

OECD Health Care Quality Indicators Data Collection for 2008-09

Guidelines

for

Completing the Data Collection Questionnaires

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INTRODUCTION

These guidelines are provided to assist those responsible for completing the 2008-09 Health Care Quality Indicators (HCQI) data collection questionnaires. They seek to provide an overview of the data collection materials, step by step instructions on how to complete the various sections of the questionnaires, technical definitions for all the indicators and reference material regarding statistical methods employed in the indicator calculations.

The materials for the 2008-09 HCQI data collection have been provided to the members of the HCQI Expert Group electronically via e-mail and consist of:

- Guidelines for Completing the Data Collection Questionnaires (PDF format)
- Technical Manual for Patient Safety Indicators (PDF format)
- Questionnaire for collecting the data and information on each set of indicators (MS Excel format):
 - Regularly Collected set of indicators – Most Recent Year (RC) (12)
 - Health Promotion, Prevention and Primary Care (PC) set of indicators (9)
 - Mental Health (MH) set of indicators (2)
 - Patient Safety (PS) set of indicators (7)
 - Regularly Collected set of indicators – Time Series (TS) (12)

The deadline for forwarding completed questionnaires to the OECD Secretariat (hcqi.contact@oecd.org) is **February 28, 2009**. Should you require further assistance in completing the questionnaires please contact the OECD Secretariat at hcqi.contact@oecd.org in the first instance.

To further assist in the completion of the questionnaires, the Secretariat will be convening a round of **teleconference workshops** to discuss any related issues. The teleconferences will provide an open forum where the HCQI team will be available to answer and discuss questions regarding methodology, calculation and definitions of the indicators as well as any technical issues regarding the questionnaires. Further information regarding these teleconference workshops will follow by e-mail.

MASTER LIST FOR 2008-09 HCQI DATA COLLECTION

The 2008-09 HCQI data collection specifies 40 core indicators for data and information collection in 2008-09, with data for:

- 30 indicators being collected through the OECD HCQI questionnaires
- 10 indicators being collected separately through the OECD Health Data questionnaire

A master list of indicators, including a reference table of various dimensions of indicator specification and requirements for reporting is set out below:

Indicator Master List for 2008-09 HCQI Data Collection

Set	Tab Name	Indicator Name	Age	M/F	Standardised	Std population	CI	Time Series	Suppl Data	Submitted
		Mammography screening rate								
		Cervical cancer screening rate								
		Vaccination rate against measles								
		Vaccination rate against Pertussis (and diphtheria and tetanus)								
		Vaccination rate against hepatitis B								
		Vaccination rate against influenza (people 65+)								
		Incidence of measles								
		Incidence of Pertussis								
		Incidence of hepatitis B								
		Smoking rate								
RC	CNBROBSR	Breast cancer five year observed survival rate	15+	F	Age	ICSS 1	Yes		Yes	<input type="checkbox"/>
RC	CNBRRLSR	Breast cancer five year relative survival rate	15+	F	Age	ICSS 1	Yes	Yes	Yes	<input type="checkbox"/>
RC	CNCVOBSR	Cervical cancer five year observed survival rate	15+	F	Age	ICSS 2	Yes		Yes	<input type="checkbox"/>
RC	CNCVRLSR	Cervical cancer five year relative survival rate	15+	F	Age	ICSS 2	Yes	Yes	Yes	<input type="checkbox"/>
RC	CNCLOBSR	Colorectal cancer five year observed survival rate	15+	M/F	Age/Sex	ICSS 1	Yes		Yes	<input type="checkbox"/>
RC	CNCLRLSR	Colorectal cancer five year relative survival rate	15+	M/F	Age/Sex	ICSS 1	Yes	Yes	Yes	<input type="checkbox"/>
RC	MORTASTH	Asthma mortality rate (age 5-39)	5-39	M/F	Age/Sex	2005 OECD 5-39	Yes	Yes	Yes	<input type="checkbox"/>
	MORTAMIO	Patient-based AMI 30 day (in-hospital and out of hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
RC	* MORTAMIA	* Patient-based AMI 30 day in-hospital (any hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
	* MORTAMIS	* Patient-based AMI 30 day in-hospital (same hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
	* MORTAMIB	* Admission-based AMI 30 day in-hospital mortality rate	15+	M/F	Age/Sex	2006 OECD 45+	Yes	Yes		<input type="checkbox"/>
	MORTHSTO	Patient-based Hemorrhagic stroke 30 day (in-hospital and out of hospital)	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
RC	* MORTHSTA	* Patient-based Hemorrhagic stroke 30 day in-hospital (any hospital) mortality	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
	* MORTHSTS	* Patient-based Hemorrhagic stroke 30 day in-hospital (same hospital) mortality	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
	* MORTHSTB	* Admission-based Hemorrhagic stroke 30 day in-hospital mortality rate	15+	M/F	Age/Sex	2006 OECD 45+	Yes	Yes		<input type="checkbox"/>
	MORTISTO	Patient-based Ischemic stroke 30 day (in-hospital and out of hospital) mortality	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
RC	* MORTISTA	* Patient-based Ischemic stroke 30 day in-hospital (any hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
	* MORTISTS	* Patient-based Ischemic stroke 30 day in-hospital (same hospital) mortality	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
	* MORTISTB	* Admission-based Ischemic stroke 30 day in-hospital mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes		<input type="checkbox"/>
RC	IHWTHIPS	In-hospital waiting time for hip fracture surgery (age 65+)	65+	M/F				Yes		<input type="checkbox"/>
RC	EXAMDBRT	Annual retinal exam for diabetics	15-75	M/F	Age/Sex	2005 OECD 15-75	Yes	Yes		<input type="checkbox"/>
PC	ADMRASTH	Asthma admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PC	ADMRCOPD	COPD admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PC	ADMRCHEFL	CHF admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PC	ADMRRANGI	Angina without procedure admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PC	ADMRRDBST	Diabetes short-term complications admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PC	ADMRRDBLT	Diabetes long-term complications admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PC	ADMRRDBUC	Uncontrolled diabetes admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PC	AMPRDBLE	Diabetes lower extremity amputation rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PC	ADMRRHYPT	Hypertension admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
MH	ADMRSCHA	Unplanned schizophrenia (any hospital) re-admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
	* ADMRSCHS	* Unplanned schizophrenia (same hospital) re-admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
MH	ADMRRBIPA	Unplanned bipolar disorder (any hospital) re-admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
	* ADMRRBIPS	* Unplanned bipolar disorder (same hospital) re-admission rate	15+	M/F	Age/Sex	2005 OECD 15+	Yes		Yes	<input type="checkbox"/>
PS	FORBPROC	Foreign body left during procedure	15+/18+	M/F	Age/Sex	TBC	Yes		Yes	<input type="checkbox"/>
PS	SINFMEDC	Catheter-related bloodstream infections	15+/18+	M/F	Age/Sex	TBC	Yes		Yes	<input type="checkbox"/>
PS	POSTPEMB	Post-operative pulmonary embolism or deep vein thrombosis	15+/18+	M/F	Age/Sex	TBC	Yes		Yes	<input type="checkbox"/>
PS	POSTSEPS	Post-operative sepsis	15+/18+	M/F	Age/Sex	TBC	Yes		Yes	<input type="checkbox"/>
PS	ACCIPULA	Accidental puncture or laceration	15+/18+	M/F	Age/Sex	TBC	Yes		Yes	<input type="checkbox"/>
PS	OBSTVDWI	Obstetric trauma vaginal delivery with instrument	15+/18+	F	Age	TBC	Yes		Yes	<input type="checkbox"/>
PS	OBSTVDWO	Obstetric trauma vaginal delivery without instrument	15+/18+	F	Age	TBC	Yes		Yes	<input type="checkbox"/>

A separate questionnaire based on a standard format and structure has been provided for each set of indicators:

Regularly Collected (RC) and Times Series (TS) Indicators

The **Regularly Collected (RC)** questionnaire includes 12 of the HCQI set currently considered suitable for international comparisons and were reported in the 2007 publication of OECD *Health at a Glance*. The RC questionnaire seeks indicator data and information relating to the most recent available year.

The technical definition ([click here](#)) and requirements for age and sex standardisation ([click here](#)) of these indicators have been refined for the 2008-09 HCQI data collection and readers are directed to the relevant sections of these guidelines for further specification.

The **Times Series (TS)** questionnaire includes the same 12 indicators as the RC questionnaire. However, given the changes to the definition of these indicators for 2008-09, this questionnaire seeks retrospective indicator data and information relating to the year immediately prior to the most recent available year and subsequent years back to the year 2000.

The indicator set for these two questionnaires is:

1. Breast cancer five year observed survival rate
2. Breast cancer five year relative survival rates
3. Cervical cancer five year observed survival rate
4. Cervical cancer five year relative survival rates
5. Colorectal cancer five year observed survival rate
6. Colorectal cancer five year relative survival rates
7. Asthma mortality rate (age 5-39)
8. Patient-based AMI 30 day (in-hospital and out of hospital) mortality rate
Patient-based AMI 30 day in-hospital (any hospital) mortality rate
Patient-based AMI 30 day in-hospital (same hospital) mortality rate
Admission-based AMI 30 day in-hospital mortality rate
9. Patient-based hemorrhagic stroke 30 day (in hospital and out of hospital) mortality rate
Patient-based hemorrhagic stroke 30 day in-hospital (any hospital) mortality rate
Patient-based hemorrhagic stroke 30 day in-hospital (same hospital) mortality rate
Admission-based hemorrhagic stroke 30 day in-hospital mortality rate
10. Patient-based ischemic stroke 30 day (in-hospital and out of hospital) mortality rate
Patient-based ischemic stroke 30 day in-hospital (any hospital) mortality rates
Patient-based ischemic stroke 30 day in-hospital (same hospital) mortality rates
Admission-based ischemic stroke 30 day in-hospital mortality rate
11. In-hospital waiting time for hip fracture surgery (age 65+)
12. Annual retinal exam for diabetics

Please note that definitional variations have been specified for the AMI and stroke (ischemic and hemorrhagic) case mortality rate indicators. The reader is referred to the technical specifications of each definition and the glossary of terms in these guidelines for further reference.

Health Promotion, Prevention and Primary Care Indicators (PC)

The **Health Promotion, Prevention and Primary Care Indicators (PC)** questionnaire includes 9 new indicators developed out of the work of the Health Promotion Prevention and Primary Care Subgroup.

It is noted that data has been previously collected and reported under the HCQI project for the Asthma admission rate indicator. However, the technical definition and requirements for age and sex standardisation of this indicator has been refined for the 2008-09 HCQI data collection and readers are directed to the relevant sections of these guidelines for further specification of this and the other HPPPC indicators. ([click here](#))

The indicator set for this questionnaire is:

- Asthma admission rate
- COPD admission rate
- CHF admission rate
- Angina without procedure admission rate
- Diabetes short-term complications admission rate
- Diabetes long-term complications admission rate
- Uncontrolled diabetes admission rate
- Diabetes lower extremity amputation rate
- Hypertension admission rate

Mental Health Care Indicators (MH)

The **Mental Health Care Indicators (MH)** questionnaire includes 2 new indicators developed out of the work of the Mental Health Care Subgroup.

The indicator set for this questionnaire is:

1. Unplanned schizophrenia any hospital re-admission rate
Unplanned schizophrenia same hospital re-admission rate
2. Unplanned bipolar disorder any readmission rate
Unplanned bipolar disorder same hospital re-admission rate

Please note that definitional variations have been specified for these indicators. The reader is referred to the technical specifications of each definition ([click here](#)) and the glossary of terms ([click here](#)) in these guidelines for further reference.

Patient Safety Indicators (PS)

The **Patient Safety Indicators (PS)** questionnaire includes 7 new indicators developed out of the work of the Patient safety Subgroup.

The indicator set for this questionnaire is:

1. Foreign body left during procedure
2. Vascular catheter related infections
3. Post-operative pulmonary embolism or deep vein thrombosis
4. Post-operative sepsis

5. Accidental puncture or laceration
6. Obstetric trauma vaginal delivery with instrument
7. Obstetric trauma vaginal delivery without instrument

The technical definition and requirements for age and sex standardisation of these indicators have been refined for the 2008-09 HCQI data collection and readers are directed to the relevant sections of these guidelines ([click here](#)) and the related technical manual for further specification (refer to Technical Manual for Patient Safety Indicators).

Glossary

A glossary of terms has been developed to clarify the meaning and application of key concepts used to specify the indicators and the methodology for calculating the indicators for the 2008-09 HCQI data collection. ([click here](#))

STANDARD QUESTIONNAIRE FORMAT AND STRUCTURE

Each of the 5 questionnaires is a separate MS Excel workbook and is based on a standardised format and structure to aid navigation and data input by participating countries.

Each MS Excel workbook contains worksheets with the following titles:

- *COUNTRY* – first tabbed worksheet for country and respondent information.
- *INDEX* – second tabbed worksheet that serves as a table of contents, summary of data requested and navigational guide through the workbook (see below for list of codes and corresponding indicators by questionnaire).
- *INDICATOR* worksheet with a code for each indicator in the indicator set for each questionnaire. The indicator code list by questionnaire is set out below:

RC - Regularly Collected and (TS) – Time Series

CNBROBSR	Breast cancer five year observed survival rate
CNBRRLSR	Breast cancer five year relative survival rate
CNCVOBSR	Cervical cancer five year observed survival rate
CNCVRLSR	Cervical cancer five year relative survival rate
CNCLOBSR	Colorectal cancer five year observed survival rate
CNCLRLSR	Colorectal cancer five year relative survival rate
MORTASTH	Asthma mortality rate (age 5-39)
MORTAMIO	Patient-based AMI 30 day (in-hospital and out of hospital) mortality rate
* MORTAMIA	* Patient-based AMI 30 day in-hospital (any hospital) mortality rate
* MORTAMIS	* Patient-based AMI 30 day in-hospital (same hospital) mortality rate
* MORTAMIB	* Admission-based AMI 30 day in-hospital mortality rate
MORTHSTO	Patient-based hemorrhagic stroke 30 day (in-hospital and out of hospital) mortality rate
* MORTHSTA	* Patient-based hemorrhagic stroke 30 day in-hospital (any hospital) mortality rate
* MORTHSTS	* Patient-based hemorrhagic stroke 30 day in-hospital (same hospital) mortality rate
* MORTHSTB	* Admission-based hemorrhagic stroke 30 day mortality rate
MORTISTO	Patient-based ischemic stroke 30 day (in-hospital and out of hospital) mortality rate
* MORTISTA	* Patient-based ischemic stroke 30 day in-hospital (any hospital) mortality rate
* MORTISTS	* Patient-based ischemic stroke 30 day in-hospital (same hospital) mortality rate
* MORTISTB	* Admission-based ischemic stroke 30 day mortality rate
IHWTHIPS	In-hospital waiting time for hip fracture surgery (age 65+)
EXAMDBRT	Annual retinal exam for diabetics

PC – Health Promotion, Prevention and Primary Care

ADMRASTH	Asthma admission rate
ADMRCOPD	COPD admission rate
ADMRCHEFL	CHF admission rate
ADMRAANGI	Angina without procedure admission rate
ADMRCDBST	Diabetes short-term complications admission rate

ADMRDBLT	Diabetes long-term complications admission rate
ADMRDBUC	Uncontrolled diabetes admission rate
AMPRDBLE	Diabetes lower extremity amputation rate
ADMRHYPT	Hypertension admission rate

MH – Mental Health

ADMRSCHA	Unplanned schizophrenia (any hospital) re-admission rate
* ADMRSCHS	* Unplanned schizophrenia same hospital re-admission rate
ADMRBIPA	Unplanned bipolar disorder (any hospital) re-admission rate
* ADMRBIPS	* Unplanned bipolar disorder same hospital re-admission rate

PS – Patient Safety

FORBPROC	Foreign body left during procedure
SINFMEDC	Vascular catheter related infections
POSTPEMB	Post-operative pulmonary embolism or deep vein thrombosis
POSTSEPS	Post-operative sepsis
ACCIPULA	Accidental puncture or laceration
OBSTVDWI	Obstetric trauma vaginal delivery with instrument
OBSTVDWO	Obstetric trauma vaginal delivery without instrument

Each indicator worksheet also has a standardised structure with data and information specifications divided into the following sections.

