

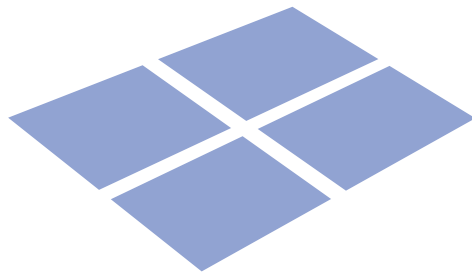
# The WHO Application of ICD-10 to deaths during pregnancy, childbirth and the puerperium: ICD-MM



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The WHO Application of  
**ICD-10 to deaths during  
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the puerperium: ICD-MM**



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## Abbreviations and acronyms

<b>AFLP</b>	acute fatty liver of pregnancy
<b>AIDS</b>	acquired immunodeficiency syndrome
<b>APH</b>	antepartum haemorrhage
<b>CHERG</b>	Child Health Epidemiology Reference Group
<b>FIGO</b>	Federation of Gynecology and Obstetrics
<b>HELLP</b>	haemolysis, elevated liver enzymes, low platelet count
<b>HIV</b>	human immunodeficiency virus
<b>HRP</b>	UNDP/UNFPA/WHO/World Bank Special Programme of Research Development and Research Training in Human Reproduction
<b>ICD</b>	International Statistical Classification of Diseases and Related Health Problems
<b>MDG</b>	Millennium Development Goal
<b>NEC</b>	not elsewhere classified
<b>NOS</b>	not otherwise specified
<b>PPH</b>	postpartum haemorrhage
<b>PV</b>	per vaginam
<b>UNDP</b>	United Nations Development Programme
<b>UNFPA</b>	United Nations Population Fund
<b>UNICEF</b>	United Nations Children's Fund
<b>USAID</b>	United States Agency for International Development
<b>VR</b>	vital registration
<b>WHO</b>	World Health Organization



## Executive summary

Reducing maternal mortality by 75% is the Millennium Development Goal 5a. To reach this goal, countries need an accurate picture of the causes and levels of maternal deaths. However, efforts to document the progress in decreasing maternal mortality must make adjustments for inconsistencies in country-reported maternal mortality. Completeness of maternal death reporting and accuracy of statements of causes of death need to be improved and may compromise the output resulting from subsequent standardized coding and classification according to the rules of the International Statistical Classification of Diseases (ICD).

The WHO *Application of ICD-10 to deaths during pregnancy, childbirth, and the puerperium: ICD-Maternal Mortality* (ICD-MM) is based upon the 10th revision of the ICD (ICD-10) and its coding rules. It is intended to facilitate the consistent collection, analysis and interpretation of information on maternal deaths. Improved reporting will also facilitate the coding of conditions. This document is primarily intended to assist health-care providers, those who complete death certification by clarifying the application of the ICD-10 and standardizing the identification of direct and indirect maternal deaths. Its principles should be applicable for categorizing deaths data collected through civil registration, surveys, hospital information systems, verbal autopsies, confidential enquiries and other special studies.

### **The accompanying appendices and tables**

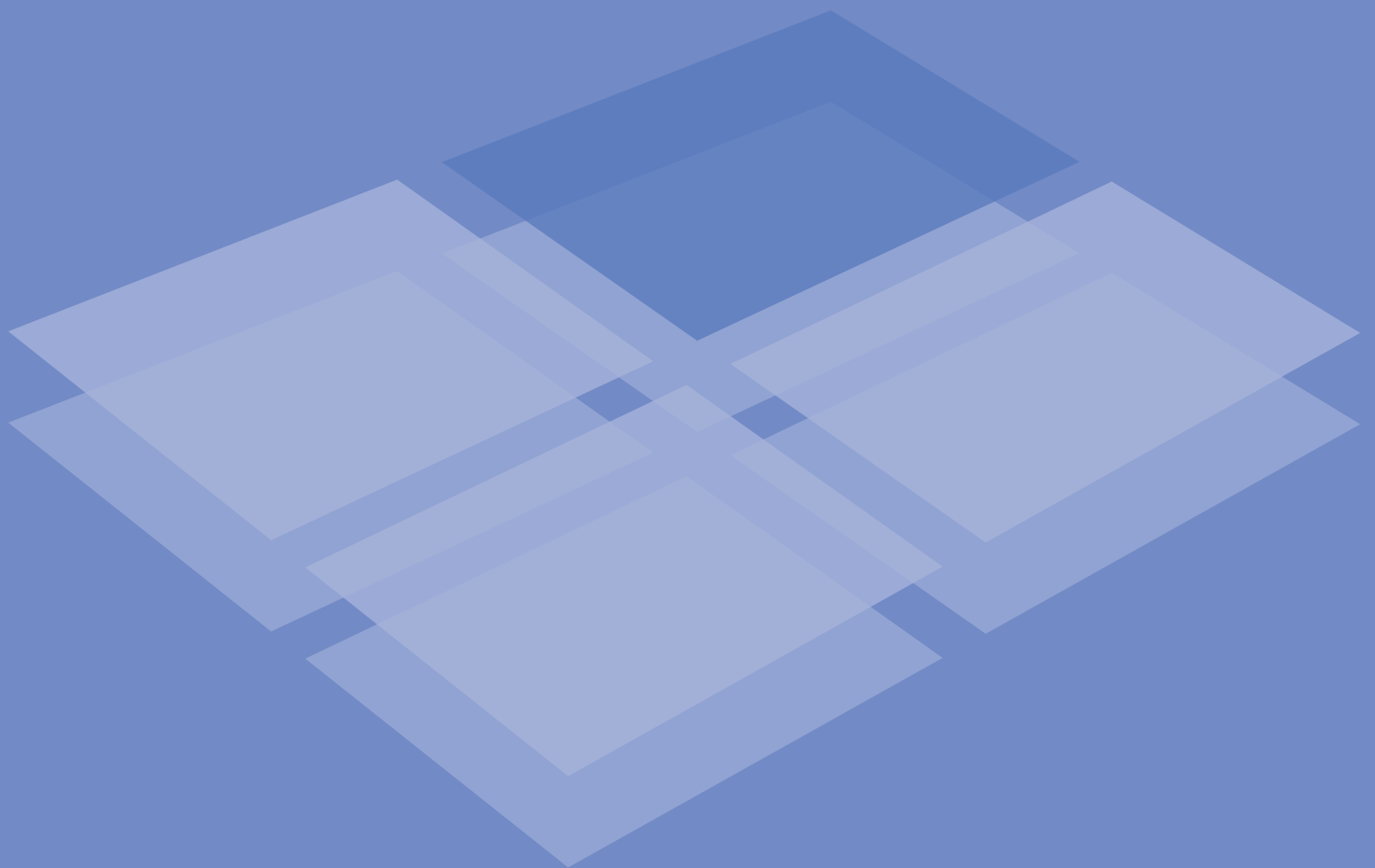
- facilitate consistent reporting of the clinical conditions,
- identify conditions and codes which are unlikely causes of death but may have contributed to death,
- indicate which causes of death are counted as direct or indirect maternal deaths.

### **Ultimately, standardization of the cause of death attribution will improve:**

- interpretation of data on maternal mortality,
- analysis on the causes of maternal death,
- allocation of resources and programmes intended to address maternal mortality.

Applying ICD-MM will decrease errors in coding and improve cause of maternal death attribution. This will enhance usability and comparability of maternal mortality statistics generated from ICD data. It is recommended that countries adopt the ICD-MM, and statistical offices and academicians collect data according to the ICD-MM.

**The guide should always be used in conjunction with the three volumes of ICD-10. The suggested code should be verified and possible additional information should be coded using the full ICD-10, Volumes 1 and 3; rules for selection of underlying cause of death and certification of death apply in the way they are described in ICD-10 Volume 2.**



## Introduction

Reducing maternal mortality is one of the key targets within the Millennium Development Goals (MDGs). To reach this target, countries need an accurate picture of the levels and causes of maternal deaths (1). A majority of countries use the International statistical classification of diseases and related health problems, Tenth revision (ICD-10) as the standard tool to guide their collection, coding, tabulation and reporting of mortality statistics based on civil registration (2).

In the ICD-10, deaths with a causal and/or temporal relationship to pregnancy are characterized and defined as maternal deaths due to direct or indirect causes, deaths during pregnancy, childbirth and puerperium, or late maternal deaths (see Box 3). Despite guidance within the ICD and definitions that describe discrete entities, in practice, the identification, reporting and consequent classification of maternal death are inconsistent (3). There remains apparent confusion between symptoms, signs and diseases, and which conditions should be reported and accordingly tabulated as cause of death. The reporting also impacts on the ability of coding to either indirect maternal or incidentally maternal deaths. An analysis of cause of maternal death data found variation in the way deaths are reported in different countries (3).

A range of conditions that are frequently reported have different public health impact in view of progress in measures to improve pregnancy outcomes and reducing the maternal mortality such as obstructed labour, anaemia, or HIV. Specific rationale and explanations and motivation for their revised handling are given later in this document (page 21).

An immediate consequence of the inconsistency in death attribution, reporting, and resulting coding, is misclassification and underreporting of maternal deaths extracted from vital registration (VR), which in turn may bias understanding of the magnitude and causes of maternal death (4–13). The implication

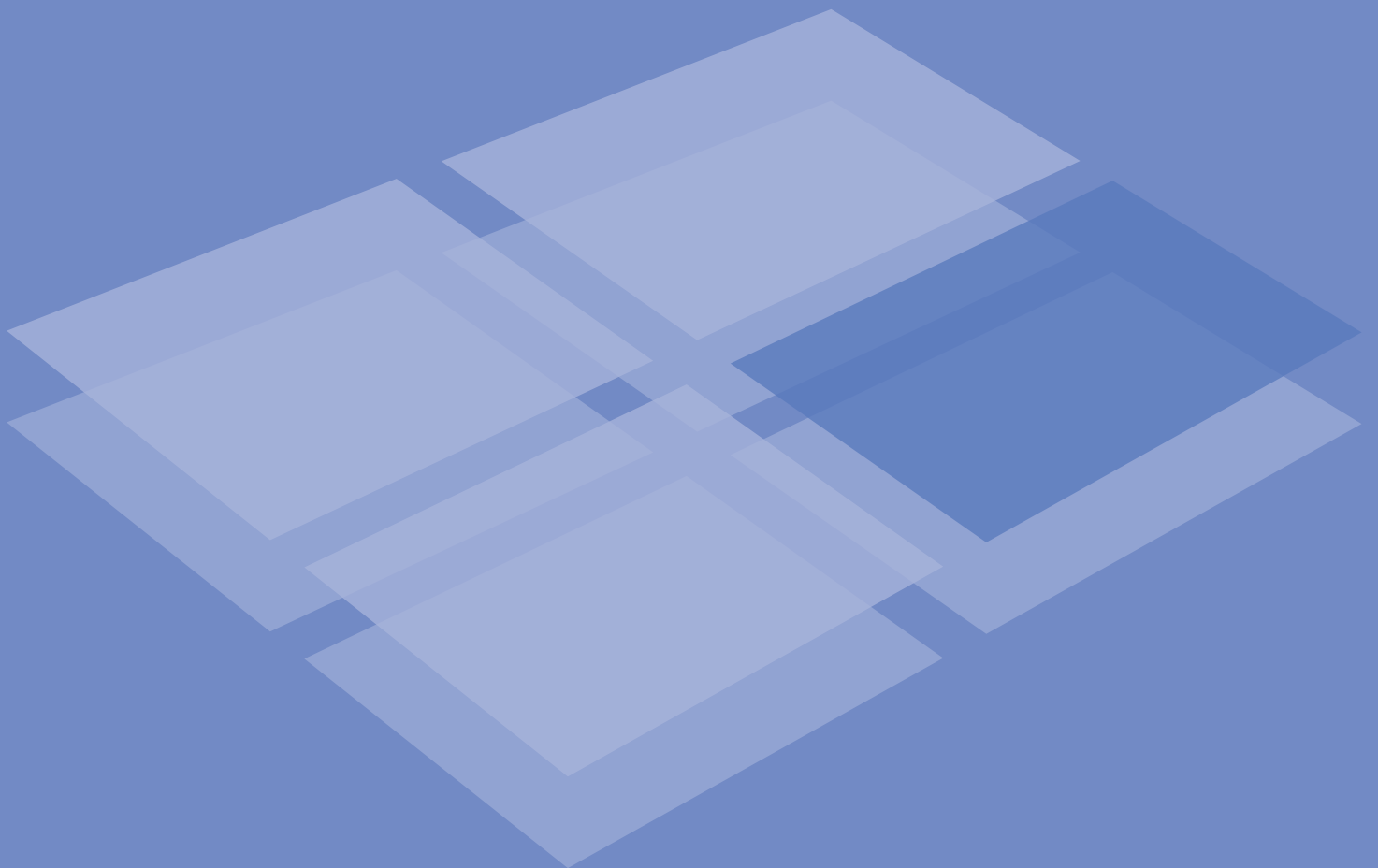
of this bias on programmatic work and public health policies then becomes readily apparent. Recognizing the particular difficulty in identifying maternal deaths, the 43rd World Health Assembly in 1990 approved the addition of a “checkbox” to ICD death certificates to indicate whether a woman was pregnant, or had recently terminated/delivered a pregnancy at the time (14). This was incorporated into ICD-10 Volume 2 (2) and implemented in more than 30 countries (15).

In response to the ongoing need for a better understanding of the underlying causes of death, WHO initiated an activity aiming to develop, test and promote standardization of reporting and new ways of tabulating maternal causes of death, in line with ICD-10. The Application of ICD-10 to deaths in childbirth, pregnancy, and the puerperium is based upon the 10th revision of the ICD (ICD-10) and follows all rules for mortality coding as described in Volume 2 of the ICD. The application clarifies relevance of existing ICD-10 codes and related conditions and provides guidance to meaningful grouping of ICD categories to enable consistent application of ICD coding and rules to improve data collection and analysis.

This document presents:

- a brief summary of the development of this guide;
- a grouping system for identification of maternal deaths using existing ICD-10 codes, which countries can immediately implement.

This document is intended to be used by those charged with death certification. It is intended to guide their ability to document the pertinent information by clarifying which conditions should be considered underlying causes of death; thus, improving accurate death attribution. As a result, the information available to coders, programme managers, statistical offices, and academicians/ researchers will be improved.



## Development of the WHO Application of ICD-10 to deaths during pregnancy, childbirth, and the puerperium

The guide and groupings described here, based on ICD-10, were developed through a consultative process. WHO established a technical working group of obstetricians, midwives, epidemiologists and public health professionals from developing and developed countries to prepare this standard guide for capturing information relating to deaths during pregnancy, childbirth and the puerperium. The group adopted three principles for its work. First, the new guide and groupings should be practical and understood by its users (clinicians, coders, epidemiologists, programme managers, and researchers). Second, in line with ICD rules, detailed underlying cause categories should be mutually exclusive and should identify all of the conditions that are epidemiologically and/or clinically important. The clinically related conditions are aggregated in new groups that facilitate epidemiological analysis and health service planning and evaluation. Third, the way of grouping that results from this work does contribute to and will be compatible with the 11th revision of the ICD.

