



# MDE

Confidential  
Maternal Death Enquiry  
Ireland

# MDE Ireland: Data Brief No 7. October 2024

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Release of this data brief coincides with publication in October 2024 of the annual report incorporating Irish data in the long-established UK Confidential Enquiry into Maternal Deaths (CEMD) (Felker et al, 2024).<sup>1</sup> It covers the same timeframe as the latter and includes surveillance data on maternal deaths occurring in Ireland for the years 2020 to 2022.

It is recommended that this data brief is read in conjunction with the MBRRACE-UK 2024 report, which discusses the care of women who died, with a specific focus on the care of women who died between 2020 and 2022 in the UK and Ireland from thrombosis and thromboembolism, and malignancies between 2020 and 2022. In addition, there is a review of 12 deaths as a result of ectopic pregnancy in 2021-22 prompted by a marked increase (although not statistically significant) compared with the previous 2018-20 triennium.

Please note that surveillance data on maternal deaths occurring in Ireland is not included in the MBRRACE-UK report.

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## MATERNAL MORTALITY IN IRELAND 2020 - 2022

Definitions of maternal deaths are outlined in Table 1.

For the years 2020– 2022, a total of 14 maternal deaths, occurring during or within 42 days of pregnancy end, were identified by MDE Ireland among 169,513 maternities. All 14 deaths were classified as either direct or indirect, giving a maternal mortality rate (MMR) of 8.3 per 100,000 maternities (95% CI 4.5-13.9).

Of the 14 deaths, 9 were attributed to direct causes, and 5 due to indirect causes. Two further deaths were due to coincidental causes.

**Table 1: Definitions of Maternal Deaths (World Health Organisation 2012)**

<b>Maternal Death</b>	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.
<b>Direct</b>	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.
<b>Indirect</b>	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.
<b>Late</b>	Deaths occurring between 42 days and 1 year after the pregnancy end* that are the result of Direct or Indirect maternal causes.
<b>Coincidental‡</b>	Deaths from unrelated causes which happen to occur in pregnancy or the puerperium.

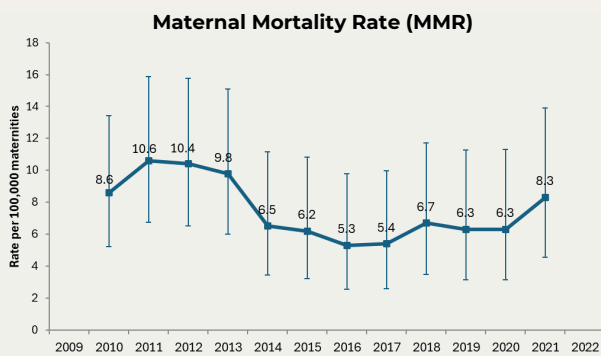
\*Includes giving birth, ectopic pregnancy, miscarriage or termination of pregnancy.  
‡Termed 'Fortuitous' in the International Classification of Diseases (ICD).

On account of small numbers and to facilitate early identification of trends, 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 not deaths due to coincidental causes or late maternal deaths. These rates are plotted in the middle year of the triennium in Figures 1 and 2.

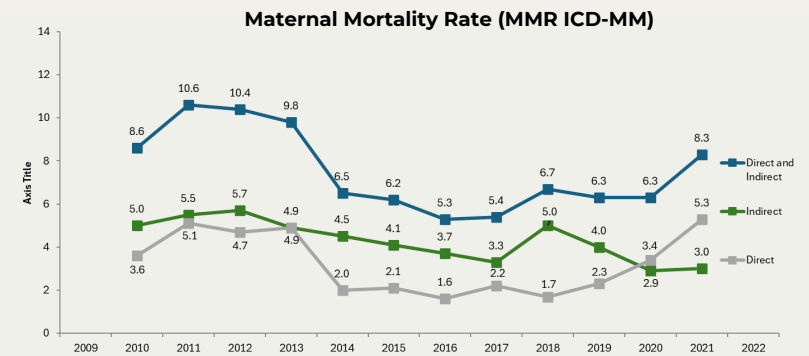
Five (35.7%) of the 14 women who died from direct and indirect causes were still pregnant at the time of death.