- Section A. Data
 - Section B. Sources and Methods
 - Section C. Data Quality
 - Section D. Supplementary Data (where applicable)
- *SUPPLEMENTARY SUBGROUP DATA* – worksheet that specifies supplementary data requirements that apply equally to all the indicators in a questionnaire (in contrast to Section D Supplementary Data which only applies to the indicator in question).

Supplementary Subgroup Data has only been specified for the PC (Health Promotion, Prevention and Primary Care) and PS (Patient Safety) questionnaires.

- *STD POP ADJUSTMENT CALCULATION* – worksheet based on raw data input by countries that performs the calculations necessary to generate age and/or sex standardised indicator and 95% confidence interval values and populate the relevant cells in the *INDICATOR* worksheet for indicators requiring standardisation (refer to Indicator Master List for 2008-09 HCQI Data Collection).
- The only exception to this approach is the standardisation of the indicators relating to cancer survival in the RC- Regularly Collected questionnaire. A specific worksheet entitled *CANCER SURVIVAL RATES* exists to specify the requirements in this instance.

PRACTICAL GUIDANCE FOR COMPLETING THE QUESTIONNAIRES

Suggested Key Steps

What follows are the key steps to be taken in completing each of the questionnaires. While a suggested sequence for undertaking the steps is provided, it is understood this may be varied in according to the preferences of the person(s) completing the questionnaires.

STEP 1: Complete the Country worksheet

STEP 2: Consult the INDEX worksheet and select an indicator to calculate.

STEP 3: Consult the technical definition and calculate the indicator from the source data.

STEP 4: Complete the Std Pop Adjustment worksheet (if required)

STEP 5 Complete the relevant indicator worksheet

STEP 6 Complete the Supplementary Subgroup Data worksheet (if required)

STEP 7 Return to the Index worksheet and update the 'Submitted' checklist for the completed indicator

STEP 8 Select another indicator and repeat Steps 3-7.

Practical Guidance

The following sections provide practical guidance on the purpose and method of completion of the key sections within each of the main worksheets of the questionnaires.

Worksheet Functionality

The following section outlines some key aspects of the functionality built into the worksheets in the questionnaires.

- Active Links

As indicated earlier in these guidelines, active links have been provided between various worksheets in the questionnaires (e.g. INDEX worksheet and the INDICATOR worksheet) to aid navigation within the workbook.

To activate the link the user's cursor should be placed near the right or left side (i.e. this varies according to the worksheet in use) of the underlined text in the relevant worksheet.

- Protected Cells


A number of the cells within the worksheets of the questionnaires have been protected so that the contents can not be accidentally changed by the user. For example, all the cells of the STD POP ADJUSTMENT worksheets have been protected, apart from where data input is required by countries, to ensure the integrity of the formulae is maintained for the automatic calculation of the standardised rates and confidence intervals for specified indicators.

- Cell Notes

It is noted that a small red-coloured triangle is located on the right side of various cells in some worksheets. These indicate that a note or comment has been attached to a cell. To activate and read the note, the user's cursor should be over the corresponding cell to the left of the red triangle.

For example, in the Health Promotion, Prevention and Primary Care (PC) questionnaire it is noted that a red triangle exists next to the cell entitled 'All other hospitals' at D2 in the Supplementary Data section. By placing the user's cursor over the text in that cell a note is displayed.

D2. Did the data source used to calculate this indicator rate include 100% of the admission data from:	
Publicly owned hospitals	
If no, please specify estimated proportion	
All other hospitals	
If no, please specify estimated proportion	



Including private for profit and private not for profit

- Calculation Alerts

Certain questions in the worksheets require countries to input data that should add up to a predetermined total. To help ensure compliance with these requirements, calculation alerts have been built into the relevant cells in the worksheets.

For example, in the Patient Safety (PS) questionnaire at question D3 in the Supplementary Data section, countries are requested to input data that should add to the total number of cases reported for the numerator of the indicator. If the data input by countries does not comply with this requirement then the text in the relevant cell will be highlighted in red.

D3. (Optional) Please specify the total number of cases reported in the numerator for this indicator that were identified in the:

1st Secondary Diagnosis field in your database	2
2nd Secondary Diagnosis field in your database	3
3rd Secondary Diagnosis field in your database	1
4th Secondary Diagnosis field in your database	6
5th Secondary Diagnosis field in your database	7
6th+ Secondary Diagnosis field in your database	10
Total for all Secondary Diagnosis fields	29

The total cases reported above should equal the total cases reported for the numerator of this indicator.

Total numerator cases reported for this indicator	0
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This total in this cell would be highlighted red given '29' does not equate to the total reported for the numerator of this indicator (i.e. zero).

- Predefined Responses

In order to assist with data reporting and analysis, the range of responses that can be provided by countries to a number of the questions in the worksheets has been predetermined. In such cases, countries are presented with a 'drop-down' list of responses to select from when the relevant cells are activated. Should a user seek to provide a response other than those provided in the list the following message will appear on the screen 'the value you have entered is not valid' and the response will not be accepted into the cell.

To activate the 'drop-down' list, the user should click on the cell where the response is required. A triangle will appear to the right of the cell. By clicking on the triangle, the 'drop-down' list will appear and the desired response can then be selected.

For example, at question C1 in the Data Quality section of the questionnaires a 'drop-down' list of responses specifying the types of data sources is provided.

C. Data Quality

C1. Source Type:
If Other, please specify the data source.

Survey (population or patient)
Registry (mandatory or voluntary)
Administrative Database
Other

COUNTRY Worksheet

The questionnaire workbooks begin with a COUNTRY worksheet requesting basic information details about the country, organization and contact details of the person primarily responsible for completing the questionnaire. This information will greatly assist the Secretariat in contacting the appropriate person should any data validation or further information be required in relation to a country's completed questionnaire.

A snapshot of this worksheet is found below.

OECD HCQI 2009 Data Collection	
Core Indicators (Most recent year)	
Country:	<input type="text"/>
Please provide us with the contact information of the person primarily responsible for completing this questionnaire	
Name:	<input type="text"/>
Title:	<input type="text"/>
Organization:	<input type="text"/>
Address (postal):	<input type="text"/>
Email:	<input type="text"/>
Telephone:	<input type="text"/>

INDEX Worksheet

Each questionnaire workbook contains an INDEX worksheet which lists the codes and names of the indicators relevant to the particular questionnaire, along with summary information regarding indicator specification and reporting requirements similar to that specified in the Indicator Master List presented earlier in these guidelines.

The indicator list has been formatted with active links to the relevant INDICATOR worksheets to facilitate navigation between the INDEX worksheet and a chosen INDICATOR worksheet. A corresponding link [Return to index list] exists at the top of each INDICATOR work sheet to enable easy navigation back to the INDEX worksheet.

A ‘Submitted’ checkbox has been provided in the INDEX worksheet to aid respondents in verifying that all data is submitted for each questionnaire.

Index list										
Tab Name	Indicator Name	Age range	M/F	Standardised	Std population	CI	Time Series	Suppl Data	Submitted	
RC	CNBROBSR	Breast cancer five year observed survival rate	15+	F	Age	ICSS 1	Yes	Yes	Yes	
RC	CNBRRLSR	Breast cancer five year relative survival rate	15+	F	Age	ICSS 1	Yes	Yes	Yes	
RC	CNCVOBSR	Cervical cancer five year observed survival rate	15+	F	Age	ICSS 2	Yes	Yes	Yes	
RC	CNCVLSR	Cervical cancer five year relative survival rate	15+	F	Age	ICSS 2	Yes	Yes	Yes	
RC	CNCLOBSR	Colorectal cancer five year observed survival rate	15+	M/F	Age/Sex	ICSS 1	Yes	Yes	Yes	
RC	CNCLRSR	Colorectal cancer five year relative survival rate	15+	M/F	Age/Sex	ICSS 1	Yes	Yes	Yes	
RC	MORTASTH	Asthma mortality rate (age 5-39)	5-39	M/F	Age/Sex	2005 OECD 5-39	Yes	Yes	-	
	MORTAMIO	Patient-based AMI 30 day (in-hospital and out of hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
RC	* MORTAMIA	* Patient-based AMI 30 day in-hospital (any hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
	* MORTAMIS	* Patient-based AMI 30 day in-hospital (same hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
	* MORTAMII	* Admission-based AMI 30 day in-hospital mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
RC	MORTHSTO	Patient-based Hemorrhagic stroke 30 day (in-hospital and out of hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
	* MORTHSTA	* Patient-based Hemorrhagic stroke 30 day in-hospital (any hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
	* MORTHSTS	* Patient-based Hemorrhagic stroke 30 day in-hospital (same hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
	* MORTHSTI	* Admission-based Hemorrhagic stroke 30 day in-hospital mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
RC	MORTISTO	Patient-based Ischemic stroke 30 day (in-hospital and out of hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
	* MORTISTA	* Patient-based Ischemic stroke 30 day in-hospital (any hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
	* MORTISTS	* Patient-based Ischemic stroke 30 day in-hospital (same hospital) mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
	* MORTISTI	* Admission-based Ischemic stroke 30 day in-hospital mortality rate	15+	M/F	Age/Sex	2005 OECD 45+	Yes	Yes	-	
RC	IHWTHIPS	In-hospital waiting time for hip fracture surgery (age 65+)	65+	M/F	-	-	-	Yes	-	
RC	EXAMDBRT	Annual retinal exam for diabetics	15-74	M/F	Age/Sex	2005 OECD 15-74	Yes	Yes	-	
Cancer Survival rates										
Calculation of age standardised rates and confidence intervals for Cancer survival rates										
Std Pop Adjustment Calculation										
Calculation of age/sex standardised rates and confidence intervals for other indicators										

STD POP ADJUSTMENT Worksheet ([click here](#))

To facilitate comparability between countries, the 2008-09 HCQI data collection seeks to introduce a uniform approach to age and/or sex standardisation of selected indicators.

Each questionnaire workbook contains a STD POP ADJUSTMENT worksheet which provides the basis for generating the standardised rates and 95% confidence interval values from the age and/or sex stratified data provided by the participating countries for the specified set of indicators (refer to the Indicator Master List for the 2008-09 HCQI Data Collection presented earlier in these guidelines).

Please note that the approach to age standardisation of the following six cancer survival indicators in the 2008-09 HCQI data collection is markedly different to the approach outlined here for the remaining indicators:

1. Breast cancer five year observed survival rate
2. Breast cancer five year relative survival rates
3. Cervical cancer five year observed survival rate
4. Cervical cancer five year relative survival rates
5. Colorectal cancer five year observed survival rate
6. Colorectal cancer five year relative survival rates

The approach to standardisation of these indicators is outlined later in the section dedicated to the **CANCER SURVIVAL RATE** worksheet.

Countries are requested to input the required age (5 year age cohorts) and/or sex stratified data on the relevant STD POP ADJUSTMENT worksheet for each specified indicator. Active links between the INDICATOR worksheets and the relevant STD POP ADJUSTMENT worksheet have been provided to aid data input.

The age and sex standardisation module of the STD POP ADJUSTMENT worksheet is illustrated below:

Age group	Numerator			Denominator			Crude rates (%)			Standard population OECD 2005			Age and sex standardisation			
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	
15-19			0			0	0.00	0.00	0.00	40625795	38773417	79399212	0	0	0	
20-24			0			0	0.00	0.00	0.00	41743145	40258194	82001339	0	0	0	
25-29			0			0	0.00	0.00	0.00	41941848	40948668	82890516	0	0	0	
30-34			0			0	0.00	0.00	0.00	43389484	42704755	86094239	0	0	0	
35-39			0			0	0.00	0.00	0.00	43371817	42895601	86267418	0	0	0	
40-44			0			0	0.00	0.00	0.00	43161119	43109483	86270602	0	0	0	
45-49			0			0	0.00	0.00	0.00	40248518	40649038	80897556	0	0	0	
50-54			0			0	0.00	0.00	0.00	36427644	37364408	73792052	0	0	0	
55-59			0			0	0.00	0.00	0.00	33380411	34689310	68069721	0	0	0	
60-64			0			0	0.00	0.00	0.00	26289839	28254493	54544332	0	0	0	
65-69			0			0	0.00	0.00	0.00	22346079	25279333	47625412	0	0	0	
70-74			0			0	0.00	0.00	0.00	18074327	22236819	40311146	0	0	0	
75-79			0			0	0.00	0.00	0.00	13607727	19097765	32705492	0	0	0	
80-84			0			0	0.00	0.00	0.00	8425270	14684935	23110205	0	0	0	
85+			0			0	0.00	0.00	0.00	5282533	12504426	17786959	0	0	0	
Total	0	0	0	0	0	0	0.00	0.00	0.00	458315556	483450645	941766201	0.00	0.00	0.00	
													Male	Female	Total	
													Age and sex standardised rates	0.00	0.00	0.00

Input of age and sex stratified data by countries

The methodology applied in the STD POP ADJUSTMENT worksheets to calculate the direct age and/or sex standardised rates and confidence interval values for the specified set of indicators was derived from the "Statistical Notes No. 6: Direct Standardization (Age-Adjusted Death Rates) March 1995 Centers for Disease Control and Prevention/National Center for Health Statistics". For further

information refer to <http://www.cdc.gov/nchs/data/statnt/statnt06rv.pdf>. An overview of the calculations is provided at Box 1.

The standard population utilised in the calculation of the standardised rates is the OECD 2005 population, which is truncated for certain indicators as specified the Indicator Master List for the 2008-09 HCQI Data Collection.

It should be pointed out that the range of ages for which stratified data is requested often exceeds the range contemplated in the standard population proposed including younger cohorts. This information will be utilised by the Secretariat during subsequent analysis to assess the suitability of creating a disease specific standard population for age and sex adjustment.

It is noted that sex specific indicators rates are both standardised to the total OECD 2005 population to facilitate meaningful cross sex comparisons.

Box 1 Calculation for Age/Sex Standardised Rates and Confidence Intervals

Calculation of age/sex standardised rates

The sex specific age standardized rates (SR) are calculated as a weighted average of the age-specific rates (ASR). The weights are determined by the OECD 2005 population, which has been selected as standard population.

$$SR_j = \sum_i (ASR_{ij} * POP_i) / POP_{Tot}$$

Where i is the age group, j the sex, SR_j the age standardised rate for sex j, ASR_{ij} the age-specific rate (in %) for age group i and sex j, POP_{ij} the standard population size in age group i and gender j, and POP_{Tot} the total standard population.

The age/sex standardised rate for total population is a weighted average of age and sex specific rates:

$$SR_{Tot} = \sum_i ASR_{ij} * POP_{ij} / POP_{Tot}$$

Where i is the age group, SR_{Tot} the age/sex standardised rate for total population, ASR_{ij} the age-specific rate (in %) for age group i (by sex j), POP_{ij} the standard population size in age group i (by sex), and POP_{Tot} the total standard population.

Calculation of confidence intervals

The variance of the age-specific rates is assumed to be determined by a binomial distribution, and is calculated as:

$$\text{Variance } (ASR_{ij}) = ASR_{ij} * (100 - ASR_{ij}) / D_{ij}$$

Where D_{ij} is the number of people reported in the denominator of the indicator, in the i-th age interval and for sex j.