An alpha-draft of this guide, groupings, and the recommendations for classification was peer reviewed by more than 40 individuals, professional societies (e.g. the International Federation of Gynecology and Obstetrics (FIGO), the Royal College of Obstetricians and Gynaecologists, the American College of Obstetricians and Gynecologists, and the Canadian College of Obstetricians and Gynaecologists) and relevant international agencies. Following this feedback, a second version was tested on nine databases of maternal deaths: national registration and surveillance databases from Colombia, Jamaica, Mongolia and South Africa; other health facility based databases from Kenya, Malawi and Zimbabwe; and verbal autopsy data from Afghanistan and Nigeria. This was performed following the steps described in Box 1 .

Based on the experiences accumulated during the test with databases, and the input received from experts, a revised, beta-draft recommendation for groupings was prepared. This was reviewed

### Box 1

#### Steps taken for testing the guide

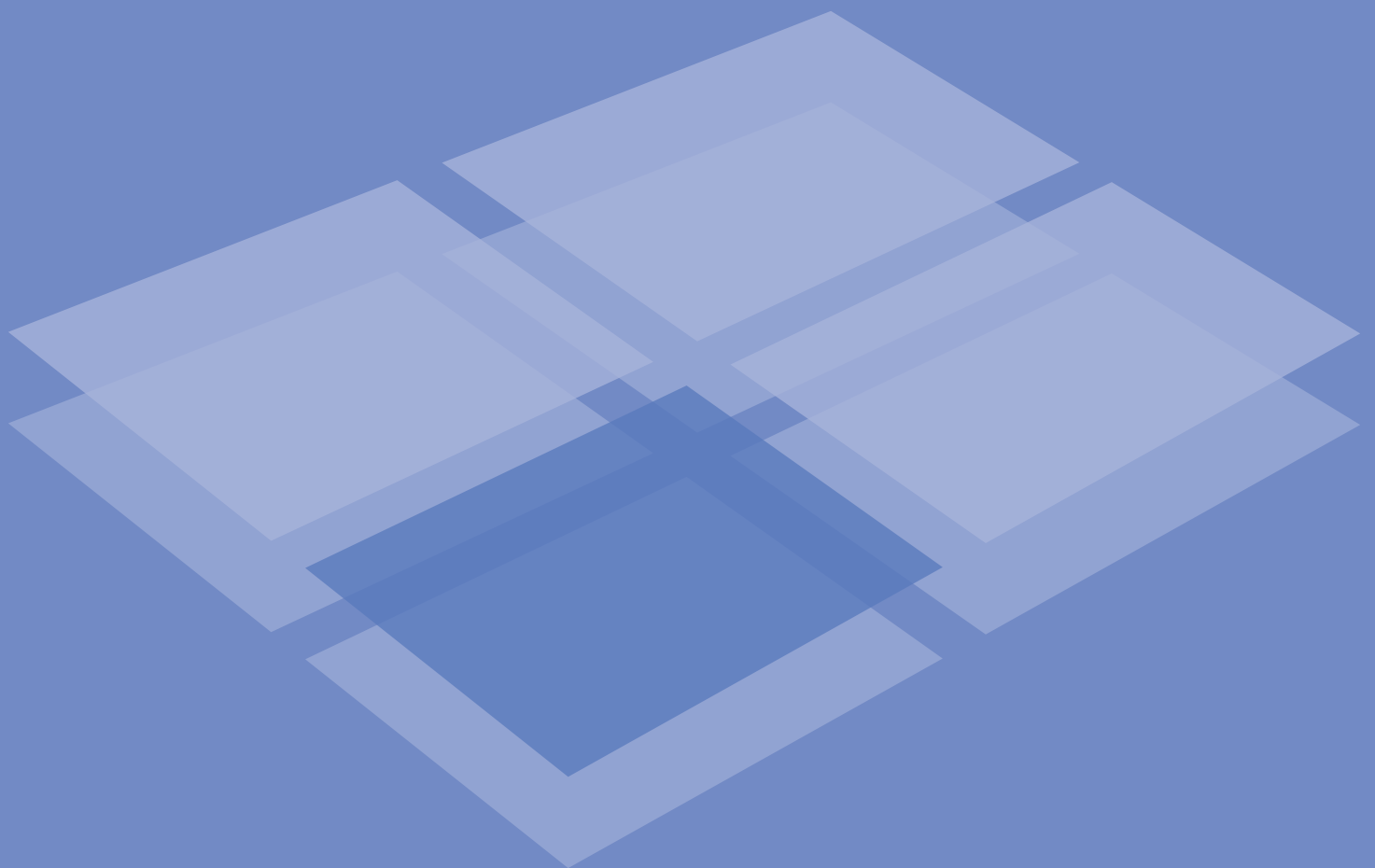
1. Identification and description of the denominator population.
2. Verification and description of data-collection procedures and methods (for the original set).
3. Assignment of causes of deaths by using the new groupings with respect to underlying causes and contributory conditions.
4. Determination of the proportion (%) of deaths that could not be classified with the new system, and determination of the reasons for nonclassification (e.g. category does not exist, category now within contributory factors and the real cause cannot be identified).
5. Comparison of differences on the distribution of causes as compared to previous attribution.
6. Assessment of the difficulty/ease of using the proposed system.
7. Identification of specific issues that would require prospective study.

by a wide range of stakeholders for further inputs and revision, and finalized by WHO. Interactions with the ICD Secretariat and the ICD-11 revision team were held in order to ensure consistency and compatibility between the proposed guide and the ICD.

This document is based upon ICD-10 codes and coding principles. However, in the course of this work, needs for additional and different detail not reflected in ICD-10 were identified, resulting in proposals for new codes to be included in the

ICD-11. Also the proposed groupings of categories shade a new light on needs of public health in maternal mortality and needs for future changes to ICD. As the revision towards ICD-11 is ongoing, the reader is referred to the web page available at <http://www.who.int/classifications/icd/revision/en/index.html> for further details on the process of revisions and suggested changes to the ICD. Once ICD-11 is released, any new codes pertinent to cause of death attribution in pregnancy, childbirth or the puerperium, will be added to future updates of this guide.







# The WHO Application of ICD-10 to deaths during pregnancy, childbirth and the puerperium

Understanding death certification, ICD terms and relationship to maternal deaths

## Cause of death: documentation and analysis

### Certification of cause of death

Cause of death is first determined by the certifier who reports the morbid conditions and events leading to the woman's death on a medical certificate of cause of death. It is essential that at this stage all relevant information is reported in a complete fashion. ICD-10 lays out the format of the medical certificate of cause of death, which is designed to help the certifier record the whole sequence of events leading to death in Part 1, in steps starting from the immediate cause on line 1a and going back to each earlier step on subsequent lines (top to bottom) until they get to the earliest event, usually the underlying cause. Part 1 should always include clear information about whether mutual aggravation between a disease and pregnancy lead to death (indirect maternal deaths).

Based on the ICD recommendations, countries produce their own forms for use in civil registration and provide accompanying instructions to certifiers/ doctors on how to complete them. Based upon a resolution approved by the 43rd World Health Assembly (WHA 43.24), ICD-10 recommends that countries should consider inclusion on death certificates questions about current pregnancy and pregnancy within one year preceding death (ICD-10 VOL 2 para 5.8.1). This has been shown to reduce underreporting of maternal deaths (16). It reminds the certifier to consider whether the death was due to a complication of pregnancy. Figure 1 gives an example of the medical certification of cause of death (MCCD).

Figure 1. Example of the medical certification of cause of death (MCCD).

Cause of death <i>the disease or condition thought to be the underlying cause should appear in the lowest completed line of part I</i>	Approximate interval between onset and death
<b>Part I</b> Disease or condition leading directly to death a)	
<b>Antecedent causes:</b> Due to or as a consequence of b)	
Due to or as a consequence of c)	
Due to or as a consequence of d)	
<b>Part II Other significant conditions</b> Contributing to death but not related to the disease or condition causing it	
The woman was: <input type="checkbox"/> pregnant at the time of death <input type="checkbox"/> not pregnant at the time of death (but pregnant within 42 days) <input type="checkbox"/> pregnant within the past year	

Countries may add tick boxes to the form of medical certificate of cause of death (MCCD) to indicate pregnancy.

## Coding cause of death

A trained coder then codes the conditions mentioned on the death certificate and after applying the ICD-10 rules for coding and selection assigns a single ICD-10 code for the single underlying cause of death. The pregnancy tick box informs the coder to consider whether the death might be coded to a maternal death. For indirect maternal deaths, it is essential that in Part 1 of the certificate there is a clear statement about mutual aggravation between the pregnancy and the disease leading to death.

## Analysing cause of death

Statisticians or analysts then aggregate these ICD codes into epidemiologically and clinically meaningful groups and publish mortality statistics. This statistical information is used by multiple stakeholders, whose objectives may differ, but all users rely heavily on the *quality, accuracy* and *consistency* of the data.

### Box 2

#### ICD-10 terminology

*Underlying cause of death* is defined as the disease or condition that initiated the morbid chain of events leading to death or the circumstances of the accident or violence that produced a fatal injury. The single identified cause of death should be as specific as possible.

If the death certificate has been completed correctly, the underlying cause of death should normally be the single condition which the certifier has written on the lowest used line of Part 1. The mortality selection and modification rules in Volume 2 of ICD-10 have been developed to enable coders to select the most useful information on cause of death for public health purposes as the single underlying cause, even when the certificate is not completed correctly or where it is important to consider/combine information from other parts of the certificate.

In multiple cause coding, all of the conditions on the death certificate are assigned ICD codes and retained for statistical analysis. These include other contributory conditions in the sequence in Part 1 and conditions in Part 2. *Contributory cause* is used here to include conditions that may exist prior to development of the underlying cause of death or develop during the chain of events leading to death and which, by its nature, contributed to the death. In this document however, contributory conditions also refers to conditions that might be reported in Part 1 of the certificate.<sup>1</sup>

Interested readers are also referred to detailed training on ICD which can be found online apps. [who.int/classifications/apps/icd/icd10training/](http://who.int/classifications/apps/icd/icd10training/) or downloaded for offline use: [apps.who.int/classifications/apps/icd/ClassificationDownload/DLArea/OfflineTrainingPackage.zip](http://apps.who.int/classifications/apps/icd/ClassificationDownload/DLArea/OfflineTrainingPackage.zip)

This WHO guide and its revised groupings of maternal deaths were developed in relation to mortality data derived from civil registration with medical certification of cause of death. However, it can be used in other settings, e.g. where the cause of death is determined by verbal autopsy, survey or confidential enquiry.

Using existing ICD-10 codes, this document identifies those conditions that may be a potential cause of death and are of high public health and distinguishes them from those that are unlikely to cause death but may have contributed to or been part of the course of events leading to death.

Irrespective of setting, the guide and its groupings have been devised to capture at least the most important basic information on cause of death, while allowing for refinement with more specific details. At the most basic level, 'Deaths during pregnancy, childbirth or the puerperium' may be enumerated even in countries or areas where no information on cause of death is available. Mortality rates can then be compared with those based on data aggregated across all causes in areas where cause is available.

<sup>1</sup> In this document contributory causes refers to conditions that may be reported in Part 1 of the death certificate. These are also referred to as "intervening causes" within ICD terminology,

**Box 3****Definition of deaths in pregnancy, childbirth and the puerperium: ICD-10**

*Death occurring during pregnancy, childbirth and the puerperium* is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death (obstetric and non-obstetric).

**Maternal death**

A maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

Maternal deaths are subdivided into two groups:

- *direct obstetric deaths*: direct obstetric deaths are those resulting from obstetric complications of the pregnancy state (pregnancy, labour and the puerperium), from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above.
- *indirect obstetric deaths*: indirect obstetric deaths are those resulting from previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiologic effects of pregnancy.

**Late maternal death**

A late maternal death is the death of a woman from direct or indirect causes more than 42 days but less than one year after termination of pregnancy.

### ***Application of ICD-10 to deaths during pregnancy, childbirth and the puerperium***

This document standardizes identifying relevant causes of death and ensures their accurate reporting. In such way conditions can be coded in a more detailed way and the quality of information related to maternal death (see Box 3) will improve. With training on the rationale of death certification and how the derivative data are used, certifiers will be better able to complete death certificates with meaningful data. ICD coding rules are not affected by the re-grouping of ICD codes, and in fact the standardization of maternal underlying causes of death codes ensures that ICD coding rules are followed. In countries that collect VR data based on medical certification, trained coders code the cause of death to the highest level of detail per ICD-10 coding convention.

In settings where the cause of death is identified by verbal autopsy or similar data gathering from reporters who have not been trained in clinical diagnosis or certification of cause of death, it may only be possible to classify causes of death to relatively broad groups. It has often been necessary for clinicians to reformulate the histories from lay reporters into sequences in the ICD death certificate format to identify the underlying cause even at this broad group level.

Annex A provides an electronic link to an excel sheet indicating the group for each existing ICD-10 code in Chapter XV. Additionally, tools to assist in the implementation of this guide and its groupings and to synergize with maternal death review and audit processes are also in development.

### ***Analysis of underlying causes of death***

In order to foster a common framework for international comparisons, categories of underlying causes of death were aggregated in nine groups of causes of death during pregnancy, childbirth and the puerperium. These groups are clinically and epidemiologically relevant, mutually exclusive and totally inclusive and descriptive of all causes of maternal and pregnancy-related deaths. Furthermore, they simplify the characterization of maternal deaths, whether due to direct and indirect causes.<sup>2</sup>

Table 1 presents the nine groups of causes during pregnancy, childbirth and the puerperium, with examples of corresponding conditions to be included in each group. Clinically, conditions that may result in mortality may also cause morbidity and these specified as conditions that should be identified as underlying cause of maternal deaths. A complete listing of conditions that may be underlying causes of either death or maternal morbidity is detailed in Annexes B1, B2, and B3.

In some settings, the underlying cause of death may only be identified at the broad level of the group, whereas in other areas, the cause of death may be attributed with more detail, at category or subcategory level. In practice, consistent allocation of deaths to broad groups may be more difficult than actual consistent coding to detailed ICD codes and subsequent aggregation into larger groups. In either case, it is essential to have a good understanding of the meaning of terms used in that setting to describe cause of death and accurate and consistent indexing of all such terms to the correct category at whatever level of detail is in

use. Note that any local modifications of the nine groups into categories and subcategories will not affect the overall standardization of attribution of cause of death or its classification and definition as a “maternal death”, or “death during pregnancy, childbirth and the puerperium”.

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<sup>2</sup> An important rationale for creating these groupings is to clarify and standardize the reporting of conditions considered to have high public health impact. The coding of the identified conditions, correctly filled in on death certificates, follows coding procedures described in ICD-10 Volume 2. From the perspective of analysis, these are labelled *single underlying cause of death* as consistent with the ICD.