It should be noted that the fluctuation in MMR over the 14 reporting years of the maternal death enquiry in Ireland has not achieved statistical significance.

**Figure 1: MMR per 100,000 maternities (95% CI) Ireland: rolling three year average 2009-2022**



**Figure 2: Direct and Indirect MMR per 100,000 maternities in Ireland 2009-2022 using ICD-MM classification on cause of death: rolling three-year average**



## COMPARISON OF MATERNAL MORTALITY RATE: IRELAND AND UK 2020-2022

For the triennium 2020-2022, the Irish MMR was 8.3 per 100,000 maternities (95% CI 4.5-13.9) and the UK MMR was 13.56 per 100,000 maternities (95% CI 12.00-15.26). This does not represent a statistically significant difference in MMR between countries (Rate Ratio = 0.61, 95% CI = 0.36 – 1.04, p = 0.070).

There were 38 deaths directly attributable to Covid-19 infection in the UK in 2020-2022. If these 38 deaths were excluded, the UK maternal mortality rate for 2020-2022 would be 11.68 per 100,000 maternities (95% CI 10.24-13.27). There were no maternal deaths due to COVID-19 in Ireland in this triennium.

## CAUSES OF DIRECT AND INDIRECT MATERNAL DEATHS: IRELAND

Direct and Indirect maternal deaths up to 42 days following pregnancy end by cause are categorised and detailed in Table 2 using the conventional UK CEMD categories, and Table 3 using the ICD-MM classification (WHO, 2012). 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.

Based on the ICD-MM classification, the proportion of direct and indirect maternal deaths was 64% and 36% respectively for the reporting years 2020-2022 (Table 2), and 46% and 54% respectively for the years 2009-2022 (Table 3).

**Table 2: Causes of Maternal Deaths in Ireland 2009–2022 (Maternal deaths by suicide classified as direct)**

Cause of Maternal Death	2020-2022	2009-2022
<b>Direct Maternal Deaths</b>	<b>9</b>	<b>33</b>
Thrombosis and thromboembolism	2	8
Pre-eclampsia and eclampsia	1	3
Genital Tract Sepsis	0	2
Amniotic fluid embolism	0	4
Early pregnancy deaths	1	3
Haemorrhage	2	4
Anaesthesia	0	0
Deaths due to psychiatric causes*	3	9
<b>Indirect Maternal Deaths</b>	<b>5</b>	<b>39</b>
Cardiac Disease	2	17
Other Indirect causes	1	11
Indirect neurological conditions	2	11
Indirect malignancies	0	0
Indirect Psychiatric and alcohol related	0	0
<b>Coincidental Maternal Deaths</b>	<b>2</b>	<b>15</b>

\*Note: Deaths from genital tract sepsis includes early pregnancy deaths. Deaths from sepsis not directly related to pregnancy are classified as indirect causes. \*Deaths due to suicide.

## LATE MATERNAL DEATHS: IRELAND 2020-2022

Nineteen late maternal deaths were reported to MDE Ireland during the triennium 2020-2022.

Ten deaths were attributed to direct causes, thus:

- Suicide (8)
- Pulmonary Embolism (2)

A further five deaths were attributed to indirect causes, thus:

- Drug and alcohol abuse (2)
- Neurological (1)
- Malignancy (breast) (1)
- Pancreatitis (1)

The remaining four deaths were coincidental, due to malignant disease of pancreas (2) and brain (1) and one case following an RTA.

The data above confirms the MDE Ireland report in 2023 in respect of the triennium 2019-2021 that suicide was and remains (i) the leading direct cause of maternal death; and (ii) the leading cause of late maternal deaths in Ireland. In addition, there was a statistically significant increase in deaths due to suicide during pregnancy and up to one year postnatally in 2020–2022 compared with the previous decade 2010-2019 (Rate Ratio 4.75, 95% CI 1.97-11.47, p = 0.001) (Table 4). Again, it is worth noting there were no maternal deaths due to COVID-19 in Ireland in this triennium.