The variance of the standardized rate is then:

$\text{Variance } (SR_j) = \sum_i (POP_{ij}^2 * \text{Variance } (ASR_{ij})) / POP_{iTot}^2$ And the 95-percent confidence intervals for the standardized rate are formed as:

$$\text{Lower limit} = SR_j - 1.96 * \sqrt{\text{Variance } (SR_j)}$$

$$\text{Upper limit} = SR_j + 1.96 * \sqrt{\text{Variance } (SR_j)}$$

The standardised rates and confidence interval values generated by the STD POP ADJUSTMENT worksheet are then automatically loaded into the relevant INDICATOR worksheet. This means that even though countries are not required to calculate the standardised rates and confidence interval values, data validation can be undertaken by countries prior to data submission to the OECD Secretariat.

Admission-based AMI 30 day in-hospital mortality rate [Return to index list](#)

A. Data

A1. Data Year

A2. Data Value - standardised mortality rate (%) [See calculation](#)

Total	0.00
Female	0.00
Male	0.00

A3. 95% Confidence Interval values (%)

Total	Lower value	0.00
	Upper value	0.00
Female	Lower value	0.00
	Upper value	0.00
Male	Lower value	0.00
	Upper value	0.00

Fields are automatically populated with the age and/or sex standardised rates and confidence interval values generated from the STD POP ADJUSTMENT worksheet.

Active links to the relevant STD POP ADJUSTMENT worksheets to aid data input

It is noted that the cells in the INDICATOR worksheets at A.2 and A.3 are locked, which means that countries cannot independently calculate the standardised rates or confidence intervals and input the values directly into the INDICATOR worksheet.

Countries that can not comply with the age and/or sex stratified data requirements specified in the STD POP ADJUSTMENT worksheets for any specified indicator are requested to contact the OECD Secretariat to discuss related issues (hcqi.contact@oecd.org).

CANCER SURVIVAL RATE Worksheet

The Regularly Collected (RC) and Times Series (TS) questionnaires contain a CANCER SURVIVAL RATE worksheet that specifies the methodology by which countries are requested to calculate the age standardised rates and corresponding confidence interval values for the following indicators:

1. Breast cancer five year observed survival rate
2. Breast cancer five year relative survival rates
3. Cervical cancer five year observed survival rate
4. Cervical cancer five year relative survival rates
5. Colorectal cancer five year observed survival rate
6. Colorectal cancer five year relative survival rate

It is noted that the population of reference for the standardisation of cancer survival rates will be the International Cancer Survival Standard (ICSS). This internationally tested cancer specific standard population comprises three separate sets of age weights; set 1 is applied for the calculation of breast and colorectal cancer indicators and set 2 for cervical cancer indicators. These sets provide appropriate weights for 5 age cohorts 15-44, 45-54, 55-64, 65-74 and 75+.

	BREAST AND COLORECTAL CANCER Weights of ICSS-1	CERVICAL CANCER Weights of ICSS-2
Age group		
15-44	7	28
45-54	12	17
55-64	23	21
65-74	29	20
75+	29	14
Total	100	100

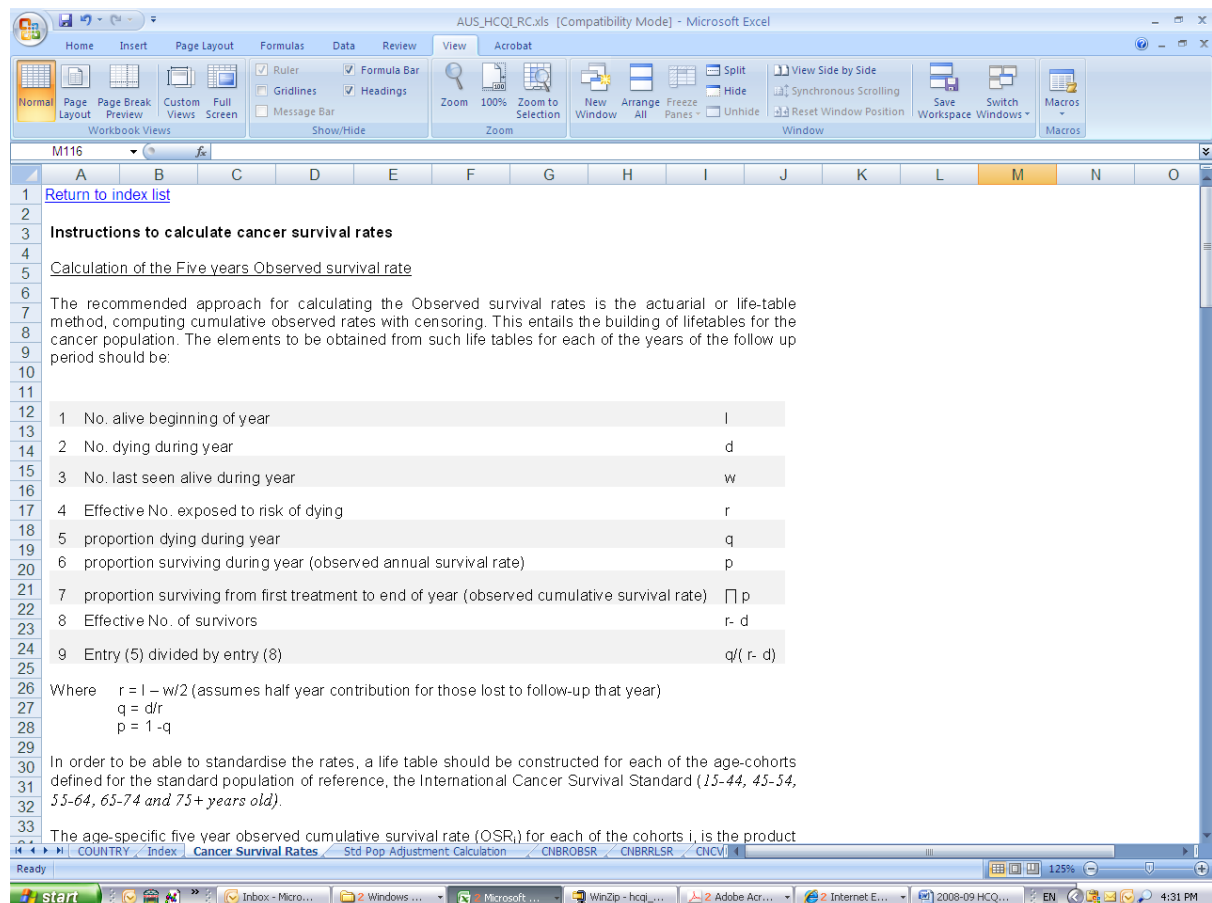
The method of standardisation is the direct standardisation. It should be noted that in the case of colorectal cancer, age-standardised sex-specific survival rates are also required.

Data used for calculations may accumulate diagnosis, including patients who were diagnosed over a certain period (over 3-5 years) but the period of follow up should always be at least five years after diagnosis (e.g. detection between 1996-1999 and follow up to end of 2004, see table below for other combinations). For all survival analyses, the date of closure of follow-up will be five years after the end of the last available incidence year (31st of December). In the instance of diagnoses accumulated through

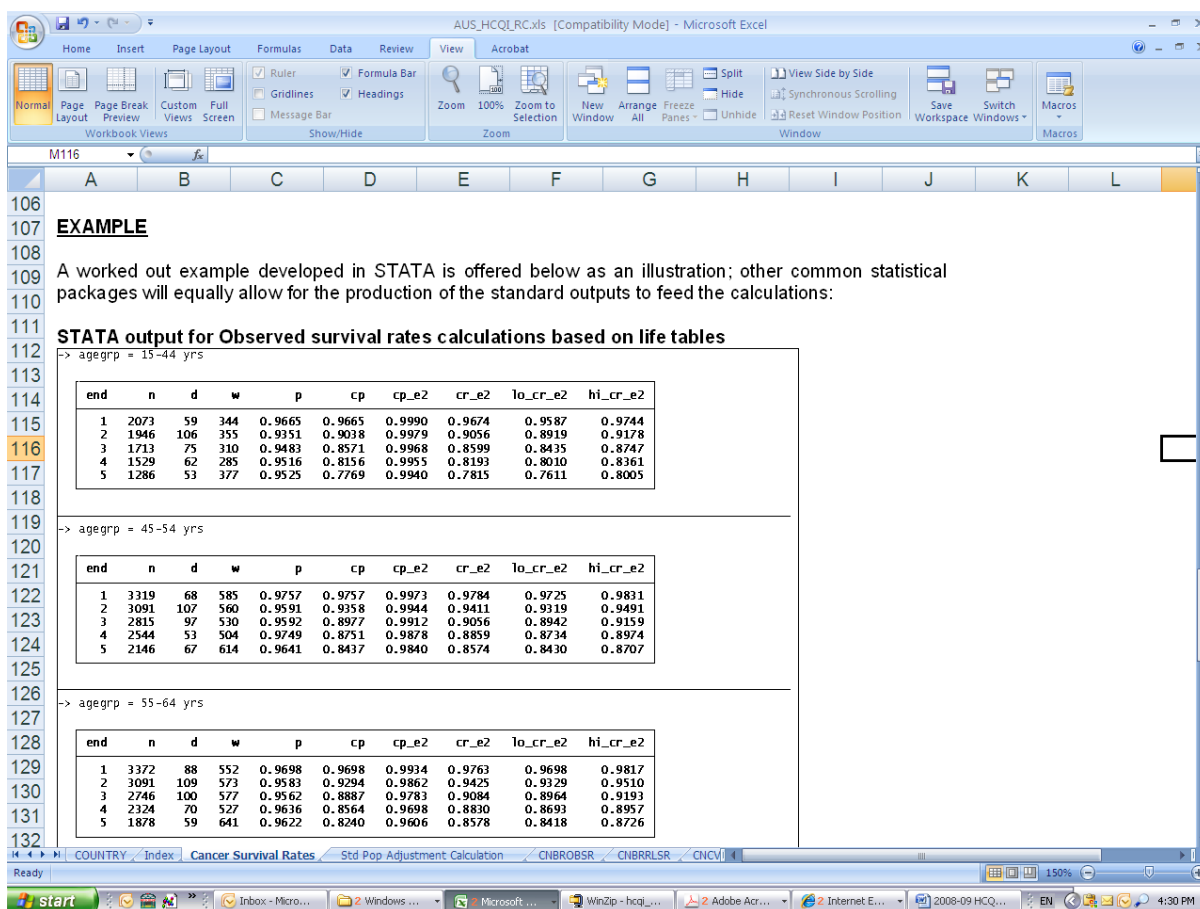
Number of follow up years by year of diagnosis (shadowed cells signal the threshold follow-up year)

year of follow up	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
year of diagnosis														
1988	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1989	6	7	8	9	10	11	12	13	14	15	16	17	18	
1990	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1991	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1992	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1993	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1994	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1995		1	2	3	4	5	6	7	8	9	10	11	12	13
1996			1	2	3	4	5	6	7	8	9	10	11	12
1997				1	2	3	4	5	6	7	8	9	10	11
1998					1	2	3	4	5	6	7	8	9	10
1999						1	2	3	4	5	6	7	8	9
2000							1	2	3	4	5	6	7	8
2001								1	2	3	4	5	6	7
2002									1	2	3	4	5	6
2003										1	2	3	4	5

The recommended approach for calculating the Observed survival rates is the actuarial or life-table method, computing cumulative observed rates with censoring. This entails the building of life-tables for the cancer population. The CANCER SURVIVAL RATE worksheet contains detailed explanations on the required elements, the procedures and the formulas for calculation.



It also provides an example produced in STATA to illustrate the method. Readers are advised to refer to this worksheet and use it as guidance to produce the estimates of the cancer survival rates.



The methodology applied in the CANCER SURVIVAL RATE worksheet to calculate the direct age-standardised rates and confidence interval values was derived from the CONCORD study¹ and from the International Agency of Research in Cancer (IARC)².

The technical definitions of the 6 cancer survival indicators are fully specified later in these guidelines ([click here](#)). Countries are encouraged to consult these specifications in calculating the rates for these indicators.

The results obtained following the methodology described in CANCER SURVIVAL RATE worksheet should be **manually** input in the relevant indicator worksheet.

¹ Cancer survival in five continents: a worldwide population-based study (CONCORD). CONCORD Working Group.

Published online in *Lancet Oncology* 17 July 2008 www.thelancet.com/oncology DOI10.1016/S1470-2045(08)70179-7

² D.M. Parkin and T. Hakulinen. IARC Scientific Publications No. 95. Cancer Registration: Principles and Methods. Chapter 12 Survival Analysis.

Colorectal cancer five year observed survival rate [Return to index list](#)

A. Data

A1. Data Year (year of cancer diagnosis for cohort)
 Followed until:

A2. Data Value - standardised survival rate (%) [See calculation](#)

Total	<input type="text"/>
Female	<input type="text"/>
Male	<input type="text"/>

A3. 95% Confidence Interval values (%)

Total	Lower value	<input type="text"/>
	Upper value	<input type="text"/>
Female	Lower value	<input type="text"/>
	Upper value	<input type="text"/>
Male	Lower value	<input type="text"/>
	Upper value	<input type="text"/>

Input manually into the white cells the relevant data calculated following the instructions in CANCER SURVIVAL RATE worksheet.

Active links to the CANCER SURVIVAL RATE worksheet with the instructions for calculation

Countries that can not comply with the age and sex stratified data requirements specified in the CANCER SURVIVAL RATE worksheets for any specified indicator are requested to contact the OECD Secretariat to discuss related issues (hcqi.contact@oecd.org).

INDICATOR Worksheet

Each questionnaire workbook contains an INDICATOR worksheets for each indicator specified in the indicator set relevant to the questionnaire. The worksheets titles employ the coding system outlined earlier in the guidelines and are actively linked to the INDEX worksheet of the relevant questionnaire to aid navigation to and from a selected Indicator worksheet.

Section A. Data

Guidelines for the completion of Section A have been largely covered in the earlier sections of the guidelines relating to the STD POP ADJUSTMENT and CANCER SURVIVAL RATE worksheets.

Section B. Sources and Methods

This section requires countries to provide important information about the indicator data source and compliance with the specified indicator definition. The data source is often publishing alongside the indicator data and the compliance information facilitates the assessment of the comparability of the indicator data.

B. Sources and methods	
B1. Name of the Information System	<input type="text"/>
B2. Data Custodian/Organisation	<input type="text"/>
B3. Compliance to definition/methodology	<input type="text"/>
If No, please specify any variation for:	
Numerator	<input type="text"/>
Denominator	<input type="text"/>
Age standardisation	<input type="text"/>
CI calculation	<input type="text"/>
Other	<input type="text"/>

B1. Name of the Information System – countries are requested to report the name of the information system or data set from which the indicator was calculated. The use of acronyms is not recommended.

B2. Data Custodian/Organisation – countries are requested to report the name of the organisation or body that manages or is responsible for the information system or data set from which the indicator was calculated. The use of acronyms is not recommended.

B3. Compliance to Definition/Methodology - countries are requested to consult the technical definition provided in these guidelines or the technical manual for calculating the patient safety indicators before completing this question. Countries are requested to provide a response to each relevant aspect of the definition (i.e. numerator, denominator, age standardisation, confidence interval calculation, any other aspect of the definition).

Please note that cells relating to aspects of the definition an indicator that are deemed not relevant have been coloured grey and are not required to be completed by countries.

Section C. Data Quality

This section requires countries to provide information about the data source to enable the OECD Secretariat to assess its quality in relation to the indicator in question using the framework endorsed by the HCQI Expert Group in October 2008. The assessment of data quality by the OECD Secretariat will help improve data comparability and transparency and will inform indicator data publication decisions in the future.