**Table 1**

**Groups of underlying causes of death during pregnancy, childbirth and the puerperium in mutually exclusive, totally inclusive groups<sup>3</sup>**

<b>Type</b>	<b>Group name/number</b>	<b>EXAMPLES of potential causes of death</b>
Maternal death: direct	1. Pregnancies with abortive outcome	Abortion, miscarriage, ectopic pregnancy and other conditions leading to maternal death and a pregnancy with abortive outcome
Maternal death: direct	2. Hypertensive disorders in pregnancy, childbirth, and the puerperium	Oedema, proteinuria and hypertensive disorders in pregnancy, childbirth and the puerperium
Maternal death: direct	3. Obstetric haemorrhage	Obstetric diseases or conditions directly associated with haemorrhage
Maternal death: direct	4. Pregnancy-related infection	Pregnancy-related, infection-based diseases or conditions
Maternal death: direct	5. Other obstetric complications	All other direct obstetric conditions not included in groups to 1–4
Maternal death: direct	6. Unanticipated complications of management	Severe adverse effects and other unanticipated complications of medical and surgical care during pregnancy, childbirth or the puerperium
Maternal death: indirect	7. Non-obstetric complications	Non-obstetric conditions <ul style="list-style-type: none"> <li>• Cardiac disease (including pre-existing hypertension)</li> <li>• Endocrine conditions</li> <li>• Gastrointestinal tract conditions</li> <li>• Central nervous system conditions</li> <li>• Respiratory conditions</li> <li>• Genitourinary conditions</li> <li>• Autoimmune disorders</li> <li>• Skeletal diseases</li> <li>• Psychiatric disorders</li> <li>• Neoplasms</li> <li>• Infections that are not a direct result of pregnancy</li> </ul>
Maternal death: unspecified	8. Unknown/undetermined	Maternal death during pregnancy, childbirth and the puerperium where the underlying cause is unknown or was not determined
Death during pregnancy, childbirth and the puerperium	9. Coincidental causes	Death during pregnancy, childbirth and the puerperium due to external causes

<sup>3</sup> See Annex A and B1 for complete enumeration and details

## Conditions unlikely to cause death but may have contributed to the events leading to death (Contributory conditions)

The section describes conditions that may have contributed to or may be associated with, but should not to be reported as sole condition on the death certificate or selected as the underlying cause of death. *Contributing causes may predispose women to death, as either a pre-existing condition or a risk factor.* For example, in a woman with twin gestation, whose delivery is complicated by uterine atony and postpartum bleeding, hypovolaemic shock, disseminated intravascular coagulopathy and renal failure. In this case, using multiple cause coding, the contributory conditions include twin gestation (ICD code O30.0), shock, DIC, and renal failure whereas the underlying cause of death is postpartum haemorrhage resulting from uterine atony (ICD-10 code O72.1). If only single cause coding is used, only the underlying cause of death, postpartum haemorrhage (uterine atony), O72.1 would be recorded.

Annex B2 presents a separate tabular list of the conditions unlikely to cause death, these 'contributory' codes that may be used in multiple cause of death coding to describe maternal morbidities associated with pregnancy, childbirth or the puerperium. It is possible that more than one contributory condition may exist, and in this circumstance, multiple coding for these conditions is recommended. These codes are not to be selected as underlying cause of death, because they do not capture the most useful information needed for health service and public health interventions to prevent further deaths.

In the example above, the other diagnoses of hypovolaemic shock, disseminated intravascular coagulopathy and renal failure are complications, and these are indicated in Part 1 of the death certificate. It is necessary to document the complications that resulted in the death, as this might help in developing treatment protocols to prevent such complications in the future. Further,

a pattern can be detected that may help in the management of similar women in the future. Complications encompass significant morbidities such as organ system dysfunction, and the codes for these conditions are found in the morbidity list.

Annexes B1 and B2 presents clinically and epidemiologically relevant conditions to be considered as possible morbidities.

**Applicability:** The following examples are intended illustrate the format of death certificate completion, documenting the sequence of events from the underlying cause to the immediate cause of death and the feasibility of applying the groupings in practice.

**EXAMPLE 1**

A woman who had anaemia during pregnancy and after delivery had a postpartum haemorrhage due to uterine atony, and died as a result of hypovolaemic shock.

**Medical certificate of cause of death**

Cause of death <i>the disease or condition thought to be the underlying cause should appear in the lowest completed line of Part I</i>		Approximate interval between onset and death
1. Disease or condition leading directly to death	(a) hypovolaemic shock  A contributory cause indicated in Part 1. This is assigned a code when multiple cause coding is undertaken	10 minutes
Antecedent causes: Due to or as a consequence of	(b) postpartum haemorrhage	30 minutes
Due to or as a consequence of	(c) uterine atony  The underlying cause. This is the last condition noted in Part 1 and is a condition found in Annex B1	45 minutes
Due to or as a consequence of	(d)	
2. Other significant conditions Contributing to death but not related to the disease or condition causing it	Anaemia	pre-existing
The woman was: <input checked="" type="checkbox"/> pregnant at the time of death <input type="checkbox"/> not pregnant at the time of death (but pregnant within 42 days) <input type="checkbox"/> pregnant within the past year		

If deceased was a woman, was she pregnant when she died or within 42 days before she died ? Yes

*(Part I shaded for purposes of the example)*

**EXAMPLE 2**

A woman infected with HIV who has a spontaneous abortion that becomes infected, and dies due to septic shock and renal failure.

**Medical certificate of cause of death**

Cause of death <i>the disease or condition thought to be the underlying cause should appear in the lowest completed line of Part I</i>		Approximate interval between onset and death
1. Disease or condition leading directly to death	(a) renal failure  A contributory condition, indicated in Part 1	2 hours
Antecedent causes: Due to or as a consequence of	(b) septic shock	24 hours
Due to or as a consequence of	(c) septic miscarriage  The underlying cause. This is the last condition noted in Part 1 and is a condition found in Annex B	36 hours
Due to or as a consequence of	(d)	
2. Other significant conditions Contributing to death but not related to the disease or condition causing it	HIV  A contributory condition, indicated in Part IIB	pre-existing
The woman was: <input checked="" type="checkbox"/> pregnant at the time of death <input type="checkbox"/> not pregnant at the time of death (but pregnant within 42 days) <input type="checkbox"/> pregnant within the past year		

If deceased was a woman, was she pregnant when she died or within 42 days before she died ? Yes  
(Part I shaded for purposes of the example)

**Verbal autopsy**

In some settings, maternal deaths are ascertained by verbal autopsy. Once the relevant details are extracted from the verbal autopsy, the maternal death guide and its groupings may also be used to standardize the information regarding cause of death, see Example 3 (17).

**EXAMPLE 3**

This was the woman's third pregnancy and she had not had any complications during the first two deliveries. She did not have any tetanus toxoid vaccination or antenatal consultation by a doctor or nurse in any of her pregnancies because of her religious beliefs. She ate normally and her health was good, although she sometimes suffered from headaches at which time she liked to lie down on her bed. After six months of pregnancy she became unable to see at night but no consultation with a doctor was arranged for this problem. She did not develop any bodily swelling.

When she was nine months pregnant, it was one day before her death, she went into labour at about 7 o'clock in the evening and she called her mother (who was a Dai) to the house. After she had finished her "esha" prayer at 9 o'clock in the evening, her labour pain increased a little. Her mother examined her



and felt that the baby's head was not yet close to the birth passage. At 11 o'clock at night her mother examined her again and found slight vaginal bleeding. She examined her a total of three times.

Around midnight, her labour pain increased again and after another hour her waters broke. After fifteen minutes of watery discharge, she had a normal delivery at 1 o'clock at night. After five minutes, her placenta was also normally delivered. During the delivery she had normal blood and water discharge.

Shortly after the delivery, she said that she felt dizzy and wanted to lie down. Her mother-in-law and sister-in-law (husband's brother's wife) were washing her baby. Suddenly she said she felt sick, she developed a headache and wanted to sit down. As soon as her sister-in-law helped her to sit on the bed she developed excessive vaginal bleeding. She then stood up on a jute mat, which became soaked with blood. After that, she was made to lie down but she still had excessive bleeding, which continued for another hour.

Her husband tried to fetch a doctor but he said he would not come until the morning. After an hour of excessive PV [per vaginam] bleeding, the woman's whole body had become cold and pale. The bleeding then began to slow down and she was given hot compresses. However, some time after the bleeding had reduced, she began to tremble and started to clench her teeth. After 30 minutes in that condition she became exhausted and remained on the bed with her eyes closed. At 5 o'clock in the early morning she had three hiccups and died.

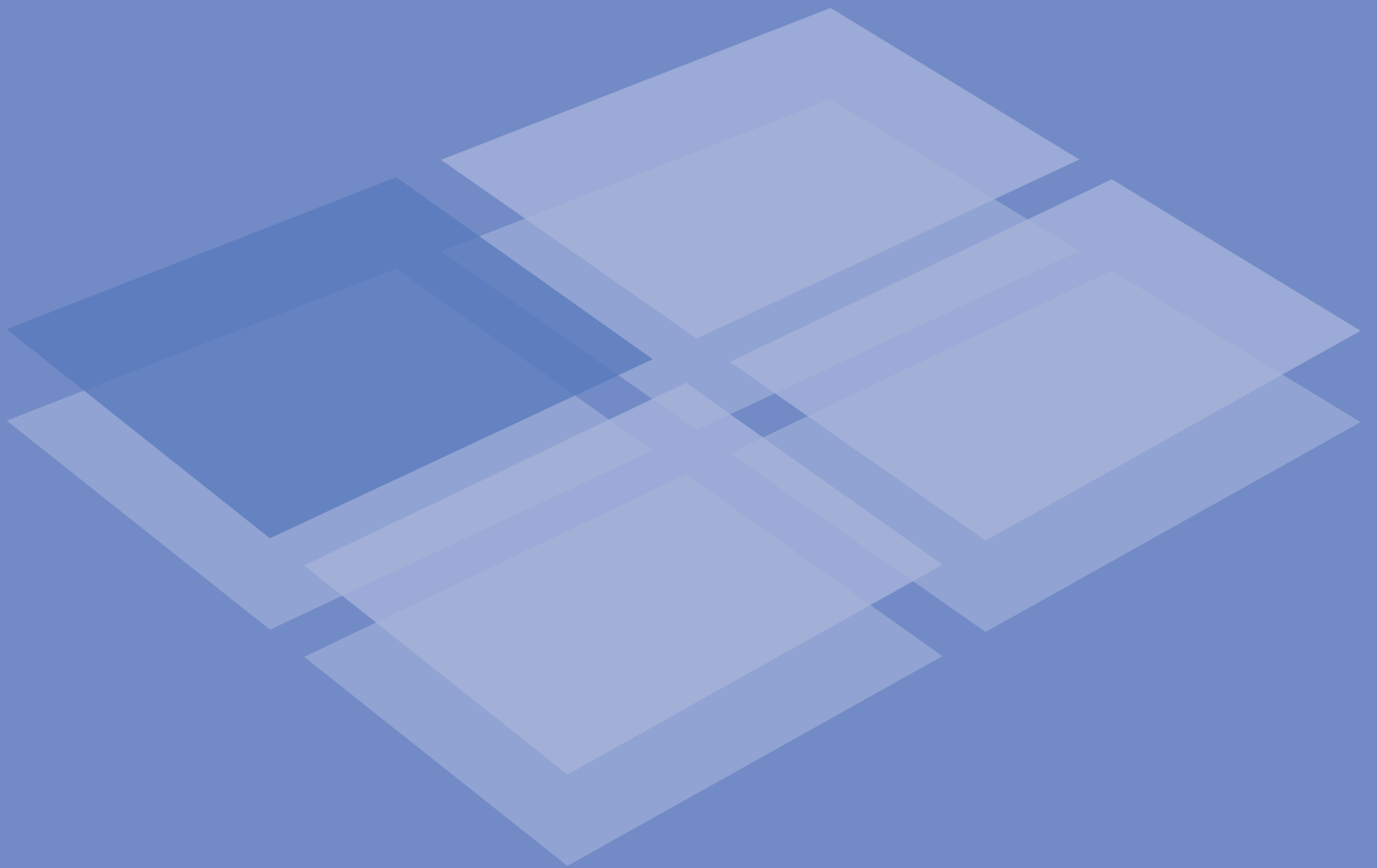
**Medical certificate of cause of death**

Cause of death <i>the disease or condition thought to be the underlying cause should appear in the lowest completed line of Part I</i>		Approximate interval between onset and death
1. Disease or condition leading directly to death	(a) postpartum haemorrhage	3 hours
Antecedent causes: Due to or as a consequence of	(b)	
Due to or as a consequence of	(c)	
Due to or as a consequence of	(d)	
2. Other significant conditions Contributing to death but not related to the disease or condition causing it	Lack of access to medical care to prevent or treat haemorrhage following normal vaginal delivery	
<p>The woman was:</p> <input checked="" type="checkbox"/> pregnant at the time of death <input type="checkbox"/> not pregnant at the time of death (but pregnant within 42 days) <input type="checkbox"/> pregnant within the past year		

The underlying cause. This is the last condition noted in Part 1 and is a condition found in Annex B

A contributory condition, indicated in Part II. No code is assigned because only single cause coding of deaths

If deceased was a woman, was she pregnant when she died or within 42 days before she died ? Yes  
*(Part I shaded for purposes of the example)*



## Specific explanations and motivations

### *Prolonged/obstructed labour*

The ICD-10 aims to capture the initiating step most relevant to public health in the sequence leading to death, because preventing this condition would prevent not just the death, but all of the illness, complications and disability that preceded it. Obstructed labour may be the start of a sequence leading to death, or may itself be due to some preceding condition such as contracted maternal pelvis or transverse fetal lie. In these cases, death might be prevented by access to operative delivery. However, there is evidence that many deaths may be mis-attributed to obstructed labour, leading to over-estimation of the proportion that could be prevented through operative delivery and underestimating the need for other services. In areas where deliveries are not attended by trained professionals and maternal mortality is high, very little information may be available about the sequence of events that lead to death, or about the progress of labour. The only information from lay reporters may be that the woman appeared to be in labour, or in pain, for a considerable time before death, and/ or that she died undelivered. These deaths may then be attributed to obstructed labour, without any good evidence that the condition really existed.

The WHO working group decided that it would be preferable only to accept the diagnosis if further evidence, for example the fatal complication of obstructed labour (e.g. ruptured uterus, uterine atony/haemorrhage or sepsis) was specified. In other words, certifiers should report more detail on the death certificate, than just obstructed labour. It should also be noted that this decision reflects the principles used to develop the groupings and the recommendations of the ICD, e.g., that the identified underlying cause must be mutually exclusive. The use of obstructed labour as an underlying cause alone is not sufficient, as exemplified by the case of uterine rupture associated with obstructed labour.

In this clinical scenario, there are two conditions but only the ruptured uterus can be considered the single underlying cause whereas obstructed labour may have multiple clinical outcomes as it not only contributes to the ruptured uterus but also other conditions such as puerperal sepsis.

At present, some countries report obstructed labour as a contributing condition while other countries report obstructed labour and ruptured uterus as causes of death. It is important to standardize this in order to permit informed analysis of comparable data on causes of death. Programmatically, the objective is to prevent obstructed labour, and, when not possible or once obstructed labour is diagnosed, the need is to identify the access to emergency obstetric care and the allocation of services (e.g. access to safe blood transfusion, antibiotics and postpartum care in the event of fistulas).

