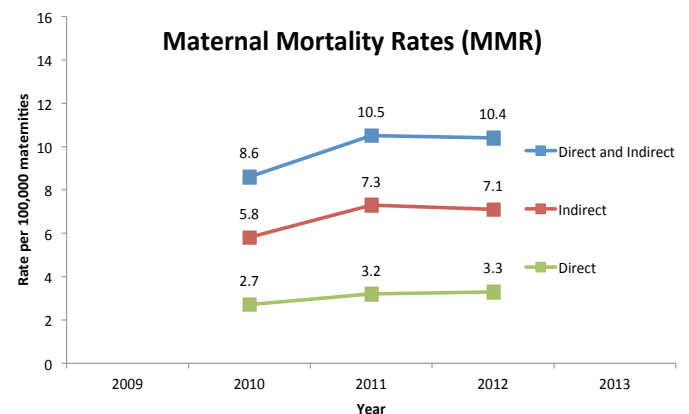
The apparent increase in MMR for the reporting years 2010-2013 was not statistically significant (p value = 0.965).

**Table 2: Direct and Indirect Maternal Mortality rates per 100,000 maternities in Ireland: rolling three year average 2009 – 2013**

3 Year Period	Total Irish Maternities	Direct Maternal Deaths			Indirect Maternal Deaths			Total Maternal Deaths*		
		n	Rate	95% CI	n	Rate	95% CI	n	Rate	95% CI
2009-2011	222,136	6	2.7	0.5-4.9	13	5.8	2.7-9.0	19	8.6	4.7-12.4
2010-2012	218,035	7	3.2	0.8-5.6	16	7.3	3.7-10.9	23	10.5	6.2-14.9
2011-2013	211,669	7	3.3	1.3-6.8	15	7.1	4.0-11.7	22	10.4	6.5-15.7

\*Includes direct and indirect maternal deaths but not deaths due to coincidental causes.

**Figure 1. Direct and Indirect MMR per 100,000 maternities in Ireland: rolling three year average 2009-2013**



Note: Three-year moving average rates are plotted in middle year of triennium



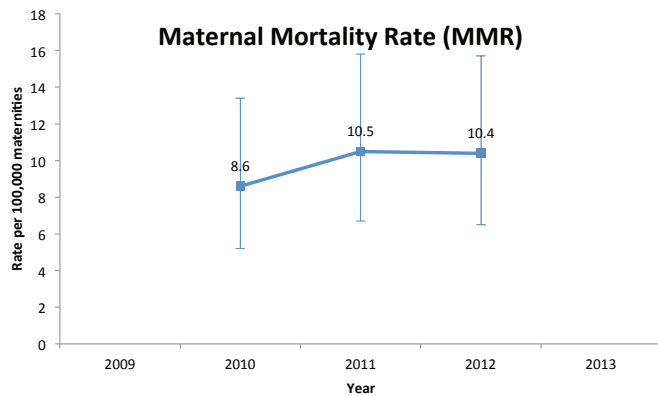


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**Figure 2: MMR per 100,000 maternities (95% CI) in Ireland: rolling three year average 2009-2013**



Note: Three-year moving average rates are plotted in middle year of triennium

## COMPARISON OF MATERNAL MORTALITY RATE: IRELAND AND THE UK 2011-2013

For the triennium 2011 – 2013, the Irish MMR was 10.4 per 100,000 maternities [95% CI 6.5-15.7] and the UK MMR was 9.02 per 100,000 maternities [95% CI 7.85-10.31]. This does not represent a statistically significant difference in MMR between countries (Risk ratio 1.15, p = 0.526).

## LATE MATERNAL DEATHS: IRELAND

Four late maternal deaths were reported to MDE Ireland in the triennium 2011-2013. The causes of death were: psychiatric causes (2 cases), thromboembolism (1 case) and malignant disease (1 case).

## CAUSES OF DIRECT AND INDIRECT MATERNAL DEATHS: IRELAND

The proportion of direct and indirect maternal deaths was 32% and 68 % respectively for 2011 – 2013. This reflects findings in the UK.

Direct and Indirect maternal deaths by cause are detailed in Table 3. To create standardisation and facilitate comparisons with UK CEMD reports, causes of maternal deaths are categorised and presented using UK categories. On account of the small number of cases per category in Ireland and the limited power of analysis in a small cohort, rates per category are not appropriate and have not been calculated.

As in the UK, thrombosis/ thromboembolism and cardiac disease remain the leading causes of direct and indirect maternal death respectively.

**Table 3: Causes of Direct and Indirect Maternal Deaths in Ireland 2009 - 2013**

Cause of Death	2009-2011 (n)	2010-2012 (n)	2011-2013 (n)	2009 -2013 (n)
<b>Direct Maternal Deaths</b>	6	7	7	12
Thrombosis and thromboembolism	3	2	3	5
Pre-eclampsia and eclampsia	1	1	1	2
Amniotic fluid embolism	1	1	1	2
Genital tract sepsis*	-	1	1	1
Haemorrhage	1	2	1	2
Anaesthesia	-	-	-	-
<b>Indirect Maternal Deaths</b>	13	16	15	22
Cardiac disease	4	6	7	9
Other indirect causes†	4†	3	3	5
Indirect neurological conditions‡	3	3	2	3
Psychiatric causes**	2	4	3	5

\*Genital tract sepsis deaths only, including early pregnancy deaths as the result of genital tract sepsis. Other deaths from infectious causes are classified under other indirect causes

†Includes 2 deaths attributed to H1N1 influenza‡Includes 2 cases of Epilepsy related mortality

\*\* In all cases the cause of death was classified as suicide

## LESSONS LEARNED FROM THE UK AND IRELAND CONFIDENTIAL ENQUIRIES INTO MATERNAL DEATHS

Confidential enquiry findings into the care of women who died from psychiatric causes, deaths due to thrombosis and thromboembolism, malignancy, homicide and late maternal deaths in the UK and Ireland are described in detail in the MBRRACE-UK 2015 report<sup>1</sup>.

UK CEMD reports were previously produced on a triennial basis. In future, MBRRACE-UK aims to publish CEMD reports annually. In order to improve the power of analysis and identify lessons learned for future care, topic-specific chapters which appeared in previous triennial reports now appear in an annual report once every three years on a cyclical basis<sup>1</sup>.

**Note: Surveillance data on maternal deaths occurring in Ireland is not included in the MBRRACE-UK report.** Irish MMR will be published independently in annual data briefs and in more detailed triennial reports.

## REFERENCES

1. Knight M, Tuffnell D, Kenyon S, Shakespeare J, Gray R, Kurinczuk JJ (Eds.) on behalf of MBRRACE-UK. 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. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2015. Available at: <https://www.npeu.ox.ac.uk/mbrrace-uk>

## CITATION FOR THIS DATA BRIEF

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