C. Data Quality	
C1. Source Type: If Other, please specify the data source.	<input type="text"/> <input type="text"/>
C2. National representativeness If No, please explain why.	<input type="text"/> <input type="text"/>
C3. Completeness If No, please explain why.	<input type="text"/> <input type="text"/>
C4. Regularity of data collection If No, please explain why.	<input type="text"/> <input type="text"/>
C5. Stability If No, please explain why.	<input type="text"/> <input type="text"/>
C6. Patient based data If No, please explain why.	<input type="text"/> <input type="text"/>

It is noted that all relevant questions in this section need to be completed in order for a valid assessment of data quality to be undertaken by the OECD Secretariat.

C1. Source Type - countries are requested to select from the ‘drop down’ options (i.e. automatically generated options provided by clicking on the appropriate cell in the worksheet) the type of data from which the indicator in question is calculated. The options are:

- **Administrative:** Refers to data sourced from routine administrative records rather than direct contact with respondents. For example, hospital admissions data.
- **Registry:** Includes mandatory and non-mandatory registries and refers to data that is collected on a specific illness/disease/diagnosis. For example, a cancer registry.
- **Survey:** Includes both patient based and population based surveys and refers to sample data collected through regular surveys.
- **Other:** Refers to any data source which does not comply with any of the above categories. For example, an ad hoc survey.

If other is selected, countries are requested to specify or describe the nature of the data source in the box provided.

C2. Nationally Representative – countries are requested to assess whether the data source from which the indicator in question is calculated is nationally representative or not and then select either of the following from the ‘drop down’ options:

- **Yes** - Nationwide data (i.e. census) or representative sample

- No - Non representative sample

If No is selected, then countries are requested to provide an explanation as to why this is the situation.

C3. Completeness of the Data Source – countries are requested to assess the completeness of the data source from which the indicator in question is calculated and select one of the following ‘drop down’ options:

- Yes - Complete: it is noted that the criteria for completeness varies according to the data source type. In the case of surveys (patient or population based) and response rate over 80% is required whereas for other source types it is required that the data is mandated (e.g. administrative data, death registries) or if not mandated close to 100% reporting compliance is achieved.
- No - Not complete: refers to a data source with either a poor response rate or is a non mandatory register with poor reporting compliance.

The exclusion of certain sectors (e.g. types of facilities, private sector, certain insurance funds) should be assessed on an individual bases. The criterion will be the eventual bias introduced by this exclusion. This will depend on the indicator in question. The eventual bias will be reflected in the share of services not represented, the population not included or the specific nature of services and/or population not included.

If No is selected, then countries are requested to provide an explanation as to why this is the situation.

C4. Regularity of Data Collection: countries are requested to report of the regularity of the data collection by selecting one of the following ‘drop down’ options:

- Yes - Source is updated at least every 5 years for population surveys and at least biennially (every 2 years) for the other data sources.
- No - Not regularly updated or with a periodicity that renders the available data outdated (i.e. more than 5 years for survey more than 2 for other sources).

If No is selected, then countries are requested to provide an explanation as to why this is the situation.

C5. Stability of the Data Source - countries are requested to report of the stability of the data collection by selecting one of the following ‘drop down’ options:

- Yes - Source has been updated at least twice before and, thus, there are data available coming from the same source for at least two previous periods (e.g. For 2004 data coming from a survey updated every 2 years, data from the same source should also be available at least for years 2002 and 2000) or for 2004 data coming from an administrative database updated every year, data from the same source should be available at least for years 2003 and 2002).
- No - Source is not yet well established.

If No is selected, then countries are requested to provide an explanation as to why this is the situation.

C5. Patient-Based Data - countries are requested to report if the data source from which the indicator in question is calculated enables patient based calculations(that is, the ability for patients to be tracked through the system to the extent required in the technical definition of the indicator) by selecting one of the following ‘drop down’ options:

- Yes - Calculations are patient-based
- No - Calculations are admission-based

If No is selected, then countries are requested to provide an explanation as to why this is the situation.

It is noted that not all the indicators in the 2008-09 HCQI data collection require patient based calculations. Where an indicator does not require patient based calculation, the relevant cell has been coloured grey and countries are not required to complete this question.

Section D. Supplementary Data

Section D requires countries to provide additional data and information relating to the specific indicator in question. Unlike Sections A-C, the data and information sought in Section D tends to vary across indicators and across questionnaires in seeking to address specific aspects of indicator research, data validation or indicator comparability.

It is noted that, in contrast to Section D Supplementary Data which applies only to the indicator in question, the SUPPLEMENTARY SUBGROUP DATA worksheets included in each questionnaire specifies supplementary data requirements that apply equally to all the indicators in a questionnaire. Further information on the SUPPLEMENTARY SUBGROUP DATA worksheets is provided later in the guidelines.

The following section outlines the supplementary data requested in Section D by each relevant indicator, giving particular reference to the purpose of the data and, where indicated, providing specific guidance on data provision.

Regularly Collected set of indicators – Most Recent Year

Supplementary data is requested for each of the following indicators in the RC questionnaire:

1. Breast cancer five year observed survival rate
2. Breast cancer five year relative survival rates
3. Cervical cancer five year observed survival rate
4. Cervical cancer five year relative survival rates
5. Colorectal cancer five year observed survival rate
6. Colorectal cancer five year relative survival rates

The basis for calculating the rates for these indicators can vary. For example, the cases to be included in the calculation can either be accumulated from diagnoses in a single year or from diagnoses over multiple years. If cases are accumulated over a multi- year period then the follow up is to be taken 5 years from the last year of the period (e.g. if detection is over the 1996 - 2000 period then follow up is in 2005).

The supplementary questions for the 6 cancer indicators aim to identify over what period the cases included in the calculation of the indicators were accumulated. This information will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

D. Supplementary Data

D1. Have you accumulated diagnosis of cancer over a certain period to build the follow up cohort?

D2. If Yes, how many years have you accumulated?

In addition, specific supplementary data is requested for the colorectal survival rates. There is a potential code coverage issue between the specification of the colorectal survival rates in ICD 9 and the rates mapped to ICD 10. It is noted that while the ICD 9 codes group malignant neoplasm of rectum, rectosigmoid junction and anus (154.xx), ICD 10 provides a separate category for malignant neoplasm of anus and anal canal (C21.xx).

For countries calculating this indicator in ICD 10, it is requested that the number of numerator and denominator cases coded C21.xx be separately reported.

D3. If this indicator has been calculated using ICD 10, please specify the number of cases included in the numerator coded C21: malignant neoplasm of anus and anal canal.

D4. If this indicator has been calculated using ICD 10, please specify the number of cases included in the denominator coded C21: malignant neoplasm of anus and anal canal.

This information will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

Health Promotion, Prevention and Primary Care (PC) set of indicators

In addition to supplementary data that applies to the set of HPPPC indicators (refer to SUPPLEMENTARY SUBGROUP DATA worksheet), supplementary data is also requested for each of the indicators in the PC questionnaire.

Given the construction of the potentially preventable admission indicators specified in the PC questionnaire (i.e. denominator is population based not admission based), it is important to understand to what extent the data source represents a comprehensive source for hospital admissions in each country. While the questions in Section C of the questionnaire seeks to assess the overall representativeness and completeness of the data source, the supplementary questions in this specifically address to what extent the data source provides coverage of the public and private (profit and not for profit) hospital sectors.

This information will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

D. Supplementary Data
Representativeness of the database from which the indicator was constructed

D1. What is the estimated proportion (%) of all hospital admissions in your country that are provided by:

Publicly owned hospitals	<input type="text"/>
All other hospitals	<input type="text"/>
Total (should sum up 100%)	<input type="text"/>

D2. Did the data source used to calculate this indicator rate include 100% of the admission data from:

Publicly owned hospitals	<input type="text"/>
If no, please specify estimated proportion	<input type="text"/>
All other hospitals	<input type="text"/>
If no, please specify estimated proportion	<input type="text"/>

D3. Would you expect the rate for Publicly Owned Hospitals to be significantly different from All Other Hospitals (incl. private for profit and private not for profit) in your country?

In addition, specific supplementary data is requested for each of the following indicators:

- Asthma admission rate
- Angina without procedure admission rate
- Uncontrolled diabetes admission rate

Asthma admission rate

There is a potential code coverage issue between the specification of the Asthma admission rate in ICD 9 and the COPD admission rate mapped to ICD 10. It is noted that while chronic obstructive asthma is included in the asthma criteria for ICD9 codes (493.2), it is included in the COPD criteria for ICD10 codes (J44.8).

For countries calculating this indicator in ICD 9, it is requested that the number of numerator cases coded 493.2 be separately reported. This information will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

D4. If this indicator has been calculated using ICD 9, please specify the number of admissions included in the numerator coded 493.2 - Chronic Obstructive Asthma.

Angina without procedure admission rate

There are indications from some systems that Angina can be frequently coded as chest pain accompanied with coronary atherosclerosis, ischaemic heart disease or angina pectoris as secondary diagnoses.

To investigate the differences in coding practices between countries and to assess the materiality of the issue, two variations to the specification of the numerator for this indicator have been set out in the definitions section of the guidelines ([click here](#)) and it is requested that countries recalculate the numerator for this indicator based on these specifications and report the data points at D.4 and D.5.

D4. Using the same data source as for calculating this indicator, please recalculate the numerator using the alternative specification provided in the Guidelines at page XX.

D5. Using the same data source as for calculating this indicator, please recalculate the numerator using the alternative specification provided in the Guidelines at page XX.

Uncontrolled diabetes admission rate

Unlike the ICD 9 classification, the ICD-10-WHO and a number of country specific versions of ICD-10 do not allow for the separate identification of uncontrolled and controlled diabetes. However, it is understood that some countries utilising ICD 10 have introduced coding enhancements that enable uncontrolled diabetes cases to be distinguished from controlled diabetes cases.

It is requested that countries indicate if it was possible to effectively distinguish between controlled and uncontrolled cases in calculating this indicator. This information will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

D4. Were you able to effectively distinguish between Uncontrolled and Controlled Diabetes cases in calculating this indicator?

Mental Health (MH) set of indicators

Given the differences that exist between countries in the organisation and access to inpatient mental health services, supplementary questions have been included in the MH questionnaire to determine the composition of the inpatient mental care provision structure in the country, the distribution of patients across different type of inpatient settings and the extent to which the data source used to calculate the re-admission indicators represents each these settings and how comprehensively. These questions are in addition to the questions in Section C of the questionnaire, which seek to assess the overall representativeness and completeness of the data source.

Data has also been requested to enable preliminary exploration of the potential relationship between the average length of stay and re-admission rate at the national level (please refer to the glossary for a definition).

This information will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

Representativeness of the database from which the indicator was constructed

D1. What is the estimated proportion (%) of inpatient care for mental health conditions in your country that are provided by:

Community centers	
Residential services	
Addiction services	
Psychiatric hospitals	
Acute general hospitals	
Day centers	
Others	
Total (should sum up 100)	

D2. Did the data source used to calculate this indicator rate include 100% of the admission data from:

Community centers	
If no, please specify estimated proportion	
Residential services	
If no, please specify estimated proportion	
Addiction services	
If no, please specify estimated proportion	
Psychiatric hospitals	
If no, please specify estimated proportion	
Acute general hospitals	
If no, please specify estimated proportion	
Day centers	
If no, please specify estimated proportion	
Others	
If no, please specify estimated proportion	

D3. What is the average length of stay (ALOS) (excluding admissions <24hours/without an overnight stay) per case in the data used to calculate this indicator?

Patient Safety (PS) set of indicators

In addition to supplementary data that applies to the set of Patient Safety indicators (refer to SUPPLEMENTARY SUBGROUP DATA worksheet), supplementary data is also requested for each of the indicators in the PS questionnaire.

The findings from the HCQI patient safety indicator pilot data collection in 2008 indicated that a relationship can be demonstrated between reported indicator rates and the average length of hospital stay and the number of secondary diagnoses recorded in the data source used to calculate the indicators.

Supplementary questions have been included in the PS questionnaire to collect data on the LOS and number of secondary diagnoses recorded in the data source to further explore the nature and strength of these relationships.

It is noted that question D.3 is 'optional' for countries to complete, given the potential complexity that may be faced by some countries in seeking to generate the required data. However, for those countries where the generation of the data for question D.3 is practicable, the Secretariat would appreciate the completion of this supplementary question.

This information will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

D. Supplementary Data

D1. What is the mean number of secondary diagnoses per case in the data used to calculate the denominator of this indicator?

D2. What is the average length of stay (ALOS) per case in the data used to calculate the denominator of this indicator?

D3. (Optional) Please specify the total number of cases reported in the numerator for this indicator that were identified in the:

1st Secondary Diagnosis field in your database

2nd Secondary Diagnosis field in your database

3rd Secondary Diagnosis field in your database

4th Secondary Diagnosis field in your database

5th Secondary Diagnosis field in your database

6th+ Secondary Diagnosis field in your database

Total for all Secondary Diagnosis fields

The total cases reported above should equal the total cases reported for the numerator of this indicator.

Total numerator cases reported for this indicator

SUPPLEMENTARY SUBGROUP DATA Worksheet

The Primary Care and Patient Safety questionnaires include a SUPPLEMENTARY SUBGROUP DATA worksheet that specified additional data and information requests pertaining to all the indicators in the respective questionnaire.

The following section outlines the supplementary data requested per questionnaire, giving particular reference to the purpose of the data and, where indicated, providing specific guidance on data provision.

Health Promotion, Prevention and Primary Care (PC)

The SUPPLEMENTARY SUBGROUP DATA worksheet for the HPPPC questionnaire seeks to collect the most recent national prevalence estimates for conditions related to the 9 potentially preventable admissions indicators.

This data will inform the preliminary analysis of potential confounding factors for the potentially preventable admission indicators to be undertaken by the Secretariat. It is understood that cross nationally comparable prevalence data may not exist for each of the specified conditions. However, it is requested that available estimates be provided for this purpose, with an indication of the nature (e.g. national representativeness) of the estimate to be given in the comments section of the table.

This worksheet is found in the Health Promotion, Prevention and Primary Care excel workbook (PC) under tab [HPPPCPRV].

Health Promotion, Prevention and Primary Care Supplementary Data		Return to index list		
Condition Prevalence				
Please provide the most recent national estimates for the following conditions.				
Condition	Prevalence per 100,000	Year	Source	Comments
Asthma (age 15+)				
Diabetes (age 15+)				
Congestive Heart Failure (age 15+)				
Hypertension (age 15+)				
COPD (age 15+)				
Coronary Artery Disease (age 15+)				
Angina (age 15+)				

Patient Safety (PS)

The SUPPLEMENTARY SUBGROUP DATA worksheet for the HPPPC questionnaire requests information on the financing context and the characteristics of the administrative databases used to construct the PS indicators. These questions represent the subset questions included in the HCQI patient safety indicators pilot data collection in 2008 that were found to be particularly useful in providing further understanding of the nature and context of the indicator rates reported by countries.

The responses to these questions in the PS questionnaire will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

This worksheet is found in the Patient Safety excel workbook (PS) under tab [PSADMNDB].