In practice, in settings where mortality is covered by vital registration, individual countries will be able to disaggregate national data by both underlying cause and contributory causes, where multiple cause reporting and analysis is feasible, ensuring that no loss of information occurs. In setting where information on maternal mortality is collected by other mechanisms such as maternal death audit, maternal death review or verbal autopsy, certifiers of death are informed by this guide that obstructed labour alone is insufficient as a cause of death, it is envisaged that they will be prompted to supply more information about the circumstances of death. As a result, programmes should be able to identify additional health interventions, such as access to safe blood transfusion and antibiotics, needed to prevent these deaths.

This additional level of detail is feasible and will increase the robustness of information available to programme managers and policy makers who are in the position to influence the quality and availability of care to avoid preventable maternal deaths.

This recommendation is predicated on the need for training of certifiers of death (health-care providers) to understand that a diagnosis of obstructed labour alone is usually insufficient. Where multiple cause coding is undertaken, the specification of this detail will be easily incorporated. However, in the circumstance that single cause of death coding is performed, if details surrounding the death of a woman who was diagnosed with obstructed labour are provided, these deaths will be coded as seen in Example 4. If no other information is provided (see Example 5), then coders would be obligated to use the codes for obstructed labour as the underlying cause of death. In both circumstances, the death

is considered a direct maternal death, counting each case of obstructed labour, but only Example 4 provides details on potential gaps in intrapartum care provision.

It is important to note that this description of reconciling data regarding obstructed labour is particular to ICD-10. With future revisions of ICD, it is anticipated that coding for obstructed labour and its associated conditions (e.g., haemorrhage, sepsis) will be simplified with the proposal of new linked codes that identify both concepts in one code and streamline single cause of death coding.

#### EXAMPLE 4

This was the woman's third pregnancy and she had not had any complications during the first two deliveries. She did not have any tetanus toxoid vaccination or antenatal consultation by a doctor or nurse in any of her pregnancies because of her religious beliefs. She ate normally and her health was good, although she sometimes suffered from headaches at which time she liked to lie down on her bed. After six months of pregnancy she became unable to see at night but no consultation with a doctor was arranged for this problem. She did not develop any bodily swelling.

A woman with a baby in breech position who experiences obstructed labour and dies of puerperal sepsis

- Underlying cause: Group 4, pregnancy-related infection
- Category: puerperal sepsis
- Contributing condition: obstructed labour due to fetal malpresentation

#### EXAMPLE 5

A woman who dies very soon after arriving at a health facility. She died undelivered, but health personnel at the facility are able to feel fetal parts on vaginal examination. The person accompanying her to the health facility is only able to indicate that she had "pains" for more than a day and a half.

- Underlying cause: Group 5, other obstetric complications
- Category: obstructed labour NOS (not otherwise specified)
- Contributing condition: no details

This change will indicate:

- the number of deaths that follow the development of obstructed labour,
- the number of women who die of conditions amenable to treatment such as blood transfusions or antibiotics, which will inform programmes on areas of need in the antenatal and intrapartum period.

### **HIV and AIDS**

There is a tendency in many parts of the world to attribute all deaths in people known to have HIV or AIDS to AIDS. However, such patients may die “from AIDS”, or “with HIV”. Temporal to pregnancy, it is useful to distinguish those deaths of HIV-infected women that should be considered maternal deaths.

In terms of dying “with HIV” or “from AIDS”, women may die from obstetric causes, e.g. incomplete abortion, complicated by haemorrhage or tetanus, or an ectopic pregnancy. These deaths are considered direct maternal deaths. In these cases, their HIV infection or AIDS might have coexisted at time of death but it is not the underlying cause of death.

In contrast, “AIDS related indirect maternal deaths” are deaths of HIV-infected women who die because of the aggravating effect of pregnancy on HIV. This interaction between pregnancy and HIV is the underlying cause of death. These are coded as O98.7 and categorized in Group 7 (non-obstetric complications). Proper reporting of the mutual influence of HIV or AIDS and pregnancy in Part 1 of the certificate will guide the coders.

On the other hand, a woman with HIV may die of one of the fatal complications of HIV or AIDS while pregnant, though this is probably a rare event since such severe illness makes pregnancy unlikely. An example may be when an HIV-positive woman who is in early pregnancy dies due to HIV wasting syndrome. Here the pregnancy is incidental to her underlying cause of death, which is HIV wasting syndrome. In these rare cases, HIV or AIDS is selected as the underlying cause of death and the appropriate code in block B20-B24 of ICD-10 selected. These are termed “HIV-related deaths to women during pregnancy, delivery or puerperium” and are *not* considered maternal deaths.

Classifying each and every case in terms of HIV status will give a clearer picture of the role of HIV and AIDS in maternal deaths. The convention of using O98.7 to describe indirect maternal deaths

and appropriate B codes to describe deaths of women when HIV or AIDS is the underlying cause and where pregnancy is incidental will reduce confusion and standardize statistical tabulation.

### **Anaemia**

With the exception of pre-existing disease such as sickle cell disease, or thalassaemia, anaemia may be secondary to infections, malnutrition, bleeding, etc. Anaemia rarely causes death on its own. In this guide and its groupings, anaemia is a factor contributing to maternal death. Even where anaemia complicates postpartum haemorrhage, it is still almost always the haemorrhage that caused the death.

### **Tetanus**

OB tetanus ( ICD 10 code A34) is a rare cause of maternal death. For the purposes of classification, in the absence of detailed information regarding the clinical course of infection, it is considered an DIRECT maternal cause of death within the group “pregnancy related infection”. Where there is evidence that tetanus exposure and infection is the result of an obstetric event, eg abortion or puerperal sepsis, the death is classified to the respective DIRECT cause of death.

### **Malnutrition**

This is not a disease entity causing death, but may have contributed to the death.

### **Female genital mutilation**

This is common in some areas of the world and may contribute the death of a woman due to the scarring causing prolonged labour and predisposing the women to uterine atony, puerperal sepsis or severe lower genital tract trauma due to tearing of the scar tissue.

### **Previous caesarean section**

This may have contributed to the death by promoting placenta accreta, uterine rupture or placenta praevia.

### Obesity, depression and domestic violence

Obesity is becoming an increasing problem, and by facilitating collection of these data on maternal deaths the impact of obesity on maternal deaths might be better understood. The same is true for depression and domestic violence as contributory conditions but it may be more difficult to collect the information on every case.

### Suicide

The ICD-10 and ICD-MM recommend collecting all pertinent information describing the events leading to death. Within ICD-10 coding convention, maternal deaths due to suicide and coded appropriately to the Chapter XX within vital registration data alone would not be considered within international maternal mortality estimation per current methodology.<sup>4</sup> However, when maternal deaths due to suicide are included within surveillance reporting, these would be included in the maternal mortality estimation studies dataset.

Antenatal and postpartum suicide are grouped in this guide under direct causes of death under the “Other” category. This is recommended even if it may not be possible to definitively establish the diagnosis of puerperal psychosis and/or postpartum




depression. ICD-10 categorizes suicides in the code range X60-X84 in the Chapter XX. Hence, maternal deaths due to suicide are identified when information about the pregnancy was indicated on the death certificate, either in Part 1, 2, or by the “tick box”.

Specific to late postpartum suicide occurring between 42 days and one year postpartum, these may receive an additional code O96.0 (late maternal death from direct obstetric cause) or if greater than one year postpartum. If the event occurs greater than one year postpartum and an established diagnosis of puerperal psychosis and/or postpartum depression exists, these may receive an additional code as death from sequelae of direct obstetric cause (O97.0).<sup>5</sup>

<sup>4</sup> The Maternal Mortality estimation Interagency Group publishes updates on global maternal mortality. The methodology describing how maternal deaths are identified within vital registration data can be found in the full report, *Trends in maternal mortality: 1990 to 2010 WHO, UNICEF, UNFPA and The World Bank estimates* (<http://www.who.int/reproductivehealth/publications/monitoring/9789241503631/en/index.html>) and ICD-10 Volume 2.

<sup>5</sup> For single condition coding and tabulation of the cause of death, the external cause describing the suicide should be used as the primary code. For multiple coding, the additional information on pregnancy related depression and the differentiation between late maternal and sequelae will be useful in the analysis of maternal causes of death.

Figure 2. All deaths (death during pregnancy, childbirth or puerperium)

ALL DEATHS (death during pregnancy, childbirth or puerperium)			
MATERNAL DEATH			OTHER DEATHS
<b>Direct maternal death:</b> <ul style="list-style-type: none"> <li>• abortive outcome</li> <li>• hypertensive disorders</li> <li>• obstetric haemorrhage</li> <li>• pregnancy related infection</li> <li>• other obstetric complications</li> <li>• unanticipated complications</li> </ul>	<b>In-direct maternal death:</b> <ul style="list-style-type: none"> <li>• non-obstetric complications</li> </ul> 	<b>Unknown Undetermined</b> 	<b>Coincidental</b> 

## Implications for practice and research

The guide and its groupings are expected to render a better assessment of conditions leading to death during pregnancy, childbirth and the puerperium. Applying this guide and its groupings should help to identify the real clinical causes and health-system shortfalls that countries need to address in order to reduce complications and fatal outcomes of pregnancy. Annex C provides additional suggestions of tools to facilitate implementation. The use of this guide and its groupings are recommended as part of the efforts to estimate and address the burden of maternal mortality around the world.

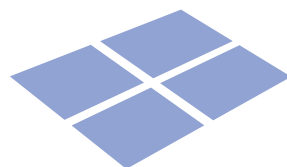
## Conclusion

The WHO Application of ICD-10 to deaths during pregnancy, childbirth and the puerperium builds upon the ICD-10 to create a useful framework for programme officers, health-care workers certifying deaths, and statistical offices and researchers. It has the potential to improve the quality of data derived from all sources of information on the cause of maternal death. This will improve comparability of data and inform the development of programmes to decrease maternal mortality.

Since the guide and its groupings build upon the ICD, end users will be familiar with the clinical concepts organized within the groupings of this guide. The advantage of this guide lies in that simplicity. Future research on the application of the guide and its groupings is necessary.

Achieving MDG5 will require an understanding of not only the magnitude but also the contribution of causes of death. Currently, about one third of WHO Member States/territories are able to provide high-quality VR data. Even so, it is recognized that misclassification of deaths that are temporal to pregnancy occurs in these data. The use of the guide, in addition to a pregnancy check box on death certificates, is intended to improve the accurate capture of data and its attribution.

For Member States and territories with some facility to capture VR events, the guide is poised to improve their quality of VR data on attribution of cause. Where data are collected by means of special surveys, the *Application of ICD-10 to Maternal Mortality: ICDMM* will improve comparability of data.



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## **Annex A: List of codes and ICD-MM groups**

A complete listing of ICD-10 codes and corresponding ICD-MM groups can be found online [www.who.int/reproductivehealth/publications/monitoring/9789241548458/en/](http://www.who.int/reproductivehealth/publications/monitoring/9789241548458/en/)

This list should always be used in conjunction with the three volumes of ICD-10. The suggested code should be verified and possible additional information should be coded using the full ICD-10, looking up the terms in Volume 3 and verifying the code with Volume 1; rules for certification and selection of the underlying cause of death apply in the way they are described in ICD-10 Volume 2.

## **Annex B1: Tabular List of ICD-10 codes that describe conditions which may causes of death (underlying cause)**

Codes in this section may be used in mortality or morbidity coding (unless the code is specifically specified as a mortality code)

Codes are grouped into the nine groups of obstetric causes of death, rather than the order of the tabular list in Volume 1 of the ICD-10, or its special tabulation lists and may not contain all codes within a block.

For the purposes of this guide, only conditions and associated codes in this section should be selected as underlying causes of deaths.

The annex should always be used in conjunction with the three volumes of ICD-10. The suggested code should be verified and possible additional information should be coded using the full ICD-10, Volumes 3 and 1; rules for certification of death apply in the way they are described in ICD-10 Volume 2. Further modifications as published in the 11th revision of the ICD may result in changes.

## Group 1: Pregnancy with abortive outcome

**Excl.:** continuing pregnancy in multiple gestation after abortion of one fetus or more (O31.1)

The following fourth-character subdivisions are for use with categories O03–O06:

Note: Incomplete abortion includes retained products of conception following abortion.

### **.0 Incomplete, complicated by genital tract and pelvic infection**

With conditions in O08.0

### **.1 Incomplete, complicated by delayed or excessive haemorrhage**

With conditions in O08.1

### **.2 Incomplete, complicated by embolism**

With conditions in O08.2

### **.3 Incomplete, with other and unspecified complications**

With conditions in O08.3–O08.9

### **.4 Incomplete, without complication**

### **.5 Complete or unspecified, complicated by genital tract and pelvic infection**

With conditions in O08.0

### **.6 Complete or unspecified, complicated by delayed or excessive haemorrhage**

With conditions in O08.1

### **.7 Complete or unspecified, complicated by embolism**

With conditions in O08.2

### **.8 Complete or unspecified, with other and unspecified complications**

With conditions in O08.3–O08.9

### **.9 Complete or unspecified, without complication**

## **O00 Ectopic pregnancy**

Incl.: ruptured ectopic pregnancy

Use additional code from category O08., if desired, to identify any associated complication.

### **O00.0 Abdominal pregnancy**

**Excl.:** delivery of viable fetus in abdominal pregnancy (O83.3)

maternal care for viable fetus in abdominal pregnancy (O36.7)

### **O00.1 Tubal pregnancy**

Fallopian pregnancy

Rupture of (fallopian) tube due to pregnancy

Tubal abortion

### **O00.2 Ovarian pregnancy**

### **O00.8 Other ectopic pregnancy**

Pregnancy:

- cervical
- cornual
- intraligamentous
- mural

### **O00.9 Ectopic pregnancy, unspecified**

## **O01 Hydatidiform mole**

Use additional code from category O08.-, if desired, to identify any associated complication.

**Excl.:** malignant hydatidiform mole (D39.2)

### **O01.0 Classical hydatidiform mole**

Complete hydatidiform mole

### **O01.1 Incomplete and partial hydatidiform mole**

### **O01.9 Hydatidiform mole, unspecified**

Trophoblastic disease NOS

Vesicular mole NOS

## **O02 Other abnormal products of conception**

Use additional code from category O08.-, if desired, to identify any associated complication.