**Table 3: Maternal Deaths in Ireland by cause using the ICD-MM classification, 2009–2022**

Cause of Maternal Death	2020-2022	2009-2022
<b>Direct Maternal Deaths</b>	<b>9</b>	<b>33</b>
Group 1: Pregnancy with abortive outcome	1	3
Group 2: Hypertensive disorders	1	3
Group 3: Obstetric haemorrhage	2	4
Group 4: Pregnancy-related infection	0	2
Group 5: Other obstetric complication	5	21
Group 6: Unanticipated complication of pregnancy	0	0
<b>Indirect Maternal Deaths</b>	<b>5</b>	<b>39</b>
Group 7: Non obstetric complications	5	39
Group 8: Unknown/undetermined	-	-
<b>Coincidental Maternal Deaths</b>	<b>2</b>	<b>15</b>

**Table 4: Maternal deaths due to suicide during pregnancy and up to one year postnatally in 2020–2022 compared to 2010-2019**

Years	MMR per 100,000 maternities
2010-2019	1.4 (95% CI 0.6-2.6)
2020-2022	6.5 (95% CI 3.2-11.6)

## KEY POINTS FROM THE 2024 UK AND IRELAND REPORT

- A total of 296 women (of 2,028,543 maternities) in the UK died in 2020-22 during or within 42 days of the end of pregnancy. Of these 296 women, 275 died from direct or indirect causes, and the deaths of 21 were classified as coincidental.
- The UK MMR for 2020-2022 was 13.56 per 100,000 maternities (95% CI 12.00-15.26). There was a statistically significant increase in overall maternal death rate in 2020-22 compared with the previous triennium. It is of concern that this increase remained statistically significant when deaths due to COVID-19 were excluded.
- Thrombosis and thromboembolism remains the leading cause of direct maternal death during and up to six weeks after the end of pregnancy, followed by COVID-19 and cardiac disease. Together, these three causes represented 43% of maternal deaths during or up to six weeks after pregnancy.
- There were 38 deaths directly attributable to COVID-19 infection in the UK in 2020-22. COVID-19 thus remained the leading cause of indirect maternal death in 2020-22 with a maternal mortality rate of 1.98 per 100,000 maternities (95% CI 1.40-2.72) based on the number of maternities between March 2020 and December 2022, the period of the pandemic.
- If deaths directly attributable to COVID-19 are not considered, cardiac disease remains the largest single cause of indirect maternal deaths (1.77 per 100,000 maternities (95% CI 1.24-2.46).
- Deaths from psychiatric causes as a whole account for nearly 40% of deaths occurring within a year after the end of pregnancy, with maternal suicide remaining the leading cause of direct deaths in this period. The majority of maternal suicide deaths occurred between six weeks and a year after pregnancy.
- Women living in the most deprived areas continue to have the highest maternal mortality rates, emphasising the need for a continued focus on action to address these disparities.
- There remains a more than three-fold difference in MMR in the UK amongst women from Black ethnic backgrounds, and an almost two-fold difference amongst women from Asian ethnic backgrounds compared to white women.
- Twelve per cent of the women who died during or up to a year after pregnancy in the UK in 2020-22 were at severe and multiple disadvantage, the main elements of which were mental health diagnosis, substance use and domestic abuse.

Visit the MDE Ireland website.  
[Click here](#) or scan this QR code



### REFERENCES

1. Felker A, Patel R, Kotnis R, Kenyon S, Knight M (Eds.) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers' Care Core Report - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2020-22. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2024.
2. World Health Organisation (2012). The WHO Application of ICD-10 to deaths during pregnancy and the puerperium: ICD-MM. Available at: [www.who.int/reproductivehealth/publications/monitoring/9789241548458/en](http://www.who.int/reproductivehealth/publications/monitoring/9789241548458/en)

### CITATION FOR THIS DATA BRIEF

O'Hare MF, Manning E, Corcoran P, Greene RA on behalf of MDE Ireland. Confidential Maternal Enquiry in Ireland, Data Brief No 7. Cork: MDE Ireland, October 2024.