Patient Safety Supplementary Data	Return to index list
Which version of the ICD is being used to calculate the PS indicators? (Name of country modification):	<input type="text"/>
Which procedure classification is being used?	<input type="text"/>
Does your country use a DRG reimbursement system?	<input type="text"/>
Which definition of Principal Diagnosis is used in your country? If other please describe:	<input type="text"/>
If principal diagnosis is defined by diagnosis demanding most resources, was data rearranged as proposed in OECD Technical Manual for Patient Safety Indicators Manual (OECD HTP 19)?	<input type="text"/>
Which definition of Secondary Diagnosis is used in your country? If other please describe:	<input type="text"/>
Does the routine hospital data include a marker that enables identification of conditions present at admission?	<input type="text"/>
Can the date of operating room procedure be derived from the routine hospital data?	<input type="text"/>
Can admissions from a long-term facility be derived from the routine hospital data?	<input type="text"/>
Can transfers from an acute care facility be derived from the routine hospital data?	<input type="text"/>

GLOSSARY ([click here](#))

The following glossary of terms has been developed to clarify the meaning and application of key concepts used to specify the indicators and the methodology for calculating the indicators for the 2008-09 HCQI data collection:

- **Admission//separation/discharge:** Admission³ follows a clinical decision based upon specified criteria that a patient requires same-day or overnight hospital care or treatment. Separation is the process by which care for an admitted patient ceases either due to discharge from the hospital or death^{4 below}. For the purposes of these guidelines the three terms are considered exchangeable, allowing for countries to choose the data source readily available in their context (admission, discharge or separation databases). Thus, indicator and glossary definitions using these terms should be read as referring to any of the three possibilities.
- **Admission Based Calculation:** Where the unit of counting is a patient admission and does not require unique patient identification and the linking of related admissions. This means each admission is counted for the purposes of calculating indicator rates, regardless of whether a patient has multiple admissions within the specified period or not.
- **Patient Based Calculation:** Where the unit of counting is a patient that can be individually tracked through several admissions and requires unique patient identification and the linking of related admissions within a specified period. Only one patient is counted for the purposes of calculating indicator rates; in the case of multiple admissions during the specified year, the first admission in the year is the one taken as index.
- **Same Day Admission:** Admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available, cases with a length of stay of 0 days will qualify for same day admission.
- **Principal Diagnosis (PDx)⁴**
 - A. The condition established after evaluation to be chiefly responsible for causing the hospitalisation.
 - B. The diagnosis that is finally established to be the main reason for the hospital stay; that is demanding the most resources/medical effort over the course of the patients stay.
- **Secondary Diagnosis (SDx)⁴:** Comorbid conditions are those conditions for which the patient received treatment and consumed hospital resources in addition to those conditions considered to be the principal diagnosis.
- **Average Length of Stay (ALOS)⁴:** The total number of days of stay in hospital(s) divided by the associated total number of admissions for the specified period.
- **Year:** for the purpose of these guidelines, a year equates to a calendar year, starting the 1st of January and ending the 31st of December.

³ Derived from Australia National Health Data Dictionary v 13.2 (AIHW, 2007)

⁴ Adapted from Canadian Institute for Health Information. *Diagnosis Typing: Current Canadian and International Practices Background Paper for the Development of the ICD-10-CA/CCI Acute Care Inpatient Grouping Methodology*, 2004 accessed at http://www.cihi.ca/cihiweb/en/downloads/Diagnosis_Typing_Background_v1.pdf. on 01 January 2007.

DEFINITIONS BY QUESTIONNAIRE AND INDICATOR

Regularly Collected (RC) Indicators and Time Series (TS) ([click here](#))

Breast cancer five year observed survival rate [CNBROBSR]

Numerator: Number of women diagnosed (first primary cancer) with breast cancer (age 15-99) within a certain period surviving five years after diagnosis.

[Breast cancer diagnostic codes: ICD-9 C: 174.xx, ICD 10: C50.x].

Denominator: Number of women diagnosed (first primary cancer) with breast cancer (age 15-99) within a certain period.

Breast cancer five year relative survival rate [CNBRRLSR]

Numerator: Observed rate of women diagnosed (first primary cancer) with breast cancer (age 15-99) surviving five years after diagnosis.

[Breast cancer diagnostic codes: ICD-9 C: 174.xx, ICD 10: C50.x].

Denominator: Expected survival rate of a comparable group from the general population.

Cervical cancer five year observed survival rate [CNCVOBSR]

Numerator: Number of women diagnosed (first primary cancer) with cervical cancer (age 15- 99) surviving five years after diagnosis.

[Cervical cancer diagnostic codes: ICD 9 C:180.xx; ICD 10: C53.x].

Denominator: Number of women (age 15 - 99) diagnosed (first primary cancer) with cervical cancer.

Cervical cancer five year relative survival rate [CNCVRLSR]

Numerator: Observed rate of women (age 15-99) diagnosed (first primary cancer) with cervical cancer surviving five years after diagnosis.

[Cervical cancer diagnostic codes: ICD-9 C:180.xx; ICD-10: C53.x].

Denominator: Expected survival rate of a comparable group from the general population

Colorectal cancer observed five year survival rate [CNCLOBSR]

Numerator: Number of people diagnosed (first primary cancer) with colorectal cancer (age 15-99) surviving five years after diagnosis.

[Colorectal diagnostic codes: ICD9 C:153.xx, 154.xx; ICD10: C18.xx, C19.xx, C20.xx, C21.xx].

Denominator: Number of people (age 15-99) diagnosed (first primary cancer) with colorectal cancer.

Please, note that sex-specific survival rates are requested in addition to the total one.

Colorectal cancer relative five year survival rate [CNCLRLSR]

Numerator: Observed rate of people diagnosed (first primary cancer) with colorectal cancer (age 15-99) surviving five years after diagnosis.

[Colorectal diagnostic codes: ICD-9 C:153.xx, 154.xx; ICD-10: C18.xx, C19.xx, C20.xx, C21.xx].

Denominator: Expected survival rate of a comparable group from the general population.

Please, note that sex-specific survival rates are requested in addition to the total one.

Asthma mortality rate (age 5-39) [MORTASTH]

Numerator: Number of people dying from asthma as a primary cause, age 5-39 in specified year.

[Asthma diagnostic codes: ICD-9-493 or ICD-10- J45, J 46]

Denominator: 100 000 population (age 5-39) in the specified year

Patient based AMI 30 day (in-hospital and out of hospital) mortality rate [MORTAMIO]

Numerator: Number of deaths (age 15+) in any hospital and out of hospital that occurred within 30 days of hospital admission with primary diagnosis of acute myocardial infarction in a specified year.

[AMI diagnostic codes: ICD-9 410 or ICD-10 I21, I22.]

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of acute myocardial infarction in the specified year.

***Patient based AMI 30 day in-hospital (any hospital) mortality rate [*MORTAMIA]**

Numerator: Number of deaths (age 15+) in any hospital that occurred within 30 days of hospital admission with primary diagnosis of acute myocardial infarction in a specified year.

[AMI diagnostic codes: ICD-9 410 or ICD-10 I21, I22.]

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of acute myocardial infarction in the specified year.

***Patient based AMI 30 day in-hospital (same hospital) mortality rate [*MORTAMIS]**

Numerator: Number of deaths (age 15+) in the same hospital that occurred within 30 days of hospital admission with primary diagnosis of acute myocardial infarction in a specified year.

[AMI diagnostic codes: ICD-9 410 or ICD-10 I21, I22.]

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of acute myocardial infarction in the specified year.

***Admission based AMI 30 day in-hospital (same hospital) mortality rate [*MORTAMIB]**

Numerator: Number of deaths (age 15+) in the same hospital that occurred within 30 days of hospital admission with primary diagnosis of acute myocardial infarction in a specified year.

[AMI diagnostic codes: ICD-9 410 or ICD-10 I21, I22.]

Denominator: Number of admissions to hospital (age 15+) with primary diagnosis of acute myocardial infarction in the specified year.

Patient based hemorrhagic stroke 30 day (in-hospital and out-of-hospital) mortality rate [MORTHSTO]

Numerator: Number of deaths (age 15+) in any hospital and out-of-hospital that occurred within 30 days of hospital admission with primary diagnosis of hemorrhagic stroke in a specified year.

[Hemorrhagic stroke diagnostic codes: ICD-9 430-432 or ICD-10 I61-I62.]

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of hemorrhagic stroke in the specified year.

***Patient based hemorrhagic stroke 30 day in-hospital (any hospital) mortality rate**
[*MORTHSTA]

Numerator: Number of deaths (age 15+) in any hospital that occurred within 30 days of hospital admission with primary diagnosis of hemorrhagic stroke in a specified year.

[Hemorrhagic stroke diagnostic codes: ICD-9 430-432 or ICD-10 I61-I62]

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of hemorrhagic stroke in the specified year.

***Patient based hemorrhagic stroke 30 day in-hospital (same hospital) mortality rate**
[*MORTHSTS]

Numerator: Number of deaths (age 15+) in the same hospital that occurred within 30 days of hospital admission with primary diagnosis of hemorrhagic stroke in a specified year.

[Hemorrhagic stroke diagnostic codes: ICD-9 430-432 or ICD-10 I61-I62].

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of hemorrhagic stroke in the specified year.

***Admission based hemorrhagic stroke 30 day in-hospital (same hospital) mortality rate**
[*MORTHSTB]

Numerator: Number of deaths (age 15+) in the same hospital that occurred within 30 days of hospital admission with primary diagnosis of hemorrhagic stroke in a specified year.

Hemorrhagic stroke diagnostic codes: ICD-9 430-432 or ICD-10 I61-I62.

Denominator: Number of admissions to hospital (age 15+) with a primary diagnosis of hemorrhagic stroke in the specified year.

Patient based ischemic stroke 30 day (in-hospital and out-of-hospital) mortality rate
[MORTISTO]

Numerator: Number of deaths (age 15+) in any hospital and out-of-hospital that occurred within 30 days of hospital admission with primary diagnosis of ischemic stroke in a specified year.

[Ischemic stroke diagnostic codes: ICD-9 433, 434, and 436 or ICD-10 I63-I64]

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of ischemic stroke in the specified year.

***Patient based ischemic stroke 30 day in-hospital (any hospital) mortality rate [*MORTISTA]**

Numerator: Number of deaths (age 15+) in any hospital that occurred within 30 days of hospital admission with primary diagnosis of ischemic stroke in a specified year.

Ischemic stroke diagnostic codes: ICD-9 433, 434, and 436 or ICD-10 I63-I64.

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of ischemic stroke in the specified year.

***Patient based ischemic stroke 30 day in-hospital (same hospital) mortality rate [*MORTISTS]**

Numerator: Number of deaths (age 15+) in the same hospital that occurred within 30 days of hospital admission with primary diagnosis of ischemic stroke in a specified year.

Ischemic stroke diagnostic codes: ICD-9 433, 434, and 436 or ICD-10 I63-I64.

Denominator: Number of patients admitted to hospital (age 15+) with a primary diagnosis of ischemic stroke in the specified year.

***Admission based ischemic stroke 30 day in-hospital (same hospital) mortality rate [*MORTISTB]**

Numerator: Number of deaths (age 15+) in the same hospital that occurred within 30 days of hospital admission with primary diagnosis of ischemic stroke in a specified year.

[Ischemic stroke diagnostic codes: ICD-9 433, 434, and 436 or ICD-10 I63-I64].

Denominator: Number of admissions to hospital (age 15+) with a primary diagnosis of stroke in the specified year.

In-hospital waiting time for hip fracture surgery (age 65+) [IHWTHIPS]

Numerator: The number of patients age 65 and older admitted to the hospital in a specified year with a diagnosis of upper femur fracture with surgery initiated within 48 hours of admission.

[Hip fracture diagnostic codes: ICD-10 S72.0, S72.1, S72.2 or ICD-9 820]

Denominator: The number of patients age 65 and older admitted to the hospital with a diagnosis of upper femur fracture for the specified year.

Annual retinal exam for diabetics [EXAMDBRT]

Numerator: Number of diabetic patients who received at least one dilated eye exam or evaluation of retinal photography by an ophthalmologist or optometrist in a specified year.

Denominator: Number of patients with diabetes (type I and type II) age 15-75 years in the specified year.

Health Promotion, Prevention and Primary Care (PC) Indicators ([click here](#))

The definitions for the following nine PC indicators are based on specifications developed by the US Agency for Healthcare Research and Quality (Version 3.2 - February 29, 2008 - <http://www.qualityindicators.ahrq.gov>)

The following variations to the AHRQ definitions are noted:

- The age cut-off for the numerator and denominator is age 15 years and older rather than age 18 years and older.
- The specification of ICD-9-CM codes has been supplemented with cross mapped set of ICD-10 codes for each indicator.
- Same day/day only cases are specifically excluded in calculating each indicator.

Each of the HPPPC indicators requires the exclusion of MDC 14 and 15 cases. Countries using DRG classifications for hospital reimbursement assign each case to a MDC (Major Diagnostic Category) through the application of grouping software. The MDC relies exclusively on the principal diagnosis of the case. Codes lists using ICD 10 have been provided at Appendix B and C for MDC 14 and 15 respectively to assist countries in calculating the indicators.

The calculation of four of the HPPPC indicators also requires the use of procedure codes:

1. Hypertension Admission Rate
2. Congestive Heart Failure (CHF) Admission Rate
3. Angina without Procedure Admission Rate
4. Rate of Lower-extremity Amputation among Patients with Diabetes

There is no common international medical procedure classification and each country participating in the data collection is likely to use a different catalogue for procedure coding. It was not possible for the purposes of this data collection to provide a procedure code list for each country. The procedure codes from the US ICD-9-CM are listed in this document (refer to each specific indicator) to assist countries in adopting corresponding procedures from their classifications and performing a precise calculation of the indicators.

Please note that supplementary data requirements have been specified for these indicators in the relevant sections of the questionnaires..

Asthma admission rate [ADMRASTH]

Numerator: All non-maternal hospital discharges (age 15+) with a principal diagnosis code of asthma in a specified year.

Asthma diagnosis codes:

ICD-9-CM	ICD-10-WHO
49300 EXT ASTHMA W/O STAT ASH	J450 PREDOMINANTLY ALLERGIC ASTHMA
49301 EXT ASTHMA W STATUS ASH	J451 NONALLERGIC ASTHMA
49302 EXT ASTHMA W ACUTE EXAC OCT00-	J458 MIXED ASTHMA
49310 INT ASTHMA W/O STAT ASTH	J459 ASTHMA, UNSPECIFIED
49311 INT ASTHMA W STATUS ASTH	J46 STATUS ASTHMATICUS
49312 INT ASTHMA W ACUTE EXAC OCT00-	
49320 CH OB ASTH W/O STAT ASTH	
49321 CH OB ASTHMA W STAT ASTH	
49322 CH OBS ASTH W ACUTE EXAC OCT00-	
49381 EXERCSE IND BRONCHOSPASM OCT03-	
49382 COUGH VARIANT ASTHMA OCT03-	
49390 ASTHMA W/O STATUS ASTHM	
49391 ASTHMA W STATUS ASTHMAT	
49392 ASTHMA W ACUTE EXACERBTN OCT00-	

Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) – Refer to Appendix B
- MDC 15 (newborn and other neonates) – Refer to Appendix C
- with any diagnosis code of cystic fibrosis and anomalies of the respiratory system
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

Exclude diagnostic codes cystic fibrosis and anomalies of the respiratory system:

ICD-9-CM	ICD-10-WHO
27700 CYSTIC FIBROS W/O ILEUS	E840 CYSTIC FIBROSIS WITH PULMONARY MANIFESTATIONS
27701 CYSTIC FIBROS W ILEUS	E841 CYSTIC FIBROSIS WITH INTESTINAL MANIFESTATIONS
27702 CYSTIC FIBROS W PUL MAN	E848 CYSTIC FIBROSIS WITH OTHER MANIFESTATIONS
27703 CYSTIC FIBROSIS W GI MAN	E849 CYSTIC FIBROSIS, UNSPECIFIED
27709 CYSTIC FIBROSIS NEC	P27.0 WILSON-MIKITY SYNDROME
74721 ANOMALIES OF AORTIC ARCH	P27.1 BRONCHOPULMONARY DYSPLASIA ORIGINATING IN THE PERINATAL PERIOD
7483 LARYNGOTRACH ANOMALY NEC	P27.8 OTHER CHRONIC RESPIRATORY DISEASES ORIGINATING IN THE PERINATAL PERIOD
7484 CONGENITAL CYSTIC LUNG	P27.9 UNSPECIFIED CHRONIC RESP DISEASE ORIGINATING IN THE PERINATAL PERIOD
7485 AGENESIS OF LUNG	Q25.4 OTHER CONGENITAL MALFORMATIONS OF AORTA
74860 LUNG ANOMALY NOS	Q31.1 CONGENITAL SUBGLOTTIC STENOSIS
74861 CONGEN BRONCHIECTASIS	Q31.2 LARYNGEAL HYPOPLASIA
74869 LUNG ANOMALY NEC	Q31.3 LARYNGOCELE
7488 RESPIRATORY ANOMALY NEC	Q31.5 CONGENITAL LARYNGOMALACIA
7489 RESPIRATORY ANOMALY NOS	
7503 CONG ESOPH FISTULA/ATRES	
7593 SITUS INVERSUS	
7707 PERINATAL CHR RESP DIS	