**Excl.:** papyraceous fetus (O31.0)

### **O02.0 Blighted ovum and nonhydatidiform mole**

Mole:

- carneous
- fleshy
- intrauterine NOS

Pathological ovum

### **O02.1 Missed abortion**

Early fetal death with retention of dead fetus

**Excl.:** missed abortion with:

- blighted ovum (O02.0)
- mole:
  - hydatidiform (O01.-)
  - nonhydatidiform (O02.0)

### **O02.8 Other specified abnormal products of conception**

**Excl.:** those with:

- blighted ovum (O02.0)
- mole:
  - hydatidiform (O01.-)
  - nonhydatidiform (O02.0)

### **O02.9 Abnormal product of conception, unspecified**

## **O03 Spontaneous abortion**

[See before O03 for subdivisions]

**Incl.:** miscarriage

**004 Medical abortion**

[See before O03 for subdivisions]

**Incl.:** termination of pregnancy:

- legal
- therapeutic

therapeutic abortion

**005 Other abortion**

[See before O03 for subdivisions]

**006 Unspecified abortion**

[See before O03 for subdivisions]

**Incl.:** induced abortion NOS

**007 Failed attempted abortion**

**Incl.:** failure of attempted induction of abortion

**Excl.:** incomplete abortion (O03-O06)

**007.0 Failed medical abortion, complicated by genital tract and pelvic infection**

With conditions in O08.0

**007.1 Failed medical abortion, complicated by delayed or excessive haemorrhage**

With conditions in O08.1

**007.2 Failed medical abortion, complicated by embolism**

With conditions in O08.2

**007.3 Failed medical abortion, with other and unspecified complications**

With conditions in O08.3-O08.9

**007.4 Failed medical abortion, without complication**

Failed medical abortion NOS

**007.5 Other and unspecified failed attempted abortion, complicated by genital tract and pelvic infection**

With conditions in O08.0

**007.6 Other and unspecified failed attempted abortion, complicated by delayed or excessive haemorrhage**

With conditions in O08.1

**007.7 Other and unspecified failed attempted abortion, complicated by embolism**

With conditions in O08.2

**007.8 Other and unspecified failed attempted abortion, with other and unspecified complications**

With conditions in O08.3-O08.9

**007.9 Other and unspecified failed attempted abortion, without complication**

Failed attempted abortion NOS

## Group 2: Hypertensive disorders in pregnancy, childbirth and the puerperium

(note that O10, pre-existing hypertension is in Group 7)

### **O11** Pre-existing hypertensive disorder with superimposed proteinuria

*Incl.:* Conditions in O10.- complicated by increased proteinuria

Superimposed pre-eclampsia

### **O12** Gestational [pregnancy-induced] oedema and proteinuria without hypertension

**O12.0** Gestational oedema

**O12.1** Gestational proteinuria

**O12.2** Gestational oedema with proteinuria

### **O13** Gestational [pregnancy-induced] hypertension without significant proteinuria

*Incl.:* Gestational hypertension NOS

Mild pre-eclampsia

### **O14** Gestational [pregnancy-induced] hypertension with significant proteinuria

*Excl.:* superimposed pre-eclampsia (O11)

**O14.0** Moderate pre-eclampsia

**O14.1** Severe pre-eclampsia

**O14.2** HELLP syndrome

Combination of hemolysis, elevated liver enzymes and low platelet count

**O14.9** Pre-eclampsia, unspecified

### **O15** Eclampsia

*Incl.:* convulsions following conditions in O10-O14 and O16

eclampsia with pregnancy-induced or pre-existing hypertension

**O15.0** Eclampsia in pregnancy

**O15.1** Eclampsia in labour

**O15.2** Eclampsia in the puerperium

**O15.9** Eclampsia, unspecified as to time period

Eclampsia NOS

### **O16** Unspecified maternal hypertension

## Group 3: Obstetric Haemorrhage

### **O20** Haemorrhage in early pregnancy

*Excl.:* pregnancy with abortive outcome (O00-O08)

#### **O20.0** Threatened abortion

Haemorrhage specified as due to threatened abortion

#### **O20.8** Other haemorrhage in early pregnancy

#### **O20.9** Haemorrhage in early pregnancy, unspecified

### **O43** Placental disorders

*Excl.:* maternal care for poor fetal growth due to placental insufficiency (O36.5)

placenta praevia (O44.-)

premature separation of placenta [abruptio placentae] (O45.-)

#### **O43.2** Morbidly adherent placenta

### **O44** Placenta praevia

#### **O44.1** Placenta praevia with haemorrhage

Low implantation of placenta, NOS or with haemorrhage

Placenta praevia:

- marginal
- partial
- total

NOS or with haemorrhage

*Excl.:* labour and delivery complicated by haemorrhage from vasa praevia (O69.4)

### **O45** Premature separation of placenta [abruptio placentae]

#### **O45.0** Premature separation of placenta with coagulation defect

Abruptio placentae with (excessive) haemorrhage associated with:

- afibrinogenaemia
- disseminated intravascular coagulation
- hyperfibrinolysis
- hypofibrinogenaemia

#### **O45.8** Other premature separation of placenta

#### **O45.9** Premature separation of placenta, unspecified

Abruptio placentae NOS

### **O46** Antepartum haemorrhage, not elsewhere classified

*Excl.:* haemorrhage in early pregnancy (O20.-)

intrapartum haemorrhage NEC (O67.-)

placenta praevia (O44.-)

premature separation of placenta [abruptio placentae] (O45.-)

**O46.0 Antepartum haemorrhage with coagulation defect**

Antepartum haemorrhage (excessive) associated with:

- afibrinogenaemia
- disseminated intravascular coagulation
- hyperfibrinolysis
- hypofibrinogenaemia

**O46.8 Other antepartum haemorrhage**

**O46.9 Antepartum haemorrhage, unspecified**

**O67 Labour and delivery complicated by intrapartum haemorrhage, not elsewhere classified**

*Excl.:* antepartum haemorrhage NEC (O46.-)

placenta praevia (O44.-)

postpartum haemorrhage (O72.-)

premature separation of placenta [abruptio placentae] (O45.-)

**O67.0 Intrapartum haemorrhage with coagulation defect**

Intrapartum haemorrhage (excessive) associated with:

- afibrinogenaemia
- disseminated intravascular coagulation
- hyperfibrinolysis
- hypofibrinogenaemia

**O67.8 Other intrapartum haemorrhage**

Excessive intrapartum haemorrhage

**O67.9 Intrapartum haemorrhage, unspecified**

Rupture of uterus not stated

**O71 Other obstetric trauma**

*Incl.:* damage from instruments

**O71.0 Rupture of uterus before onset of labour**

**O71.1 Rupture of uterus during labour**

as occurring before onset of labour

**O71.3 Obstetric laceration of cervix**

Annular detachment of cervix

**O71.4 Obstetric high vaginal laceration alone**

Laceration of vaginal wall without mention of perineal laceration

*Excl.:* with perineal laceration (O70.-)

**O71.7 Obstetric haematoma of pelvis**

Obstetric haematoma of:

- perineum
- vagina
- vulva



**072 Postpartum haemorrhage**

*Incl.:* haemorrhage after delivery of fetus or infant

**072.0 Third-stage haemorrhage**

Haemorrhage associated with retained, trapped or adherent placenta

Retained placenta NOS

Use additional code, if desired, to identify any morbidly adherent placenta (O43-O45)

**072.1 Other immediate postpartum haemorrhage**

Haemorrhage following delivery of placenta

Postpartum haemorrhage (atonic) NOS

**072.2 Delayed and secondary postpartum haemorrhage**

Haemorrhage associated with retained portions of placenta or membranes

Retained products of conception NOS, following delivery

**072.3 Postpartum coagulation defects**

Postpartum:

- afibrinogenaemia
- fibrinolysis

## Group 4: Pregnancy-related infection

### **O23** Infections of genitourinary tract in pregnancy

- O23.0 Infections of kidney in pregnancy
- O23.1 Infections of bladder in pregnancy
- O23.2 Infections of urethra in pregnancy
- O23.3 Infections of other parts of urinary tract in pregnancy
- O23.4 Unspecified infection of urinary tract in pregnancy
- O23.5 Infections of the genital tract in pregnancy
- O23.9 Other and unspecified genitourinary tract infection in pregnancy  
Genitourinary tract infection in pregnancy NOS

### **O41.1** Infection of amniotic sac and membranes

- Amnionitis
- Chorioamnionitis
- Membranitis
- Placentitis

### **O75.3** Other infection during labour

- Sepsis during labour

### **O85** Puerperal sepsis

**Incl.:** Puerperal:

- endometritis
- fever
- peritonitis
- sepsis

Use additional code (B95-B98) , if desired, to identify infectious agent.

**Excl.:** obstetric pyaemic and septic embolism (O88.3)

sepsis during labour (O75.3)

### **O86** Other puerperal infections

Use additional code (B95-B98) , if desired, to identify infectious agent.

**Excl.:** infection during labour (O75.3)

### **O86.0** Infection of obstetric surgical wound

Infected:

- caesarean section wound following delivery
- perineal repair following delivery

### **O86.1** Other infection of genital tract following delivery

- Cervicitis
- Vaginitis following delivery

- O86.2 Urinary tract infection following delivery**  
Conditions in N10-N12, N15.-, N30.-, N34.-, N39.0 following delivery
- O86.3 Other genitourinary tract infections following delivery**  
Puerperal genitourinary tract infection NOS
- O86.4 Pyrexia of unknown origin following delivery**  
Puerperal:  
• infection NOS  
• pyrexia NOS  
**Excl.:** puerperal fever (O85)  
pyrexia during labour (O75.2)
- O86.8 Other specified puerperal infections**

**O91 Infections of breast associated with childbirth**

**Incl.:** the listed conditions during pregnancy, the puerperium or lactation

- O91.0 Infection of nipple associated with childbirth**  
Abscess of nipple:  
• gestational  
• puerperal
- O91.1 Abscess of breast associated with childbirth**  
Mammary abscess  
Purulent mastitis  
Subareolar abscess  
gestational or puerperal
- O91.2 Nonpurulent mastitis associated with childbirth**  
Lymphangitis of breast  
Mastitis:  
• NOS  
• interstitial  
• parenchymatous  
gestational or puerperal

## Group 5: Other obstetric complications

### O21.1 Hyperemesis gravidarum with metabolic disturbance

Hyperemesis gravidarum, starting before the end of the 22nd week of gestation, with metabolic disturbance such as:

- carbohydrate depletion
- dehydration
- electrolyte imbalance

### O21.2 Late vomiting of pregnancy

Excessive vomiting starting after 22 completed weeks of gestation

## O22 Venous complications in pregnancy

*Excl.:* obstetric pulmonary embolism (O88.-)

the listed conditions as complications of:

- abortion or ectopic or molar pregnancy (O00-O07 , O08.7)
- childbirth and the puerperium (O87.-)

### O22.3 Deep phlebothrombosis in pregnancy

Deep-vein thrombosis, antepartum

### O22.5 Cerebral venous thrombosis in pregnancy

Cerebrovenous sinus thrombosis in pregnancy

### O22.8 Other venous complications in pregnancy

### O22.9 Venous complication in pregnancy, unspecified

Gestational:

- phlebitis NOS
- phlebopathy NOS
- thrombosis NOS

### O24 Diabetes mellitus in pregnancy

Incl.: in childbirth and the puerperium

### O24.4 Diabetes mellitus arising in pregnancy

Gestational diabetes mellitus NOS

### O26.6 Liver disorders in pregnancy, childbirth and the puerperium

Cholestasis (intrahepatic) in pregnancy

Obstetric cholestasis

*Excl.:* hepatorenal syndrome following labour and delivery (O90.4)

### O26.9 Pregnancy-related condition, unspecified

## O71 Other obstetric trauma

Incl.: damage from instruments

### O71.2 Postpartum inversion of uterus

**071.5 Other obstetric injury to pelvic organs**

Obstetric injury to:

- bladder
- urethra

**071.6 Obstetric damage to pelvic joints and ligaments**

Avulsion of inner symphyseal cartilage

Damage to coccyx

Traumatic separation of symphysis (pubis)

Obstetric

**071.8 Other specified obstetric trauma**

**071.9 Obstetric trauma, unspecified**

**073 Retained placenta and membranes, without haemorrhage**

**073.0 Retained placenta without haemorrhage**

Use additional code, if desired, to identify any morbidly adherent placenta (O43-O45)

**073.1 Retained portions of placenta and membranes, without haemorrhage**

Retained products of conception following delivery, without haemorrhage

**075.4 Other complications of obstetric surgery and procedures**

Cardiac:

- arrest
- failure

Cerebral anoxia

following caesarean or other obstetric surgery or procedures, including delivery

NOS

*Excl.:* complications of anaesthesia during labour and delivery (O74.-)

obstetric (surgical) wound:

- disruption (O90.0-O90.1)
- haematoma (O90.2)
- infection (O86.0)

**075.8 Other specified complications of labour and delivery**

**075.9 Complication of labour and delivery, unspecified**

**087 Venous complications in the puerperium**

*Incl.:* in labour, delivery and the puerperium

*Excl.:* obstetric embolism (O88.-)

venous complications in pregnancy (O22.-)

**087.1 Deep phlebothrombosis in the puerperium**

Deep-vein thrombosis, postpartum

Pelvic thrombophlebitis, postpartum

**087.3 Cerebral venous thrombosis in the puerperium**

Cerebrovenous sinus thrombosis in the puerperium

**O87.9 Venous complication in the puerperium, unspecified**

Puerperal:

- phlebitis NOS
- phlebopathy NOS
- thrombosis NOS

**O88 Obstetric embolism**

Incl.: pulmonary emboli in pregnancy, childbirth or the puerperium

Excl.: embolism complicating abortion or ectopic or molar pregnancy (O00-O07 , O08.2)

**O88.0 Obstetric air embolism**

**O88.1 Amniotic fluid embolism**

Anaphylactoid syndrome of pregnancy

**O88.2 Obstetric blood-clot embolism**

Obstetric (pulmonary) embolism NOS

Puerperal (pulmonary) embolism NOS

**O88.3 Obstetric pyaemic and septic embolism**

**O88.8 Other obstetric embolism**

**O90 Complications of the puerperium, not elsewhere classified**

**O90.0 Disruption of caesarean section wound**

**O90.1 Disruption of perineal obstetric wound**

Disruption of wound of:

- episiotomy
- perineal laceration

Secondary perineal tear

**O90.2 Haematoma of obstetric wound**

**O90.3 Cardiomyopathy in the puerperium**

Conditions in I42.-

**O90.4 Postpartum acute renal failure**

Hepatorenal syndrome following labour and delivery

**O90.5 Postpartum thyroiditis**

**O90.8 Other complications of the puerperium, not elsewhere classified**

Placental polyp

**O90.9 Complication of the puerperium, unspecified**

## Direct deaths without an Obstetric code in ICD-10

**Note:** It is recognized that establishing a link between puerperal psychosis or depression may not be possible however, when suicide occurs temporal to pregnancy, childbirth, and the puerperium, these deaths will be considered as direct maternal deaths.

At present time, these underlying causes of death do not have an "O" code in ICD-10, It is advised that certifiers indicate on the death certificate the pregnancy status in order to minimize underreporting of suicide in pregnancy.

**(X60-X84) Intentional self-harm**

**Incl.:** purposely self-inflicted poisoning or injury  
suicide (attempted)

**X60 Intentional self-poisoning by and exposure to nonopioid analgesics,**

antipyretics and antirheumatics

**Incl.:** 4-aminophenol derivatives

nonsteroidal anti-inflammatory drugs [NSAID]

pyrazolone derivatives

salicylates

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**X61 Intentional self-poisoning by and exposure to antiepileptic, sedativehypnotic,**

antiparkinsonism and psychotropic drugs, not elsewhere classified

**Incl.:** antidepressants

barbiturates

hydantoin derivatives

iminostilbenes

methaqualone compounds

neuroleptics

psychostimulants

succinimides and oxazolidinediones

tranquillizers

**X62 Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified**

**Incl.:** cannabis (derivatives)

cocaine

codeine

heroin

lysergide [LSD]

mescaline

methadone

morphine

opium (alkaloids)

- X63 Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system**  
*Incl.:* parasympatholytics [anticholinergics and antimuscarinics] and spasmolytics  
parasympathomimetics [cholinergics]  
sympatholytics [antiadrenergics]  
sympathomimetics [adrenergics]
- X64 Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances**  
*Incl.:* agents primarily acting on smooth and skeletal muscles and the respiratory system  
anaesthetics (general)(local)  
drugs affecting the:  
• cardiovascular system  
• gastrointestinal system  
hormones and synthetic substitutes  
systemic and haematological agents  
systemic antibiotics and other anti-infectives  
therapeutic gases  
topical preparations  
vaccines  
water-balance agents and drugs affecting mineral and uric acid metabolism
- X65 Intentional self-poisoning by and exposure to alcohol**  
*Incl.:* alcohol:  
• NOS  
• butyl [1-butanol]  
• ethyl [ethanol]  
• isopropyl [2-propanol]  
• methyl [methanol]  
• propyl [1-propanol]  
fusel oil  
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- X66 Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours**  
*Incl.:* benzene and homologues  
carbon tetrachloride [tetrachloromethane]  
chlorofluorocarbons  
petroleum (derivatives)  
X67 Intentional self-poisoning by and exposure to other gases and vapours  
*Incl.:* carbon monoxide  
lacrimogenic gas [tear gas]  
motor (vehicle) exhaust gas  
nitrogen oxides  
sulfur dioxide  
utility gas  
*Excl.:* metal fumes and vapours (X69)



- X68 Intentional self-poisoning by and exposure to pesticides**  
*Incl.:* fumigants  
 fungicides  
 herbicides  
 insecticides  
 rodenticides  
 wood preservatives  
*Excl.:* plant foods and fertilizers (X69)
- X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances**  
*Incl.:* corrosive aromatics, acids and caustic alkalis  
 glues and adhesives  
 metals including fumes and vapours  
 paints and dyes  
 plant foods and fertilizers  
 poisonous foodstuffs and poisonous plants  
 soaps and detergents
- X70 Intentional self-harm by hanging, strangulation and suffocation**
- X71 Intentional self-harm by drowning and submersion**
- X72 Intentional self-harm by handgun discharge**
- X73 Intentional self-harm by rifle, shotgun and larger firearm discharge**
- X74 Intentional self-harm by other and unspecified firearm discharge**
- X75 Intentional self-harm by explosive material**
- X76 Intentional self-harm by smoke, fire and flames**
- X77 Intentional self-harm by steam, hot vapours and hot objects**
- X78 Intentional self-harm by sharp object**
- X79 Intentional self-harm by blunt object**
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- X80 Intentional self-harm by jumping from a high place**  
*Incl.:* intentional fall from one level to another
- X81 Intentional self-harm by jumping or lying before moving object**
- X82 Intentional self-harm by crashing of motor vehicle**  
*Incl.:* intentional collision with:  
 • motor vehicle  
 • train  
 • tram (streetcar)  
*Excl.:* crashing of aircraft (X83)
- X83 Intentional self-harm by other specified means**  
*Incl.:* intentional self-harm by:  
 • caustic substances, except poisoning  
 • crashing of aircraft  
 • electrocution
- X84 Intentional self-harm by unspecified means**

## Group 6 : Unanticipated complications of management

### Category: Anaesthesia

#### **029** Complications of anaesthesia during pregnancy

**Incl.:** maternal complications arising from the administration of a general or local anaesthetic, analgesic or other sedation during pregnancy

**Excl.:** complications of anaesthesia during:

- abortion or ectopic or molar pregnancy (O00-O08)
- labour and delivery (O74.-)
- puerperium (O89.-)

#### **029.0** Pulmonary complications of anaesthesia during pregnancy

Aspiration pneumonitis

Inhalation of stomach contents or secretions NOS

Mendelson's syndrome

Pressure collapse of lung

due to anaesthesia during pregnancy

#### **029.1** Cardiac complications of anaesthesia during pregnancy

Cardiac:

- arrest
- failure

due to anaesthesia during pregnancy

#### **029.2** Central nervous system complications of anaesthesia during pregnancy

Cerebral anoxia due to anaesthesia during pregnancy

#### **029.3** Toxic reaction to local anaesthesia during pregnancy

#### **029.5** Other complications of spinal and epidural anaesthesia during pregnancy

#### **029.6** Failed or difficult intubation during pregnancy

#### **029.8** Other complications of anaesthesia during pregnancy

#### **029.9** Complication of anaesthesia during pregnancy, unspecified

#### **074** Complications of anaesthesia during labour and delivery

**Incl.:** maternal complications arising from the administration of a general or local anaesthetic, analgesic or other sedation during labour and delivery

#### **074.0** Aspiration pneumonitis due to anaesthesia during labour and delivery

Inhalation of stomach contents or secretions NOS

Mendelson's syndrome due to anaesthesia during labour and delivery

#### **074.1** Other pulmonary complications of anaesthesia during labour and delivery

Pressure collapse of lung due to anaesthesia during labour and delivery

- 074.2 Cardiac complications of anaesthesia during labour and delivery**
  - Cardiac:
  - arrest
  - failuredue to anaesthesia during labour and delivery
- 074.3 Central nervous system complications of anaesthesia during labour and delivery**
  - Cerebral anoxia due to anaesthesia during labour and delivery
- 074.4 Toxic reaction to local anaesthesia during labour and delivery**
- 074.6 Other complications of spinal and epidural anaesthesia during labour and delivery**
- 074.7 Failed or difficult intubation during labour and delivery**
- 074.8 Other complications of anaesthesia during labour and delivery**
- 074.9 Complication of anaesthesia during labour and delivery, unspecified**

## **089**

### **Complications of anaesthesia during the puerperium**

*Incl.:* maternal complications arising from the administration of a general or local anaesthetic, analgesic or other sedation during the puerperium

- 089.0 Pulmonary complications of anaesthesia during the puerperium**
  - Aspiration pneumonitis
  - Inhalation of stomach contents or secretions NOS
  - Mendelson's syndrome
  - Pressure collapse of lungdue to anaesthesia during the puerperium
- 089.1 Cardiac complications of anaesthesia during the puerperium**
  - Cardiac:
  - arrest
  - failuredue to anaesthesia during the puerperium
- 089.2 Central nervous system complications of anaesthesia during the puerperium**
  - Cerebral anoxia due to anaesthesia during the puerperium
- 089.3 Toxic reaction to local anaesthesia during the puerperium**
- 089.5 Other complications of spinal and epidural anaesthesia during the puerperium**
- 089.6 Failed or difficult intubation during the puerperium**
- 089.8 Other complications of anaesthesia during the puerperium**
- 089.9 Complication of anaesthesia during the puerperium, unspecified**
  - Category: Other obstetric surgery and procedures

## Group 7: Non-obstetric complications

### **O10** Pre-existing hypertension complicating pregnancy, childbirth and the puerperium

*Incl.:* the listed conditions with pre-existing proteinuria

*Excl.:* that with increased or superimposed proteinuria (O11)

#### **O10.0** Pre-existing essential hypertension complicating pregnancy, childbirth and the puerperium

Any condition in I10 specified as a reason for obstetric care during pregnancy, childbirth or the puerperium

#### **O10.1** Pre-existing hypertensive heart disease complicating pregnancy, childbirth and the puerperium

Any condition in I11.- specified as a reason for obstetric care during pregnancy, childbirth or the puerperium

#### **O10.2** Pre-existing hypertensive renal disease complicating pregnancy, childbirth and the puerperium

Any condition in I12.- specified as a reason for obstetric care during pregnancy, childbirth or the puerperium

#### **O10.3** Pre-existing hypertensive heart and renal disease complicating pregnancy, childbirth and the puerperium

Any condition in I13.- specified as a reason for obstetric care during pregnancy, childbirth or the puerperium

#### **O10.4** Pre-existing secondary hypertension complicating pregnancy, childbirth and the puerperium

Any condition in I15.- specified as a reason for obstetric care during pregnancy, childbirth or the puerperium

#### **O10.9** Unspecified pre-existing hypertension complicating pregnancy, childbirth and the Puerperium

### **O24** Diabetes mellitus in pregnancy

*Incl.:* in childbirth and the puerperium

#### **O24.0** Pre-existing diabetes mellitus, insulin-dependent

#### **O24.1** Pre-existing diabetes mellitus, non-insulin-dependent

#### **O24.2** Pre-existing malnutrition-related diabetes mellitus

#### **O24.3** Pre-existing diabetes mellitus, unspecified

#### **O24.9** Diabetes mellitus in pregnancy, unspecified

**O98****Maternal infectious and parasitic diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium**

**Incl.:** the listed conditions when complicating the pregnant state, when aggravated by the pregnancy, or as a reason for obstetric care

Use additional code (Chapter I), if desired, to identify specific condition.

**Excl.:** asymptomatic human immunodeficiency virus [HIV] infection status (Z21)

laboratory evidence of human immunodeficiency virus [HIV] (R75)

obstetrical tetanus (A34)

puerperal:

- infection (O86.-)
- sepsis (O85)

when the reason for maternal care is that the disease is known or suspected to have affected the fetus (O35-O36)

- O98.0 Tuberculosis complicating pregnancy, childbirth and the puerperium**  
Conditions in A15-A19
- O98.1 Syphilis complicating pregnancy, childbirth and the puerperium**  
Conditions in A50-A53
- O98.2 Gonorrhoea complicating pregnancy, childbirth and the puerperium**  
Conditions in A54.-
- O98.3 Other infections with a predominantly sexual mode of transmission complicating pregnancy, childbirth and the puerperium**  
Conditions in A55-A64
- O98.4 Viral hepatitis complicating pregnancy, childbirth and the puerperium**  
Conditions in B15-B19
- O98.5 Other viral diseases complicating pregnancy, childbirth and the puerperium**  
Conditions in A80-B09, B25-B34
- O98.6 Protozoal diseases complicating pregnancy, childbirth and the puerperium**  
Conditions in B50-B64
- O98.7 Human immunodeficiency [HIV] disease complicating pregnancy, childbirth and the puerperium**  
Conditions in (B20-B24)
- O98.8 Other maternal infectious and parasitic diseases complicating pregnancy, childbirth and the puerperium**
- O98.9 Unspecified maternal infectious or parasitic disease complicating pregnancy, childbirth and the puerperium**

In all cases O98 must be included in the coding (O98 – Maternal infectious and parasitic diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium).

## **O99 Other maternal diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium**

**Note:** This category includes conditions which complicate the pregnant state, are aggravated by the pregnancy or are a main reason for obstetric care and for which the Alphabetical Index does not indicate a specific rubric in .

Use additional code, if desired, to identify specific condition. See below for common codes.

**Excl.:** infectious and parasitic diseases (O98.-)

injury, poisoning and certain other consequences of external causes (S00-T98)

when the reason for maternal care is that the condition is known or suspected to have affected the fetus (O35-O36)

### **O99.0 Anaemia complicating pregnancy, childbirth and the puerperium**

Conditions in D50-D64

### **O99.1 Other diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism complicating pregnancy, childbirth and the puerperium**

Conditions in D65-D89

**Excl.:** haemorrhage with coagulation defects (O46.0 , O67.0 , O72.3)

### **O99.2 Endocrine, nutritional and metabolic diseases complicating pregnancy, childbirth and the puerperium**

Conditions in E00-E90

**Excl.:** diabetes mellitus (O24.-)

malnutrition (O25)

postpartum thyroiditis (O90.5)

### **O99.3 Mental disorders and diseases of the nervous system complicating pregnancy, childbirth and the puerperium**

Conditions in F00-F99 and G00-G99

**Excl.:** postnatal depression (F53.0)

pregnancy-related peripheral neuritis (O26.8)

puerperal psychosis (F53.1)

### **O99.4 Diseases of the circulatory system complicating pregnancy, childbirth and the puerperium**

Conditions in I00-I99

**Excl.:** cardiomyopathy in the puerperium (O90.3)

hypertensive disorders (O10-O16)

obstetric embolism (O88.-)

venous complications and cerebrovenous sinus thrombosis in:

- labour, childbirth and the puerperium (O87.-)

- pregnancy (O22.-)

### **O99.5 Diseases of the respiratory system complicating pregnancy, childbirth and the puerperium**

Conditions in J00-J99

- O99.6 Diseases of the digestive system complicating pregnancy, childbirth and the puerperium**  
Conditions in K00-K93  
**Excl.:** liver disorders in pregnancy, childbirth and the puerperium (O26.6)
- O99.7 Diseases of the skin and subcutaneous tissue complicating pregnancy, childbirth and the puerperium**  
Conditions in L00-L99  
**Excl.:** herpes gestationis (O26.4)
- O99.8 Other specified diseases and conditions complicating pregnancy, childbirth and the puerperium**  
Combination of conditions classifiable to O99.0-O99.7  
Conditions in C00-D48, H00-H95, M00-M99, N00-N99, and Q00-Q99 not elsewhere classified  
**Excl.:** genitourinary infections in pregnancy (O23.-)  
infection of genitourinary tract following delivery (O86.0-O86.3)  
maternal care for known or suspected abnormality of maternal pelvic organs (O34.-)  
postpartum acute renal failure (O90.4)  
postpartum nephritis (O90.8)

## Codes for common indirect causes of maternal death

Indirect deaths may also be coded using codes in other chapters of the ICD. However, for correct coding it is essential that reporting on the death certificate mentions clearly in Part 1 that there was mutual aggravation between the condition and the pregnancy. The list below includes common indirect causes of maternal death. Rare diseases are covered by the “Other – specify” label. There is an ICD code for most medical and surgical conditions and coders will follow rules as described in Volume 2 of ICD-10. Countries may wish to expand this list to include disease common to the country or region (e.g. melanoma in Australia, cancer of the cervix in South Africa). :

<b>Diseases of the nervous system</b>		(G00- G99)
	Epilepsy	G40
<b>Diseases of the circulatory system</b>		(I00–I99)
	Rheumatic heart disease	I09
	Bacterial endocarditis	I33
	Artificial valve complications	T82
	Congenital heart disease	(Q20–28)
	Acute myocardial infarction	I21
	Cardiomyopathy	I42
	Cerebrovascular accident <sup>a</sup>	I61
	Stroke	I64
	Other – specify	
	Undiagnosed	I51
<b>Diseases of the respiratory system</b>		(J00–J99)
	Asthma	J45
	Other – specify	
<b>Diseases of the digestive system</b>		(K00–K93)
	Appendicitis	K35
	Pancreatitis	K85
	Liver disease <sup>a</sup> – specify	
	Intestine – specify	
	Other – specify	
<b>Diseases of the musculoskeletal system and connective tissue</b>		(M00–M99)
	Systemic lupus erythematosus	M32
	Kyphoscoliosis	M40
	Other – specify	
<b>Diseases of the genitourinary system</b>		(N00–N99)
	Renal – specify	
	Genital – specify	

<sup>a</sup> Excluding liver disease and cerebral haemorrhage due to pre-eclampsia.

<sup>a</sup> Non-pregnancy-related infection is so named to differentiate this category from infections specific to pregnancy, e.g. puerperal sepsis, septic miscarriage.