	<p>Q31.8 OTHER CONGENITAL MALFORMATIONS OF LARYNX</p> <p>Q31.9 CONGENITAL MALFORMATION OF LARYNX, UNSPECIFIED</p> <p>Q32.0 CONGENITAL TRACHEOMALACIA</p> <p>Q32.1 OTHER CONGENITAL MALFORMATIONS OF TRACHEA</p> <p>Q32.2 CONGENITAL BRONCHOMALACIA</p> <p>Q32.3 CONGENITAL STENOSIS OF BRONCHUS</p> <p>Q32.4 OTHER CONGENITAL MALFORMATIONS OF BRONCHUS</p> <p>Q33.0 CONGENITAL CYSTIC LUNG</p> <p>Q33.1 ACCESSORY LOBE OF LUNG</p> <p>Q33.2 SEQUESTRATION OF LUNG</p> <p>Q33.3 AGENESIS OF LUNG</p> <p>Q33.4 CONGENITAL BRONCHIECTASIS</p> <p>Q33.5 ECTOPIC TISSUE IN LUNG</p> <p>Q33.6 HYPOPLASIA AND DYSPLASIA OF LUNG</p> <p>Q33.8 OTHER CONGENITAL MALFORMATIONS OF LUNG</p> <p>Q33.9 CONGENITAL MALFORMATION OF LUNG, UNSPECIFIED</p> <p>Q34.0 ANOMALY OF PLEURA</p> <p>Q34.1 CONGENITAL CYST OF MEDIASTINUM</p> <p>Q34.8 OTHER SPECIFIED CONGENITAL MALFORMATIONS OF RESPIRATORY SYSTEM</p> <p>Q34.9 CONGENITAL MALFORMATION OF RESPIRATORY SYSTEM, UNSPECIFIED</p> <p>Q39.0 ATRESIA OF OESOPHAGUS WITHOUT FISTULA</p> <p>Q39.1 ATRESIA OF OESOPHAGUS WITH TRACHEO-OESOPHAGEAL FISTULA</p> <p>Q39.2 CONGENITAL TRACHEO-OESOPHAGEAL FISTULA WITHOUT ATRESIA</p> <p>Q39.3 CONGENITAL STENOSIS AND STRICTURE OF OESOPHAGUS</p> <p>Q39.4 OESOPHAGEAL WEB</p> <p>Q39.8 OTHER CONGENITAL MALFORMATIONS OF OESOPHAGUS</p> <p>Q89.3 SITUS INVERSUS</p>
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Denominator: 100,000 Population (age 15+ years).

COPD admission rate [ADMRCOPD]

Numerator: All non-maternal hospital discharges (age 15+) with a principal diagnosis code for Chronic Obstructive Pulmonary Disease (COPD) in a specified year.

COPD diagnosis codes:

ICD-9-CM	ICD-10-WHO
490 BRONCHITIS NOS* 4660 AC BRONCHITIS* 4910 SIMPLE CHR BRONCHITIS 4911 MUCOPURUL CHR BRONCHITIS 49120 OBS CHR BRNC W/O ACT EXA 49121 OBS CHR BRNC W ACT EXA 4918 CHRONIC BRONCHITIS NEC 4919 CHRONIC BRONCHITIS NOS 4920 EMPHYSEMATOUS BLEB 4928 EMPHYSEMA NEC 494 BRONCHIECTASIS OCT00- 4940 BRONCHIECTAS W/O AC EXAC OCT00- 4941 BRONCHIECTASIS W AC EXAC OCT00- 496 CHR AIRWAY OBSTRUCT NEC <i>*Qualifies only if accompanied by secondary diagnosis of 491.xx, 492.x, 494.x or 496 (i.e., any other code on this list).</i>	J40 BRONCHITIS* J410 SIMPLE CHRONIC BRONCHITIS J411 MUCOPURULENT CHRONIC BRONCHITIS J418 MIXED SIMPLE AND MUCOPURULENT CHRONIC BRONCHITIS J42 UNSPECIFIED CHRONIC BRONCHITIS J430 MACLEOD'S SYNDROME J431 PANLOBULAR EMPHYSEMA J432 CENTRILOBULAR EMPHYSEMA J438 OTHER EMPHYSEMA J439 EMPHYSEMA, UNSPECIFIED J440 COPD WITH ACUTE LOWER RESPIRATORY INFECTION J441 COPD WITH ACUTE EXACERBATION, UNSPECIFIED J448 OTHER SPECIFIED CHRONIC OBSTRUCTIVE PULMONARY DISEASE J449 CHRONIC OBSTRUCTIVE PULMONARY DISEASE, UNSPECIFIED J47 BRONCHIECTASIS <i>*Qualifies only if accompanied by secondary diagnosis of J41, J43, J44, J47</i>

Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) – Refer to Appendix B
- MDC 15 (newborn and other neonates) - Refer to Appendix C
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

Denominator: 100,000 Population (age 15+ years).

CHF admission rate [ADMRCHFL]

Numerator: All non-maternal/non-neonatal hospital discharges (age 15+) with principal diagnosis code for Congestive Heart Failure (CHF) in a specified year.

CHF diagnostic codes:

ICD-9-CM	ICD-10-WHO
39891 RHEUMATIC HEART FAILURE 40201 MAL HYPERT HRT DIS W CHF 40211 BENIGN HYP HRT DIS W CHF 40291 HYPERTEN HEART DIS W CHF 40401 MAL HYPER HRT/REN W CHF 40403 MAL HYP HRT/REN W CHF/RF 40411 BEN HYPER HRT/REN W CHF 40413 BEN HYP HRT/REN W CHF/RF 40491 HYPER HRT/REN NOS W CHF 40493 HYP HT/REN NOS W CHF/RF 4280 CONGESTIVE HEART FAILURE 4281 LEFT HEART FAILURE 42820 SYSTOLIC HRT FAILURE NOS OCT02- 42821 AC SYSTOLIC HRT FAILURE OCT02- 42822 CHR SYSTOLIC HRT FAILURE OCT02- 42823 AC ON CHR SYST HRT FAIL OCT02- 42830 DIASTOLC HRT FAILURE NOS OCT02- 42831 AC DIASTOLIC HRT FAILURE OCT02- 42832 CHR DIASTOLIC HRT FAIL OCT02- 42833 AC ON CHR DIAST HRT FAIL OCT02- 42840 SYST/DIAST HRT FAIL NOS OCT02- 42841 AC SYST/DIASTOL HRT FAIL OCT02- 42842 CHR SYST/DIASTL HRT FAIL OCT02- 42843 AC/CHR SYST/DIA HRT FAIL OCT02- 4289 HEART FAILURE NOS	I11.0 HYPERTENSIVE HEART DISEASE WITH (CONGESTIVE) HEART FAILURE I13.0 HYPERTENSIVE HEART AND RENAL DISEASE WITH (CONGESTIVE) HEART FAILURE I13.2 HYPERTENSIVE HEART AND RENAL DISEASE WITH BOTH (CONGESTIVE) HEART FAILURE AND RENAL FAILURE I50.0 CONGESTIVE HEART FAILURE I50.1 LEFT VENTRICULAR FAILURE I50.9 HEART FAILURE, UNSPECIFIED

Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) - Refer to Appendix B
- MDC 15 (newborn and other neonates) - Refer to Appendix C
- with cardiac procedure codes in any field
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

See Appendix A for ICD-9-CM Cardiac Procedure Codes

Denominator: 100,000 Population (age 15+ years).

Angina without procedure admission rate [ADMRANGI]

Numerator: All non-maternal hospital discharges of (age 15+) with a principal diagnosis code for Angina c.

Angina diagnostic codes:

ICD-9-CM	ICD-10-WHO
4111 INTERMED CORONARY SYND	I20.0 UNSTABLE ANGINA
41181 CORONARY OCCLSN W/O MI	I20.1 ANGINA PECTORIS WITH DOCUMENTED SPASM
41189 AC ISCHEMIC HRT DIS NEC	I20.8 OTHER FORMS OF ANGINA PECTORIS
4130 ANGINA DECUBITUS	I20.9 ANGINA PECTORIS, UNSPECIFIED
4131 PRINZMETAL ANGINA	I24.0 CORONARY THROMBOSIS NOT RESULTING IN MYOCARDIAL INFARCTION
4139 ANGINA PECTORIS NEC/NOS	I24.8 OTHER FORMS OF ACUTE ISCHAEMIC HEART DISEASE
	I24.9 ACUTE ISCHAEMIC HEART DISEASE, UNSPECIFIED

Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) - Refer to Appendix B
- MDC 15 (newborn and other neonates) - Refer to Appendix C
- with a code for cardiac procedure in any field
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

See Appendix A for ICD-9-CM Cardiac Procedure Codes

Denominator: 100,000 Population (age 15+ years).

Angina without procedure admission rate [ADMIRANGI]

Alternative Specification for Supplementary Question D.4 and D.5 ([click here](#))

(A) Specification for Supplementary Question D.4:

Numerator

ICD-9	ICD-10
Any principal diagnosis accompanied by one or more of secondary diagnoses 4111, 41181, 41189, 4130, 4131, 4139 and 4140.	Any principal diagnosis accompanied by one or more of secondary diagnoses I20.0, I20.1, I20.8, I20.9, I24.0, I24.8 and I24.9 and I25.1

(B) Specification for Supplementary Question D.5

Numerator

ICD-9	ICD-10
Principal diagnosis 786.50 Chest pain, unspecified, 786.51 Chest pain, precordial, 786.9 Chest pain, other accompanied by one or more of secondary diagnoses 4111, 41181, 41189, 4130, 4131, 4139 and 4140.	Principal diagnosis R07.2 Chest pain, precordial, R07.3 Chest pain, other, R07.4 Chest pain, unspecified accompanied by one or more of secondary diagnoses I20.0, I20.1, I20.8, I20.9, I24.0, I24.8 and I24.9 and I25.1

Diabetes Short-term Complications Admission Rate [ADMRDBST]

Numerator: All non-maternal/non-neonatal hospital discharges (age 15+) with a principal diagnosis code for Diabetes short-term complications (i.e. ketoacidosis, hyperosmolarity, coma) in a specified year.

Diabetes short-term diagnostic codes:

ICD-9-CM	ICD-10-WHO
25010 DM KETO T2, DM CONT	E100 INSULIN-DEPENDENT DIABETES MELLITUS WITH COMA
25011 DM KETO T1, DM CONT	E101 INSULIN-DEPENDENT DIABETES MELLITUS WITH KETOACIDOSIS
25012 DM KETO T2, DM UNCONT	E110 NON-INSULIN-DEPENDENT DIABETES MELLITUS WITH COMA
25013 DM KETO T1, DM UNCONT	E111 NON-INSULIN-DEPENDENT DIABETES MELLITUS WITH KETOACIDOSIS
25020 DM W/ HYPROSM T2, DM CONT	E130 OTHER SPECIFIED DIABETES MELLITUS WITH COMA
25021 DM W/ HYPROSM T1, DM CONT	E131 OTHER SPECIFIED DIABETES MELLITUS WITH KETOACIDOSIS
25022 DM W/ HYPROSM T2, DM UNCONT	E140 UNSPECIFIED DIABETES MELLITUS WITH COMA
25023 DM W/ HYPROSM T1, DM UNCONT	E141 UNSPECIFIED DIABETES MELLITUS WITH KETOACIDOSIS
25030 DM COMA NEC TYP II, DM CNT	
25031 DM COMA NEC T1, DM CONT	
25032 DM COMA NEC T2, DM UNCONT	
25033 DM COMA NEC T1, DM UNCONT	

Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) - Refer to Appendix B
- MDC 15 (newborn and other neonates) - Refer to Appendix C
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

Denominator: 100,000 Population (age 15+ years).

Diabetes long-term complications admission rate [ADMRDBLT]

Numerator: Hospital discharges (age 15+) with principal diagnosis code for Diabetes long-term complications (i.e. renal, eye, neurological, circulatory, or complications not otherwise specified) in a specified year:

Diabetes long-term diagnostic codes:

ICD-9-CM	ICD-10-WHO
25040 DM RENAL COMP T2 CONT	E133 OTHER SPECIFIED DM WITH OPTHALMIC COMPLICATIONS
25041 DM RENAL COMP T1 CONT	E134 OTHER SPECIFIED DM WITH NEUROLOGICAL COMPLICATIONS
25042 DM RENAL COMP T2 UNCNT	E135 OTHER SPECIFIED DM WITH PERIPHERAL CIRCULATORY COMPLICATIONS
25043 DM RENAL COMP T1 UNCNT	E136 OTHER SPECIFIED DM WITH OTHER SPECIFIED COMPLICATIONS
25050 DM EYE COMP T2 CONT	E137 OTHER SPECIFIED DM WITH MULTIPLE COMPLICATIONS
25051 DM EYE COMP T1 CONT	E138 OTHER SPECIFIED DM WITH UNSPECIFIED COMPLICATIONS
25052 DM EYE COMP T2 UNCNT	E142 UNSPECIFIED DM WITH RENAL COMPLICATIONS
25053 DM EYE COMP T1 UNCNT	E143 UNSPECIFIED DM WITH OPTHALMIC COMPLICATIONS
25060 DM NEURO COMP T2 CONT	E144 UNSPECIFIED DM WITH NEUROLOGICAL COMPLICATIONS
25061 DM NEURO COMP T1 CONT	E145 UNSPECIFIED DM WITH PERIPHERAL CIRCULATORY COMPLICATIONS
25062 DM NEURO COMP T2 UNCNT	E146 UNSPECIFIED DM WITH OTHER SPECIFIED COMPLICATIONS
25063 DM NEURO COMP T1 UNCNT	E147 UNSPECIFIED DM WITH MULTIPLE COMPLICATIONS
25070 DM CIRCU DIS T2 CONT	E148 UNSPECIFIED DM WITH UNSPECIFIED COMPLICATIONS
25071 DM CIRCU DIS T1 CONT	
25072 DM CIRCU DIS T2 UNCNT	
25073 DM CIRCU DIS T1 UNCNT	
25080 DM W COMP NEC T2 CONT	
25081 DM W COMP NEC T1 CONT	
25082 DM W COMP NEC T2 UNCNT	
25083 DM W COMP NEC T1 UNCNT	
25090 DM W COMPL NOS T2 CONT	
25091 DM W COMPL NOS T1 CONT	
25092 DM W COMPL NOS T2 UNCNT	
25093 DM W COMPL NOS T1 UNCNT	

Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) - Refer to Appendix B
- MDC 15 (newborn and other neonates) - Refer to Appendix C
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

Denominator: 100,000 Population (age 15+ years).

Uncontrolled diabetes admission rate [ADMRDBUC]

Numerator: All non-maternal hospital discharges (age 15+) with principal diagnosis code for Uncontrolled diabetes, without mention of a short-term or long-term complication in a specified year.