## Group 8: Unknown/undetermined

### 095 Obstetric death of unspecified cause

**Incl.:** Maternal death from unspecified cause occurring during pregnancy, labour and delivery, or the puerperium

## Group 9: Coincidental causes

These deaths occur in pregnancy, childbirth, or the puerperium but are not by definition are considered maternal deaths

Coincidental category	Disease entity	ICD-10
	Motor vehicle accident	Y85
		V01–V99
	External causes of accidental injury	W00–Y04
		Y06–Y09
		Y98
	Assault	X85–Y04+
		Y06–Y09
		Y87
	Rape	Y05
	Event of undetermined intent	Y10–Y34
	Other accidents	Y86
	Herbal medication	T65
	Other – specify	

## Annex B2: Tabular List of Chapter 15 codes that describe conditions which are unlikely to cause death but may have contributed to the death (contributory condition)

Codes from Annex B1 are preferred. Codes from this block should not be selected as the underlying cause of death if any condition in Annex B1 is present.

When the cause is unspecified, code to "Unknown, Group 8" according to MRG 1244: It is often difficult to identify a maternal death, particularly in cases of indirect obstetric causes. If there is any doubt that the cause of death is obstetrical, for example if the conditions entered in Part 1 are not obstetrical but there is a mention of pregnancy or delivery in Part 2, additional information should be sought from the certifier. This is particularly important in countries where maternal mortality rate is high. If no additional information can be found, deaths with a mention of pregnancy and delivery in Part 1 should be considered obstetrical, but not deaths where pregnancy or delivery is mentioned in Part 2 only.

Further modifications as published in the 11th revision of the ICD may result in changes.

### **008** Complications following abortion and ectopic and molar pregnancy

**Note:** This code is provided primarily for morbidity coding. For use of this category reference should be made to the morbidity coding rules and guidelines in Volume 2.

#### **008.0** Genital tract and pelvic infection following abortion and ectopic and molar pregnancy

Endometritis

Oophoritis

Parametritis

Pelvic peritonitis

Salpingitis

Salpingo-oophoritis

Sepsis

following conditions classifiable to O00-O07

Use additional code (R57.2) , if desired, to identify septic shock.

**Excl.:** septic or septicopyaemic embolism (O08.2)

urinary tract infection (O08.8)

#### **008.1** Delayed or excessive haemorrhage following abortion and ectopic and molar pregnancy

Afibrinogenaemia

Defibrination syndrome

Intravascular coagulation

following conditions classifiable to O00-O07

**O08.2 Embolism following abortion and ectopic and molar pregnancy**

Embolism:

- NOS
- air
- amniotic fluid
- blood-clot
- pulmonary
- pyaemic
- septic or septicopyaemic
- soap

following conditions classifiable to O00-O07

**O08.3 Shock following abortion and ectopic and molar pregnancy**

Circulatory collapse

Shock (postoperative) following conditions classifiable to O00-O07

**Excl.:** septic shock (R57.2)

**O08.4 Renal failure following abortion and ectopic and molar pregnancy**

Oliguria

Renal:

- failure (acute)
- shutdown
- tubular necrosis

Uraemia

following conditions classifiable to O00-O07

**O08.5 Metabolic disorders following abortion and ectopic and molar pregnancy**

Electrolyte imbalance following conditions classifiable to O00-O07

**O08.6 Damage to pelvic organs and tissues following abortion and ectopic and molar pregnancy**

Laceration, perforation, tear or chemical damage of:

- bladder
- bowel
- broad ligament
- cervix
- periurethral tissue
- uterus

following conditions classifiable to O00-O07

**O08.7 Other venous complications following abortion and ectopic and molar pregnancy**

**O08.8 Other complications following abortion and ectopic and molar pregnancy**

Cardiac arrest

Urinary tract infection following conditions classifiable to O00-O07

- O08.9**    **Complication following abortion and ectopic and molar pregnancy, unspecified**  
Unspecified complication following conditions classifiable to O00-O07
- O21.0**    **Mild hyperemesis gravidarum**  
Hyperemesis gravidarum, mild or unspecified, starting before the end of the 22nd week of gestation
- O21.8**    **Other vomiting complicating pregnancy**  
Vomiting due to diseases classified elsewhere, complicating pregnancy  
Use additional code, if desired, to identify cause.
- O21.9**    **Vomiting of pregnancy, unspecified**
- O22.0**    **Varicose veins of lower extremity in pregnancy**  
Varicose veins NOS in pregnancy
- O22.1**    **Genital varices in pregnancy**  
Perineal  
Vaginal  
Vulval  
varices in pregnancy
- O22.2**    **Superficial thrombophlebitis in pregnancy**  
Thrombophlebitis of legs in pregnancy
- O22.4**    **Haemorrhoids in pregnancy**
- O25**    **Malnutrition in pregnancy**  
*Incl.:* Malnutrition in childbirth and the puerperium
- O26**    **Maternal care for other conditions predominantly related to pregnancy**
- O26.0**    **Excessive weight gain in pregnancy**  
*Excl.:* gestational oedema (O12.0 , O12.2)
- O26.1**    **Low weight gain in pregnancy**
- O26.2**    **Pregnancy care of habitual aborter**  
*Excl.:* habitual aborter:  
• with current abortion (O03-O06)  
• without current pregnancy (N96)
- O26.3**    **Retained intrauterine contraceptive device in pregnancy**
- O26.4**    **Herpes gestationis**
- O26.5**    **Maternal hypotension syndrome**  
Supine hypotensive syndrome

**O26.7 Subluxation of symphysis (pubis) in pregnancy, childbirth and the puerperium**

**Excl.:** traumatic separation of symphysis (pubis) during childbirth (O71.6)

**O26.8 Other specified pregnancy-related conditions**

Exhaustion and fatigue

Peripheral neuritis

Renal disease pregnancy-related

**O26.9 Pregnancy-related condition, unspecified**

**O28 Abnormal findings on antenatal screening of mother**

**Excl.:** diagnostic findings classified elsewhere - see Alphabetical Index maternal care related to the fetus and amniotic cavity and possible delivery problems (O30-O48)

O28.0 Abnormal haematological finding on antenatal screening of mother

O28.1 Abnormal biochemical finding on antenatal screening of mother

O28.2 Abnormal cytological finding on antenatal screening of mother

O28.3 Abnormal ultrasonic finding on antenatal screening of mother

O28.4 Abnormal radiological finding on antenatal screening of mother

O28.5 Abnormal chromosomal and genetic finding on antenatal screening of mother

O28.8 Other abnormal findings on antenatal screening of mother

O28.9 Abnormal finding on antenatal screening of mother, unspecified

**O29**

O29.4 Spinal and epidural anaesthesia-induced headache during pregnancy

Maternal care related to the fetus and amniotic cavity and possible delivery problems

**O30 Multiple gestation**

**Excl.:** complications specific to multiple gestation (O31.-)

O30.0 Twin pregnancy

O30.1 Triplet pregnancy

O30.2 Quadruplet pregnancy

O30.8 Other multiple gestation

O30.9 Multiple gestation, unspecified

Multiple pregnancy NOS

**O31 Complications specific to multiple gestation**

**Excl.:** conjoined twins causing disproportion (O33.7) delayed delivery of second twin, triplet, etc. (O63.2)

malpresentation of one fetus or more (O32.5)

with obstructed labour (O64-O66)

- 031.0 Papyraceous fetus**  
Fetus compressus
- 031.1 Continuing pregnancy after abortion of one fetus or more**
- 031.2 Continuing pregnancy after intrauterine death of one fetus or more**
- 031.8 Other complications specific to multiple gestation**

## **032 Maternal care for known or suspected malpresentation of fetus**

**Incl.:** the listed conditions as a reason for observation, hospitalization or other obstetric care of the mother, or for caesarean section before onset of labour

**Excl.:** the listed conditions with obstructed labour (O64.-)

- 032.0 Maternal care for unstable lie**
- 032.1 Maternal care for breech presentation**
- 032.2 Maternal care for transverse and oblique lie**  
Presentation:
  - oblique
  - transverse
- 032.3 Maternal care for face, brow and chin presentation**
- 032.4 Maternal care for high head at term**  
Failure of head to enter pelvic brim
- 032.5 Maternal care for multiple gestation with malpresentation of one fetus or more**
- 032.6 Maternal care for compound presentation**
- 032.8 Maternal care for other malpresentation of fetus**
- 032.9 Maternal care for malpresentation of fetus, unspecified**

## **033 Maternal care for known or suspected disproportion**

**Incl.:** the listed conditions as a reason for observation, hospitalization or other obstetric care of the mother, or for caesarean section before onset of labour

**Excl.:** the listed conditions with obstructed labour (O65-O66)

- 033.0 Maternal care for disproportion due to deformity of maternal pelvic bones**  
Pelvic deformity causing disproportion NOS
- 033.1 Maternal care for disproportion due to generally contracted pelvis**  
Contracted pelvis NOS causing disproportion
- 033.2 Maternal care for disproportion due to inlet contraction of pelvis**  
Inlet contraction (pelvis) causing disproportion
- 033.3 Maternal care for disproportion due to outlet contraction of pelvis**  
Mid-cavity contraction (pelvis)  
Outlet contraction (pelvis) causing disproportion
- 033.4 Maternal care for disproportion of mixed maternal and fetal origin**
- 033.5 Maternal care for disproportion due to unusually large fetus**  
Disproportion of fetal origin with normally formed fetus  
Fetal disproportion NOS

- O33.6 Maternal care for disproportion due to hydrocephalic fetus**  
**O33.7 Maternal care for disproportion due to other fetal deformities**

Conjoined twins

Fetal:

- ascites
- hydrops
- meningomyelocele
- sacral teratoma
- tumour

causing disproportion

- O33.8 Maternal care for disproportion of other origin**

- O33.9 Maternal care for disproportion, unspecified**

Cephalopelvic disproportion NOS

Fetopelvic disproportion NOS

## **O34 Maternal care for known or suspected abnormality of pelvic organs**

**Incl.:** the listed conditions as a reason for observation, hospitalization or other obstetric care of the mother, or for caesarean section before onset of labour

**Excl.:** the listed conditions with obstructed labour (O65.5)

- O34.0 Maternal care for congenital malformation of uterus**

Maternal care for:

- double uterus
- uterus bicornis

- O34.1 Maternal care for tumour of corpus uteri**

Maternal care for:

- polyp of corpus uteri
- uterine fibroid

**Excl.:** maternal care for tumour of cervix (O34.4)

- O34.2 Maternal care due to uterine scar from previous surgery**

Maternal care for scar from previous caesarean section

**Excl.:** vaginal delivery following previous caesarean section NOS (O75.7)

- O34.3 Maternal care for cervical incompetence**

Maternal care for:

- cerclage
- Shirodkar suture

with or without mention of cervical incompetence

- O34.4 Maternal care for other abnormalities of cervix**

Maternal care for:

- polyp of cervix
- previous surgery to cervix
- stricture or stenosis of cervix
- tumour of cervix

**O34.5 Maternal care for other abnormalities of gravid uterus**

Maternal care for:

- incarceration
- prolapse
- retroversion

of gravid uterus

**O34.6 Maternal care for abnormality of vagina**

Maternal care for:

- previous surgery to vagina
- septate vagina
- stenosis of vagina (acquired)(congenital)
- stricture of vagina
- tumour of vagina

**Excl.:** maternal care for vaginal varices in pregnancy (O22.1)

**O34.7 Maternal care for abnormality of vulva and perineum**

Maternal care for:

- fibrosis of perineum
- previous surgery to perineum or vulva
- rigid perineum
- tumour of vulva

**Excl.:** maternal care for perineal and vulval varices in pregnancy (O22.1)

**O34.8 Maternal care for other abnormalities of pelvic organs**

Maternal care for:

- cystocele
- pelvic floor repair (previous)
- pendulous abdomen
- rectocele
- rigid pelvic floor

**O34.9 Maternal care for abnormality of pelvic organ, unspecified**

**O35 Maternal care for known or suspected fetal abnormality and damage**

**Incl.:** the listed conditions in the fetus as a reason for observation, hospitalization or other obstetric care of the mother, or for termination of pregnancy

**Excl.:** maternal care for known or suspected disproportion (O33.-)

**O35.0 Maternal care for (suspected) central nervous system malformation in fetus**

Maternal care for (suspected) fetal:

- anencephaly
- spina bifida

**Excl.:** chromosomal abnormality in fetus (O35.1)

**O35.1 Maternal care for (suspected) chromosomal abnormality in fetus**

**O35.2 Maternal care for (suspected) hereditary disease in fetus**

**Excl.:** chromosomal abnormality in fetus (O35.1)



**O35.3 Maternal care for (suspected) damage to fetus from viral disease in mother**

Maternal care for (suspected) damage to fetus from maternal:

- cytomegalovirus infection
- rubella

**O35.4 Maternal care for (suspected) damage to fetus from alcohol**

**O35.5 Maternal care for (suspected) damage to fetus by drugs**

Maternal care for (suspected) damage to fetus from drug addiction

**Excl.:** fetal distress in labour and delivery due to drug administration (O68.-)

**O35.6 Maternal care for (suspected) damage to fetus by radiation**

**O35.7 Maternal care for (suspected) damage to fetus by other medical procedures**

Maternal care for (suspected) damage to fetus by:

- amniocentesis
- biopsy procedures
- haematological investigation
- intrauterine contraceptive device
- intrauterine surgery

**O35.8 Maternal care for other (suspected) fetal abnormality and damage**

Maternal care for (suspected) damage to fetus from maternal:

- listeriosis
- toxoplasmosis

**O35.9 Maternal care for (suspected) fetal abnormality and damage, unspecified**

**O36 Maternal care for other known or suspected fetal problems**

**Incl.:** the listed conditions in the fetus as a reason for observation, hospitalization or other obstetric care of the mother, or for termination of pregnancy

**Excl.:** labour and delivery complicated by fetal stress [distress] (O68.-)

placental transfusion syndromes (O43.0)

**O36.0 Maternal care for rhesus isoimmunization**

Anti-D [Rh] antibodies

Rh incompatibility (with hydrops fetalis)

**O36.1 Maternal care for other isoimmunization**

ABO isoimmunization

Isoimmunization NOS (with hydrops fetalis)

**O36.2 Maternal care for hydrops fetalis**

Hydrops fetalis:

- NOS
- not associated with isoimmunization

**O36.3 Maternal care for signs of fetal hypoxia**

**O36.4 Maternal care for intrauterine death**

**Excl.:** missed abortion (O02.1)

**O36.5 Maternal care for poor fetal growth**

Maternal care for known or suspected:

- light-for-dates
- placental insufficiency
- small-for-dates

**O36.6 Maternal care for excessive fetal growth**

Maternal care for known or suspected large-for-dates

**O36.7 Maternal care for viable fetus in abdominal pregnancy**

**O36.8 Maternal care for other specified fetal problems**

**O36.9 Maternal care for fetal problem, unspecified**

**O40 Polyhydramnios**

*Incl.:* Hydramnios

**O41 Other disorders of amniotic fluid and membranes**

*Excl.:* premature rupture of membranes (O42.-)

**O41.0 Oligohydramnios**

Oligohydramnios without mention of rupture of membranes

**O41.8 Other specified disorders of amniotic fluid and membranes**

**O41.9 Disorder of amniotic fluid and membranes, unspecified**

**O42 Premature rupture of membranes**

**O42.0 Premature rupture of membranes, onset of labour within 24 hours**

**O42.1 Premature rupture of membranes, onset of labour after 24 hours**

*Excl.:* with labour delayed by therapy (O42.2)