Uncontrolled diabetes diagnostic codes :

ICD-9-CM	ICD-10-WHO
25002 DM, T2, UNCONT 25003 DM, T1, UNCONT	E109 INSULIN-DEPENDENT DIABETES MELLITUS WITHOUT COMPLICATIONS E119 NON-INSULIN-DEPENDENT DIABETES MELLITUS WITHOUT COMPLICATIONS E139 OTHER SPECIFIED DIABETES MELLITUS WITHOUT COMPLICATIONS E149 UNSPECIFIED DIABETES MELLITUS WITHOUT COMPLICATIONS

Note the need to distinguish controlled from uncontrolled.

Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) - Refer to Appendix B
- MDC 15 (newborn and other neonates) - Refer to Appendix C
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

Denominator: 100,000 Population (age 15+ years).

Diabetes lower extremity amputation rate [AMPRDBLE]

Numerator: All non-maternal discharges (age 15+) with procedure code for lower extremity amputation in any field and diagnosis code of diabetes in any field in a specified year.

Diabetes lower extremity amputation diagnostic codes:

ICD-9-CM	ICD-10-WHO
<p><i>Procedure codes for lower-extremity amputation</i></p> <p>8410 LOWER LIMB AMPUTAT NOS 8411 TOE AMPUTATION 8412 AMPUTATION THROUGH FOOT 8413 DISARTICULATION OF ANKLE 8414 AMPUTAT THROUGH MALLEOLI 8415 BELOW KNEE AMPUTAT NEC 8416 DISARTICULATION OF KNEE 8417 ABOVE KNEE AMPUTATION 8418 DISARTICULATION OF HIP 8419 HINDQUARTER AMPUTATION</p>	<p><i>Procedure codes for lower-extremity amputation</i></p> <p>NOT SPECIFIED</p>
<p><i>Diagnosis Codes For Diabetes:</i></p> <p>25000 DMII WO CMP NT ST UNCNR 25001 DMI WO CMP NT ST UNCNR 25002 DMII WO CMP UNCNRD 25003 DMI WO CMP UNCNRD 25010 DMII KETO NT ST UNCNRD 25011 DMI KETO NT ST UNCNRD 25012 DMII KETOACD UNCONTROL 25013 DMI KETOACD UNCONTROL 25020 DMII HPRSM NT ST UNCNR 25021 DMI HPRSM NT ST UNCNR 25022 DMII HPROMLR UNCONTROL 25023 DMI HPROMLR UNCONTROL 25030 DMII O CM NT ST UNCNRD 25031 DMI O CM NT ST UNCNR 25032 DMII OTH COMA UNCONTROL 25033 DMI OTH COMA UNCONTROL 25040 DMII RENL NT ST UNCNRD 25041 DMI RENL NT ST UNCNRD 25042 DMII RENAL UNCNRD 25043 DMI RENAL UNCNRD 25050 DMII OPHTH NT ST UNCNR 25051 DMI OPHTH NT ST UNCNR 25052 DMII OPHTH UNCNRD 25053 DMI OPHTH UNCNRD 25060 DMII NEURO NT ST UNCNR 25061 DMI NEURO NT ST UNCNR 25062 DMII NEURO UNCNRD 25063 DMI NEURO UNCNRD 25070 DMII CIRC NT ST UNCNRD 25071 DMI CIRC NT ST UNCNRD 25072 DMII CIRC UNCNRD 25073 DMI CIRC UNCNRD 25080 DMII OTH NT ST UNCNRD 25081 DMI OTH NT ST UNCNRD 25082 DMII OTH UNCNRD 25083 DMI OTH UNCNRD 25090 DMII UNSPF NT ST UNCNR 25091 DMI UNSPF NT ST UNCNR 25092 DMII UNSPF UNCNRD 25093 DMI UNSPF UNCNRD</p>	<p><i>Diagnosis codes for diabetes:</i></p> <p>E10.0 INSULIN-DEPENDENT DIABETES MELLITUS WITH COMA E10.1 INSULIN-DEPENDENT DIABETES MELLITUS WITH KETOACIDOSIS E10.2 INSULIN-DEPENDENT DIABETES MELLITUS WITH RENAL COMPLICATIONS E10.3 INSULIN-DEPENDENT DIABETES MELLITUS WITH OPHTHALMIC COMPLICATIONS E10.4 INSULIN-DEPENDENT DIABETES MELLITUS WITH NEUROLOGICAL COMPLICATIONS E10.5 INSULIN-DEPENDENT DM WITH PERIPHERAL CIRCULATORY COMPLICATIONS E10.6 INSULIN-DEPENDENT DM WITH OTHER SPECIFIED COMPLICATIONS E10.7 INSULIN-DEPENDENT DIABETES MELLITUS WITH MULTIPLE COMPLICATIONS E10.8 INSULIN-DEPENDENT DIABETES MELLITUS WITH UNSPECIFIED COMPLICATIONS E10.9 INSULIN-DEPENDENT DIABETES MELLITUS WITHOUT COMPLICATIONS E11.0 NON-INSULIN-DEPENDENT DIABETES MELLITUS WITH COMA E11.1 NON-INSULIN-DEPENDENT DIABETES MELLITUS WITH KETOACIDOSIS E11.2 NON-INSULIN-DEPENDENT DIABETES MELLITUS WITH RENAL COMPLICATIONS E11.3 NON-INSULIN-DEPENDENT DM WITH OPHTHALMIC COMPLICATIONS E11.4 NON-INSULIN-DEPENDENT DM WITH NEUROLOGICAL COMPLICATIONS E11.5 NON-INSULIN-DEPENDENT DM WITH PERIPHERAL CIRCULATORY COMPLICATIONS E11.6 NON-INSULIN-DEPENDENT DM WITH OTHER SPECIFIED COMPLICATIONS E11.7 NON-INSULIN-DEPENDENT DIABETES MELLITUS WITH MULTIPLE COMPLICATIONS E11.8 NON-INSULIN-DEPENDENT DM WITH UNSPECIFIED COMPLICATIONS E11.9 NON-INSULIN-DEPENDENT DIABETES MELLITUS WITHOUT COMPLICATIONS E13.0 OTHER SPECIFIED DIABETES MELLITUS WITH COMA E13.1 OTHER SPECIFIED DIABETES MELLITUS WITH KETOACIDOSIS E13.2 OTHER SPECIFIED DIABETES MELLITUS WITH RENAL COMPLICATIONS E13.3 OTHER SPECIFIED DIABETES MELLITUS WITH OPHTHALMIC COMPLICATIONS E13.4 OTHER SPECIFIED DIABETES MELLITUS WITH NEUROLOGICAL COMPLICATIONS E13.5 OTHER SPECIFIED DM WITH PERIPHERAL CIRCULATORY COMPLICATIONS E13.6 OTHER SPECIFIED DIABETES MELLITUS WITH OTHER SPECIFIED COMPLICATIONS E13.7 OTHER SPECIFIED DIABETES MELLITUS WITH MULTIPLE COMPLICATIONS E13.8 OTHER SPECIFIED DIABETES MELLITUS WITH UNSPECIFIED COMPLICATIONS E13.9 OTHER SPECIFIED DIABETES MELLITUS WITHOUT COMPLICATIONS</p>

	<p><i>Diagnosis codes for diabetes (continued):</i></p> <p>E14.0 UNSPECIFIED DIABETES MELLITUS WITH COMA E14.1 UNSPECIFIED DIABETES MELLITUS WITH KETOACIDOSIS E14.2 UNSPECIFIED DIABETES MELLITUS WITH RENAL COMPLICATIONS E14.3 UNSPECIFIED DIABETES MELLITUS WITH OPHTHALMIC COMPLICATIONS E14.4 UNSPECIFIED DIABETES MELLITUS WITH NEUROLOGICAL COMPLICATIONS E14.5 UNSPECIFIED DM WITH PERIPHERAL CIRCULATORY COMPLICATIONS E14.6 UNSPECIFIED DIABETES MELLITUS WITH OTHER SPECIFIED COMPLICATIONS E14.7 UNSPECIFIED DIABETES MELLITUS WITH MULTIPLE COMPLICATIONS E14.8 UNSPECIFIED DIABETES MELLITUS WITH UNSPECIFIED COMPLICATIONS E14.9 UNSPECIFIED DIABETES MELLITUS WITHOUT COMPLICATIONS</p>
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Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) - Refer to Appendix B
- MDC 15 (newborn and other neonates) - Refer to Appendix C
- with trauma diagnosis code in any field
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

Exclude trauma diagnosis codes:

ICD-9-CM	ICD-10-WHO
8950 AMPUTATION TOE	S78.0 TRAUMATIC AMPUTATION AT HIP JOINT
8951 AMPUTATION TOE-COMPLICAT	S78.1 TRAUMATIC AMPUTATION AT LEVEL BETWEEN HIP AND KNEE
8960 AMPUTATION FOOT, UNILAT	S78.9 TRAUMATIC AMPUTATION OF HIP AND THIGH, LEVEL UNSPECIFIED
8961 AMPUT FOOT, UNILAT-COMPL	S88.0 TRAUMATIC AMPUTATION AT KNEE LEVEL
8962 AMPUTATION FOOT, BILAT	S88.1 TRAUMATIC AMPUTATION AT LEVEL BETWEEN KNEE AND ANKLE
8963 AMPUTAT FOOT, BILAT-COMP	S88.9 TRAUMATIC AMPUTATION OF LOWER LEG, LEVEL UNSPECIFIED
8970 AMPUT BELOW KNEE, UNILAT	S98.0 TRAUMATIC AMPUTATION OF FOOT AT ANKLE LEVEL
8971 AMPUTAT BK, UNILAT-COMPL	S98.1 TRAUMATIC AMPUTATION OF ONE TOE
8972 AMPUT ABOVE KNEE, UNILAT	S98.2 TRAUMATIC AMPUTATION OF TWO OR MORE TOES
8973 AMPUT ABV KN, UNIL-COMPL	S98.3 TRAUMATIC AMPUTATION OF OTHER PARTS OF FOOT
8974 AMPUTAT LEG, UNILAT NOS	S98.4 TRAUMATIC AMPUTATION OF FOOT, LEVEL UNSPECIFIED
8975 AMPUT LEG, UNIL NOS-COMP	T05.3 TRAUMATIC AMPUTATION OF BOTH FEET
8976 AMPUTATION LEG, BILAT	T05.4 TRAUMATIC AMPUTATION OF 1 FOOT AND OTHER LEG [ANY LEVEL, EXCEPT FOOT]
8977 AMPUTAT LEG, BILAT-COMPL	T05.5 TRAUMATIC AMPUTATION OF BOTH LEGS [ANY LEVEL]
	T13.6 TRAUMATIC AMPUTATION OF LOWER LIMB, LEVEL UNSPECIFIED

Denominator: 100,000 Population (age 15+ years).

Hypertension Admission Rate [ADMRHYPT]

Numerator: All non-maternal hospital discharges (age 15+) with principal diagnosis code for Hypertension in a specified year.

Hypertension diagnostic codes:

ICD-9-CM	ICD-10-WHO
4010 MALIGNANT HYPERTENSION	I10 ESSENTIAL (PRIMARY) HYPERTENSION
4019 HYPERTENSION NOS	I119 HYPERTENSIVE HEART DISEASE WITHOUT (CONGESTIVE) HEART FAILURE
40200 MAL HYPERTEN HRT DIS NOS	I129 HYPERTENSIVE RENAL DISEASE WITHOUT RENAL FAILURE
40210 BEN HYPERTEN HRT DIS NOS	I139 HYPERTENSIVE HEART AND RENAL DISEASE, UNSPECIFIED
40290 HYPERTENSIVE HRT DIS NOS	
40300 MAL HYP REN W/O REN FAIL	
40310 BEN HYP REN W/O REN FAIL	
40390 HYP REN NOS W/O REN FAIL	
40400 MAL HY HT/REN W/O CHF/RF	
40410 BEN HY HT/REN W/O CHF/RF	
40490 HY HT/REN NOS W/O CHF/RF	

Exclude cases:

- transferring from another institution
- MDC 14 (pregnancy, childbirth, and puerperium) - Refer to Appendix B
- MDC 15 (newborn and other neonates) - Refer to Appendix C
- with cardiac procedure codes in any field
- same day/day only admissions (admissions with a length of stay less than 24 hours. In those countries where a timestamp of admission or discharge is not available cases with a length of stay of 0 days shall be excluded.

See Appendix A for ICD-9-CM Cardiac Procedure Codes

Denominator: 100,000 Population (age 15+ years).

Mental Health (MH) Indicators ([click here](#))

Technical Notes on the Mental Health (MH) Indicators

The Mental health indicators included in the questionnaire are all unplanned hospital readmission rates. Therefore they all entail the need to identify an index admission in which the patient is recognized as suffering the condition (either schizophrenia or bipolar disorder). The first admission in a calendar year presenting the codes for the relevant condition as principal diagnosis or as one of the first two listed secondary diagnosis, will be the **index admission**. All these admissions will count for the denominator of the indicator. Any admission with a mental condition code (any code, see list below) as principal diagnose within 30 days from discharge from the index admission will be considered as **unplanned readmission** and will count for the numerator.

Mental and Behavioural Disorders	ICD10
Mental and behavioural disorders due to psychoactive substance use	F10.-F19.
Schizophrenia, schizotypal and delusional disorders	F20.- F29.
Mood [affective] disorders	F30.- F39.
Neurotic, stress related and somatoform disorders	F40.- F48
Behavioural syndromes associated with physiological disturbances and physical factors	F50.- F59.
Disorders of adult personality and behaviour	F60.- F69.
Behavioural and emotional disorders with onset usually occurring in childhood and adolescence	F90.- F98.
Unspecified mental disorder	F99.
	ICD9/9CM
Psychoses (excluded dementias 290)	291.- 299.
Neurotic disorders, personality disorders and other nonpsychotic mental disorders	300.-316.

In the case of **patients being admitted with mental condition codes as principal diagnosis more than one time after the index admission in the same calendar year**, each of the admissions occurring within 30 days from a previous one with mental health codes (regardless whether this last has been already considered a re-admission) is considered an unplanned re-admission and will count for the numerator.

There are two different specifications of each of the mental health indicators; one accounts for the number of unplanned readmissions within the same facility and the other one for the number of readmissions irrespective of the facility. The reason behind this doubling is the detected variability in terms of information system's ability to track patients through different facilities. The comparison of the data obtained from those countries able to calculate both versions of the indicators will enable preliminary exploration of the impact of this technical difference on the rates obtained. This information will be utilised by the Secretariat during subsequent analysis and reporting of the data to facilitate cross national comparability and transparency.

Unplanned schizophrenia any hospital re-admission rate [ADMRSCHA]

Numerator: Total number of unplanned re-admissions in a calendar year (**refer to technical notes above**) to any hospital for patients (age 15+) discharged at least once in the referred year with a principal diagnosis or first two listed secondary diagnosis of schizophrenia.

Denominator: Total number of patients 15 years old and over discharged from hospital at least once in the referred year with a principal diagnosis or first two listed secondary diagnosis of schizophrenia.

Schizophrenia diagnosis codes:

ICD-9-CM	ICD-10-WHO
295	F20
295.1	F21
295.2	F23.1
295.3	F23.2
295.6	F25.1
295.8	F25.2
295.9	F25.8
295.5	F25.9
295.4	
295.8	
295.9	
295.7	

Unplanned schizophrenia same hospital re-admission rate [*ADMRSCHS]

Numerator: Total number of unplanned re-admissions in a calendar year (**refer to technical notes above**) to the same hospital for patients (age 15+) discharged at least once in the referred year with a principal or first two listed secondary diagnosis of schizophrenia.

Denominator: Total number of patients (age 15+) discharged at least once from hospital in the referred year with a principal or first two listed secondary diagnosis of schizophrenia.

Schizophrenia diagnosis codes: see above.

Unplanned bipolar disorder any hospital re-admission rate [ADMRBIPA]

Numerator: Total number of unplanned re-admissions in a calendar year(**refer to technical notes above**) to any hospital for patients (age 15+) discharged at least once in the referred year with a principal diagnosis or first two listed secondary diagnosis of bipolar disorder.