**O42.2 Premature rupture of membranes, labour delayed by therapy**

**O42.9 Premature rupture of membranes, unspecified**

**O43 Placental disorders**

*Excl.:* maternal care for poor fetal growth due to placental insufficiency (O36.5)

placenta praevia (O44.-)

premature separation of placenta [abruptio placentae] (O45.-)

**O43.0 Placental transfusion syndromes**

Transfusion:

- fetomaternal
- maternofetal
- twin-to-twin

**O43.1 Malformation of placenta**

Abnormal placenta NOS

Circumvallate placenta

**O43.8 Other placental disorders**

Placental:

- dysfunction
- infarction

**O43.9 Placental disorder, unspecified**

**O47 False labour**

**O47.0 False labour before 37 completed weeks of gestation**

**O47.1 False labour at or after 37 completed weeks of gestation**

**O47.9 False labour, unspecified**

**O48 Prolonged pregnancy**

*Incl.:* Post-dates

Post-term

**O60 Preterm labour and delivery**

*Incl.:* Onset (spontaneous) of labour before 37 completed weeks of gestation

**O60.0 Preterm labour without delivery**

Preterm labour:

- induced
- spontaneous

**O60.1 Preterm spontaneous labour with preterm delivery**

Preterm labour with delivery NOS

Preterm spontaneous labour with preterm delivery by caesarean section

**O60.2 Preterm labour with term delivery**

Preterm spontaneous labour with term delivery by caesarean section

**O60.3 Preterm delivery without spontaneous labour**

Preterm delivery by:

- caesarean section, without spontaneous labour
- induction

**O61 Failed induction of labour**

**O61.0 Failed medical induction of labour**

Failed induction (of labour) by:

- oxytocin
- prostaglandins

**O61.1 Failed instrumental induction of labour**

Failed induction (of labour):

- mechanical
- surgical

- O61.8 Other failed induction of labour
- O61.9 Failed induction of labour, unspecified

## **O62** Abnormalities of forces of labour

- O62.0 Primary inadequate contractions
  - Failure of cervical dilatation
  - Primary hypotonic uterine dysfunction
  - Uterine inertia during latent phase of labour
- O62.1 Secondary uterine inertia
  - Arrested active phase of labour
  - Secondary hypotonic uterine dysfunction
- O62.2 Other uterine inertia
  - Atony of uterus
  - Desultory labour
  - Hypotonic uterine dysfunction NOS
  - Irregular labour
  - Poor contractions
  - Uterine inertia NOS
- O62.3 Precipitate labour
- O62.4 Hypertonic, incoordinate, and prolonged uterine contractions
  - Contraction ring dystocia
  - Dyscoordinate labour
  - Hour-glass contraction of uterus
  - Hypertonic uterine dysfunction
  - Incoordinate uterine action
  - Tetanic contractions
  - Uterine dystocia NOS
  - Excl.:** dystocia (fetal)(maternal) NOS (O66.9)
- O62.8 Other abnormalities of forces of labour
- O62.9 Abnormality of forces of labour, unspecified

## **O63** Long labour

- O63.0 Prolonged first stage (of labour)
- O63.1 Prolonged second stage (of labour)
- O63.2 Delayed delivery of second twin, triplet, etc.
- O63.9 Long labour, unspecified
  - Prolonged labour NOS

**NOTE:** codes O64 to O66, are contributory conditions and alone do not provide insufficient detail on the cause of death. In cases where O64 - O66 are indicated as cause of death, these will be tabulated under "other obstetric causes" and considered a direct maternal death.

## **O64** Obstructed labour due to malposition and malpresentation of fetus

- O64.0** Obstructed labour due to incomplete rotation of fetal head
- Deep transverse arrest
- Obstructed labour due to persistent (position):
- occipitoiliac
  - occipitoposterior
  - occipitosacral
  - occipitotransverse
- O64.1** Obstructed labour due to breech presentation
- O64.2** Obstructed labour due to face presentation
- Obstructed labour due to chin presentation
- O64.3** Obstructed labour due to brow presentation
- O64.4** Obstructed labour due to shoulder presentation
- Excl.:* impacted shoulders (O66.0)
- shoulder dystocia (O66.0)
- O64.5** Obstructed labour due to compound presentation
- O64.8** Obstructed labour due to other malposition and malpresentation
- O64.9** Obstructed labour due to malposition and malpresentation, unspecified

## **O65** Obstructed labour due to maternal pelvic abnormality

- O65.0** Obstructed labour due to deformed pelvis
- O65.1** Obstructed labour due to generally contracted pelvis
- O65.2** Obstructed labour due to pelvic inlet contraction
- O65.3** Obstructed labour due to pelvic outlet and mid-cavity contraction
- O65.4** Obstructed labour due to fetopelvic disproportion, unspecified
- Excl.:* dystocia due to abnormality of fetus (O66.2-O66.3)
- O65.5** Obstructed labour due to abnormality of maternal pelvic organs
- Obstructed labour due to conditions listed in O34.-
- O65.8** Obstructed labour due to other maternal pelvic abnormalities
- O65.9** Obstructed labour due to maternal pelvic abnormality, unspecified

## **O66** Other obstructed labour

- O66.0** Obstructed labour due to shoulder dystocia
- Impacted shoulders
- O66.1** Obstructed labour due to locked twins
- O66.2** Obstructed labour due to unusually large fetus
- O66.3** Obstructed labour due to other abnormalities of fetus
- Dystocia due to:
- conjoined twins
  - fetal

- ascites
- hydrops
- meningomyelocele
- sacral teratoma
- tumour
- hydrocephalic fetus

**O66.4 Failed trial of labour, unspecified**

Failed trial of labour with subsequent delivery by caesarean section

**O66.5 Failed application of vacuum extractor and forceps, unspecified**

Failed application of ventouse or forceps, with subsequent delivery by forceps or caesarean section

Respectively

**O66.8 Other specified obstructed labour**

**O66.9 Obstructed labour, unspecified**

Dystocia:

- NOS
- fetal NOS
- maternal NOS

**O68 Labour and delivery complicated by fetal stress [distress]**

*Incl.:* fetal distress in labour or delivery due to drug administration

**O68.0 Labour and delivery complicated by fetal heart rate anomaly**

Fetal:

- bradycardia
- heart rate irregularity
- tachycardia

*Excl.:* with meconium in amniotic fluid (O68.2)

**O68.1 Labour and delivery complicated by meconium in amniotic fluid**

*Excl.:* with fetal heart rate anomaly (O68.2)

**O68.2 Labour and delivery complicated by fetal heart rate anomaly with meconium in amniotic fluid**

**O68.3 Labour and delivery complicated by biochemical evidence of fetal stress**

Abnormal fetal:

- acidaemia
- acid-base balance

**O68.8 Labour and delivery complicated by other evidence of fetal stress**

Evidence of fetal distress:

- electrocardiographic
- ultrasonic

**O68.9 Labour and delivery complicated by fetal stress, unspecified**

**O69** Labour and delivery complicated by umbilical cord complications

- O69.0** Labour and delivery complicated by prolapse of cord
- O69.1** Labour and delivery complicated by cord around neck, with compression
- O69.2** Labour and delivery complicated by other cord entanglement, with compression
- Compression of cord NOS
- Entanglement of cords of twins in monoamniotic sac
- Knot in cord
- O69.3** Labour and delivery complicated by short cord
- O69.4** Labour and delivery complicated by vasa praevia
- Haemorrhage from vasa praevia
- O69.5** Labour and delivery complicated by vascular lesion of cord
- Cord:
- bruising
  - haematoma
- Thrombosis of umbilical vessels
- O69.8** Labour and delivery complicated by other cord complications
- Cord around neck without compression
- O69.9** Labour and delivery complicated by cord complication, unspecified

**O70** Perineal laceration during delivery

- Incl.:** episiotomy extended by laceration
- Excl.:** obstetric high vaginal laceration alone (O71.4)
- O70.0** First degree perineal laceration during delivery
- Perineal laceration, rupture or tear (involving):
- fourchette
  - labia
  - skin
  - slight
  - vagina
  - vulva
- during delivery
- O70.1** Second degree perineal laceration during delivery
- Perineal laceration, rupture or tear as in O70.0, also involving:
- pelvic floor
  - perineal muscles
  - vaginal muscles
- during delivery
- Excl.:** that involving anal sphincter (O70.2)

**O70.2 Third degree perineal laceration during delivery**

Perineal laceration, rupture or tear as in O70.1, also involving:

- anal sphincter
- rectovaginal septum
- sphincter NOS

during delivery

**Excl.:** that involving anal or rectal mucosa (O70.3)

**O70.3 Fourth degree perineal laceration during delivery**

Perineal laceration, rupture or tear as in O70.2, also involving:

- anal mucosa
- rectal mucosa

during delivery

**O70.9 Perineal laceration during delivery, unspecified**

**O74.5 Spinal and epidural anaesthesia-induced headache during labour and delivery**

**O75 Other complications of labour and delivery, not elsewhere classified**

**Excl.:** puerperal:

- infection (O86.-)
- sepsis (O85)

**O75.0 Maternal distress during labour and delivery**

**O75.1 Shock during or following labour and delivery**

Obstetric shock

**O75.2 Pyrexia during labour, not elsewhere classified**

**O75.5 Delayed delivery after artificial rupture of membranes**

**O75.6 Delayed delivery after spontaneous or unspecified rupture of membranes**

**Excl.:** spontaneous premature rupture of membranes (O42.-)

**O75.7 Vaginal delivery following previous caesarean section**



## Delivery (O80-O84)

**Note:** For use of these categories reference should be made to the mortality and morbidity coding rules and guidelines in Volume 2.

### **O80** Single spontaneous delivery

**Incl.:** cases with minimal or no assistance, with or without episiotomy delivery in a completely normal case

- O80.0 Spontaneous vertex delivery
- O80.1 Spontaneous breech delivery
- O80.8 Other single spontaneous delivery
- O80.9 Single spontaneous delivery, unspecified  
Spontaneous delivery NOS

### **O81** Single delivery by forceps and vacuum extractor

**Excl.:** failed application of vacuum extractor or forceps (O66.5)

- O81.0 Low forceps delivery
- O81.1 Mid-cavity forceps delivery
- O81.2 Mid-cavity forceps with rotation
- O81.3 Other and unspecified forceps delivery
- O81.4 Vacuum extractor delivery  
Ventouse delivery
- O81.5 Delivery by combination of forceps and vacuum extractor  
Forceps and ventouse delivery

### **O82** Single delivery by caesarean section

- O82.0 Delivery by elective caesarean section  
Repeat caesarean section NOS
- O82.1 Delivery by emergency caesarean section
- O82.2 Delivery by caesarean hysterectomy
- O82.8 Other single delivery by caesarean section
- O82.9 Delivery by caesarean section, unspecified

### **O83** Other assisted single delivery

- O83.0 Breech extraction
- O83.1 Other assisted breech delivery  
Breech delivery NOS
- O83.2 Other manipulation-assisted delivery  
Version with extraction
- O83.3 Delivery of viable fetus in abdominal pregnancy

**O83.4 Destructive operation for delivery**

Cleidotomy

Craniotomy

Embryotomy

to facilitate delivery

**O83.8 Other specified assisted single delivery**

**O83.9 Assisted single delivery, unspecified**

Assisted delivery NOS

**O84 Multiple delivery**

Use additional code (O80-O83), if desired, to indicate the method of delivery of each fetus or infant.

**O84.0 Multiple delivery, all spontaneous**

**O84.1 Multiple delivery, all by forceps and vacuum extractor**

**O84.2 Multiple delivery, all by caesarean section**

**O84.8 Other multiple delivery**

Multiple delivery by combination of methods

**O84.9 Multiple delivery, unspecified**

**O87.0 Superficial thrombophlebitis in the puerperium**

**O87.2 Haemorrhoids in the puerperium**

**O87.8 Other venous complications in the puerperium**

Genital varices in the puerperium

**O89.4 Spinal and epidural anaesthesia-induced headache during the puerperium**

**O92 Other disorders of breast and lactation associated with childbirth**

*Incl.:* the listed conditions during pregnancy, the puerperium or lactation

**O92.0 Retracted nipple associated with childbirth**

**O92.1 Cracked nipple associated with childbirth**

Fissure of nipple, gestational or puerperal

**O92.2 Other and unspecified disorders of breast associated with childbirth**

**O92.3 Agalactia**

Primary agalactia

**O92.4 Hypogalactia**

**O92.5 Suppressed lactation**

Agalactia:

• elective

• secondary

• therapeutic

**O92.6 Galactorrhoea**

*Excl.:* galactorrhoea not associated with childbirth (N64.3)

**O92.7 Other and unspecified disorders of lactation**

Puerperal galactocele

## Other obstetric conditions, not elsewhere classified (O94-O99)

**Note:** For use of categories O95-O97 reference should be made to the mortality coding rules and guidelines in Volume 2.

### **O94** Sequelae of complication of pregnancy, childbirth and the puerperium

**Note:** This category is to be used for morbidity coding only to indicate conditions in categories O00-O75 and O85-O92 as the cause of sequelae, which are themselves classified elsewhere.

The 'sequelae' include conditions specified as such or as late effects, or those present one year or more after the onset of the causal condition.

Not to be used for chronic complications of pregnancy, childbirth and the puerperium. Code these to O00-O75 and O85-O92.

**Excl.:** that resulting in death (O96.-, O97.-)

## Annex B3: Tabular List of Other codes of interest

### **O96** Death from any obstetric cause occurring more than 42 days but less than one year after delivery

Use additional code, if desired, to identify obstetric cause (direct or indirect) of death.

**O96.0** Death from direct obstetric cause

**O96.1** Death from indirect obstetric cause

**O96.9** Death from unspecified obstetric cause

### **O97** Death from sequelae of obstetric causes

**Incl.:** Death from any obstetric cause (direct or indirect) occurring one year or more after delivery. Use additional code, if desired, to identify the obstetric cause (direct or indirect) (O43-O45)

**O97.0** Death from sequelae of direct obstetric cause

**O97.1** Death from sequelae of indirect obstetric cause

**O97.9** Death from sequelae of obstetric cause, unspecified

## Annex C: Suggestions of tools and examples to facilitate the implementation of the guide and its groupings

Once the underlying causes/disease entities have been defined and identified, the contributory conditions need to be listed.

Countries may include a checklist of relevant contributory conditions be included on the maternal death data sheet as illustrated below. The conditions could be marked in the appropriate box and then all the deaths with the condition could be selected. One would thereby have all the disease entities that resulted from that contributory condition. Countries could select which conditions are relevant to them and include them so the list does not become exhaustive.

### *Associated/contributory condition checklist*

	Yes	No	Unknown	N/A
HIV infection				
Anaemia				
Previous caesarean section				
Prolonged labour				
Female genital mutilation				
Obesity				
Depression				
Domestic violence				
etc.				

Other important information to be collected for any maternal death should be:

- *mode of delivery*: undelivered, normal vaginal, assisted vaginal, caesarean section, abortion/miscarriage
- *pregnancy outcome*: miscarriage/abortion, antenatal death, intrapartum death, neonatal death, alive.



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