Denominator: Total number of patients (age 15+) discharged at least once from hospital in the referred year with a principal or first two listed secondary diagnosis of bipolar disorder.

Bipolar disorder diagnostic codes:

ICD-9-CM	ICD-10-WHO
296.2	F31
296.3	
296.4	
296.5	
296.6	
296.7	
296.8	
296.89	

Unplanned bipolar disorder same hospital re-admission rate [*ADMRBIPS]

Numerator: Total number of unplanned re-admissions in a calendar year (**refer to technical notes above**) to the same hospital for patients (age 15+) discharged at least once in the referred year with a principal or first two listed secondary diagnosis of bipolar disorder.

Denominator: Total number of patients (age 15+) discharged at least once from hospital in the referred year with a principal or first two listed secondary diagnosis of bipolar disorder.

Bipolar disorder diagnostic codes: see above.

Patient Safety (PS) Indicators

A separate manual has been prepared to specify the definitions and methodology for calculating the patient safety indicators set out in the PS questionnaire. Please refer to Technical Manual for Patient Safety Indicators.

APPENDIX A: CARDIAC PROCEDURE CODES

Cardiac procedure codes are used by the following PQIs:

*Hypertension Admission Rate
 Congestive Heart Failure (CHF) Admission Rate
 Angina without Procedure Admission Rate*

The relevant ICD-9-CM Cardiac Procedure Codes are:

0050 Impl crt pacemaker sys oct02-
0051 Impl crt defibrillat oct02-
0052 Imp/rep lead lf ven sys oct02-
0053 Imp/rep crt pacemkr gen oct02-
0054 Imp/rep crt defib genat oct02-
0056 Ins/rep impl sensor lead oct06-
0057 Imp/rep subcue card dev oct06-
0066 Ptca oct06-
3500 Closed valvotomy nos
3501 Closed aortic valvotomy
3502 Closed mitral valvotomy
3503 Closed pulmon valvotomy
3504 Closed tricusp valvotomy
3510 Open valvuloplasty nos
3511 Opn aortic valvuloplasty
3512 Opn mitral valvuloplasty
3513 Opn pulmon valvuloplasty
3514 Opn tricusp valvuloplasty
3520 Replace heart valve nos
3521 Replace aort valv-tissue
3522 Replace aortic valve nec
3523 Replace mitr valv-tissue
3524 Replace mitral valve nec
3525 Replace pulm valv-tissue
3526 Replace pulmon valve nec
3527 Replace tric valv-tissue
3528 Replace tricusp valv nec
3531 Papillary muscle ops
3532 Chordae tendineae ops
3533 Annuloplasty

3534 Infundibulectomy
3535 Trabecul carnaeae cord op
3539 Tiss adj to valv ops nec
3541 Enlarge existing sep def
3542 Create septal defect
3550 Prosth rep hrt septa nos
3551 Pros rep atrial def-opn
3552 Pros repair atria def-cl
3553 Prost repair ventric def
3554 Pros rep endocar cushion
3555 Pros rep ventrc def-clos oct06-
3560 Graft repair hrt sept nos
3561 Graft repair atrial def
3562 Graft repair ventric def
3563 Graft rep endocar cushion
3570 Heart septa repair nos
3571 Atria septa def rep nec
3572 Ventr septa def rep nec
3573 Endocar cushion rep nec
3581 Tot repair tetral fallot
3582 Total repair of tapvc
3583 Tot rep truncus arterios
3584 Tot cor transpos grt ves
3591 Interat ven retrn transp
3592 Conduit rt vent-pul art
3593 Conduit left ventr-aorta
3594 Conduit artium-pulm art
3595 Heart repair revision
3596 Perc heart valvuloplasty
3598 Other heart septa ops
3599 Other heart valve ops
3601 Ptca-1 Vessel w/o agent
3602 Ptca-1 vessel with agnt
3603 Open coronry angioplasty
3604 Intrcoronry thromb infus
3605 Ptca-multiple vessel
3606 Insert of cor art stent oct95-
3607 Ins drug-elut coronry st oct02-
3609 Rem of cor art obstr nec
3610 Aortocoronary bypass nos
3611 Aortocor bypas-1 cor art
3612 Aortocor bypas-2 cor art
3613 Aortocor bypas-3 cor art
3614 Aortcor bypas-4+ cor art
3615 1 Int mam-cor art bypass
3616 2 Int mam-cor art bypass
3617 Abd-coron art bypass oct96-
3619 Hrt revas byps anas nec

3633 Oth heart revascular
3631 Open chest trans revasc
3632 Oth transmyo revascular
3633 Endo transmyo revascular oct06-
3634 Perc transmyo revascular oct06-
3639 Oth heart revasular
3691 Coron vess aneurysm rep
3699 Heart vessle op nec
3731 Pericardiectomy
3732 Heart aneurysm excision
3733 Exc/dest hrt lesion open
3734 Exc/dest hrt les other
3735 Partial ventriculectomy
3741 Implant prosth card support dev oct06
375 Heart transplantation (not valid after oct 03)
3751 Heart tranplantation oct03-
3752 Implant tot rep hrt sys oct03-
3753 Repl/rep thorac unit hrt oct03-
3754 Repl/rep oth tot hrt sys oct03-
3770 Int insert pacemak lead
3771 Int insert lead in vent
3772 Int insert lead atri-vent
3773 Int inser lead in atrium
3774 Int or repl lead epicar
3775 Revision of lead
3776 Repl tv atri-vent lead
3777 Removal of lead w/o repl
3778 Inser team pacemaker sys
3779 Revis or relocate pocket
3780 Int or repl perm pacemkr
3781 Int insert 1-cham, non
3782 Int insert 1-cham, rate
3783 Int insert dual-cham dev
3785 Repl pacem w 1-cham, non
3786 Repl pacem 1-cham, rate
3787 Repl pacem w dual-cham
3789 Revise or remove pacemak
3794 Implt/repl carddefib tot
3795 Implt cardiodefib leads
3796 Implt cardiodefib genatr
3797 Repl cardiodefib leads
3798 Repl cardiodefib genratr

Source: AHRQ (2008) Prevention Quality Indicators Technical Specifications.

APPENDIX B: ICD 10 CODE LIST FOR MDC-14

This code list is adapted from:

- German Diagnosis Related Groups, Version 2006. Definitionshandbuch. Institut für das Entgeltsystem im Krankenhaus gGmbH (InEK), Siegburg, Germany, and
- Australian Refined Diagnosis Related Groups V 4.1. Definitions Manual, Vol. 1-3. Commonwealth of Australia 1998.

ICD-10 WHO	Title	MDC
A34	Obstetrical tetanus	14
F53.0	Mild mental and behavioural disorders associated with the puerperium, not elsewhere classified	14
F53.1	Severe mental and behavioural disorders associated with the puerperium, not elsewhere classified	14
F53.8	Other mental and behavioural disorders associated with the puerperium, not elsewhere classified	14
F53.9	Puerperal mental disorder, unspecified	14
O00.0	Abdominal pregnancy	14
O00.1	Tubal pregnancy	14
O00.2	Ovarian pregnancy	14
O00.8	Other ectopic pregnancy	14
O00.9	Ectopic pregnancy, unspecified	14
O01.0	Classical hydatidiform mole	14
O01.1	Incomplete and partial hydatidiform mole	14
O01.9	Hydatidiform mole, unspecified	14
O02.0	Blighted ovum and nonhydatidiform mole	14
O02.1	Missed abortion	14
O02.8	Other specified abnormal products of conception	14
O02.9	Abnormal product of conception, unspecified	14
O03.0	Spontaneous abortion, incomplete, complicated by genital tract and pelvic infection	14
O03.1	Spontaneous abortion, incomplete, complicated by delayed or excessive haemorrhage	14
O03.2	Spontaneous abortion, incomplete, complicated by embolism	14
O03.3	Spontaneous abortion, incomplete, with other and unspecified complications	14
O03.4	Spontaneous abortion, incomplete, without complication	14
O03.5	Spontaneous abortion, complete or unspecified, complicated by genital tract and pelvic infection	14

O03.6	Spontaneous abortion, complete or unspecified, complicated by delayed or excessive haemorrhage	14
O03.7	Spontaneous abortion, complete or unspecified, complicated by embolism	14
O03.8	Spontaneous abortion, complete or unspecified, with other and unspecified complications	14
O03.9	Spontaneous abortion, complete or unspecified, without complication	14
O04.0	Medical abortion, incomplete, complicated by genital tract and pelvic infection	14
O04.1	Medical abortion, incomplete, complicated by delayed or excessive haemorrhage	14
O04.2	Medical abortion, incomplete, complicated by embolism	14
O04.3	Medical abortion, incomplete, with other and unspecified complications	14
O04.4	Medical abortion, incomplete, without complication	14
O04.5	Medical abortion, complete or unspecified, complicated by genital tract and pelvic infection	14
O04.6	Medical abortion, complete or unspecified, complicated by delayed or excessive haemorrhage	14
O04.7	Medical abortion, complete or unspecified, complicated by embolism	14
O04.8	Medical abortion, complete or unspecified, with other and unspecified complications	14
O04.9	Medical abortion, complete or unspecified, without complication	14
O05.0	Other abortion, incomplete, complicated by genital tract and pelvic infection	14
O05.1	Other abortion, incomplete, complicated by delayed or excessive haemorrhage	14
O05.2	Other abortion, incomplete, complicated by embolism	14
O05.3	Other abortion, incomplete, with other and unspecified complications	14
O05.4	Other abortion, incomplete, without complication	14
O05.5	Other abortion, complete or unspecified, complicated by genital tract and pelvic infection	14
O05.6	Other abortion, complete or unspecified, complicated by delayed or excessive haemorrhage	14
O05.7	Other abortion, complete or unspecified, complicated by embolism	14
O05.8	Other abortion, complete or unspecified, with other and unspecified complications	14
O05.9	Other abortion, complete or unspecified, without complication	14
O06.0	Unspecified abortion, incomplete, complicated by genital tract and pelvic infection	14
O06.1	Unspecified abortion, incomplete, complicated by delayed or excessive haemorrhage	14
O06.2	Unspecified abortion, incomplete, complicated by embolism	14
O06.3	Unspecified abortion, incomplete, with other and unspecified complications	14
O06.4	Unspecified abortion, incomplete, without complication	14
O06.5	Unspecified abortion, complete or unspecified, complicated by genital tract and pelvic infection	14
O06.6	Unspecified abortion, complete or unspecified, complicated by delayed or excessive haemorrhage	14
O06.7	Unspecified abortion, complete or unspecified, complicated by embolism	14
O06.8	Unspecified abortion, complete or unspecified, with other and unspecified complications	14

O06.9	Unspecified abortion, complete or unspecified, without complication	14
O07.0	Failed medical abortion, complicated by genital tract and pelvic infection	14
O07.1	Failed medical abortion, complicated by delayed or excessive haemorrhage	14
O07.2	Failed medical abortion, complicated by embolism	14
O07.3	Failed medical abortion, with other and unspecified complications	14
O07.4	Failed medical abortion, without complication	14
O07.5	Other and unspecified failed attempted abortion, complicated by genital tract and pelvic infection	14
O07.6	Other and unspecified failed attempted abortion, complicated by delayed or excessive haemorrhage	14
O07.7	Other and unspecified failed attempted abortion, complicated by embolism	14
O07.8	Other and unspecified failed attempted abortion, with other and unspecified complications	14
O07.9	Other and unspecified failed attempted abortion, without complication	14
O08.0	Genital tract and pelvic infection following abortion and ectopic and molar pregnancy	14
O08.1	Delayed or excessive haemorrhage following abortion and ectopic and molar pregnancy	14
O08.2	Embolism following abortion and ectopic and molar pregnancy	14
O08.3	Shock following abortion and ectopic and molar pregnancy	14
O08.4	Renal failure following abortion and ectopic and molar pregnancy	14
O08.5	Metabolic disorders following abortion and ectopic and molar pregnancy	14
O08.6	Damage to pelvic organs and tissues following abortion and ectopic and molar pregnancy	14
O08.7	Other venous complications following abortion and ectopic and molar pregnancy	14
O08.8	Other complications following abortion and ectopic and molar pregnancy	14
O08.9	Complication following abortion and ectopic and molar pregnancy, unspecified	14
O10.0	Pre-existing essential hypertension complicating pregnancy, childbirth and the puerperium	14
O10.1	Pre-existing hypertensive heart disease complicating pregnancy, childbirth and the puerperium	14
O10.2	Pre-existing hypertensive renal disease complicating pregnancy, childbirth and the puerperium	14
O10.3	Pre-existing hypertensive heart and renal disease complicating pregnancy, childbirth and the puerperium	14
O10.4	Pre-existing secondary hypertension complicating pregnancy, childbirth and the puerperium	14
O10.9	Unspecified pre-existing hypertension complicating pregnancy, childbirth and the puerperium	14
O11	Pre-existing hypertensive disorder with superimposed proteinuria	14
O12.0	Gestational oedema	14
O12.1	Gestational proteinuria	14
O12.2	Gestational oedema with proteinuria	14
O13	Gestational [pregnancy-induced] hypertension without significant proteinuria	14
O14.0	Moderate pre-eclampsia	14
O14.1	Severe pre-eclampsia	14

O14.9	Pre-eclampsia, unspecified	14
O15.0	Eclampsia in pregnancy	14
O15.1	Eclampsia in labour	14
O15.2	Eclampsia in the puerperium	14
O15.9	Eclampsia, unspecified as to time period	14
O16	Unspecified maternal hypertension	14
O20.0	Threatened abortion	14
O20.8	Other haemorrhage in early pregnancy	14
O20.9	Haemorrhage in early pregnancy, unspecified	14
O21.0	Mild hyperemesis gravidarum	14
O21.1	Hyperemesis gravidarum with metabolic disturbance	14
O21.2	Late vomiting of pregnancy	14
O21.8	Other vomiting complicating pregnancy	14
O21.9	Vomiting of pregnancy, unspecified	14
O22.0	Varicose veins of lower extremity in pregnancy	14
O22.1	Genital varices in pregnancy	14
O22.2	Superficial thrombophlebitis in pregnancy	14
O22.3	Deep phlebothrombosis in pregnancy	14
O22.4	Haemorrhoids in pregnancy	14
O22.5	Cerebral venous thrombosis in pregnancy	14
O22.8	Other venous complications in pregnancy	14
O22.9	Venous complication in pregnancy, unspecified	14
O23.0	Infections of kidney in pregnancy	14
O23.1	Infections of bladder in pregnancy	14
O23.2	Infections of urethra in pregnancy	14
O23.3	Infections of other parts of urinary tract in pregnancy	14
O23.4	Unspecified infection of urinary tract in pregnancy	14
O23.5	Infections of the genital tract in pregnancy	14
O23.9	Other and unspecified genitourinary tract infection in pregnancy	14
O24.0	Diabetes mellitus in pregnancy: Pre-existing diabetes mellitus, insulin-dependent	14
O24.1	Diabetes mellitus in pregnancy: Pre-existing diabetes mellitus, non-insulin-dependent	14
O24.2	Diabetes mellitus in pregnancy: Pre-existing malnutrition-related diabetes mellitus	14
O24.3	Diabetes mellitus in pregnancy: Pre-existing diabetes mellitus, unspecified	14
O24.4	Diabetes mellitus arising in pregnancy	14
O24.9	Diabetes mellitus in pregnancy, unspecified	14
O25	Malnutrition in pregnancy	14
O26.0	Excessive weight gain in pregnancy	14
O26.1	Low weight gain in pregnancy	14
O26.2	Pregnancy care of habitual aborter	14
O26.3	Retained intrauterine contraceptive device in pregnancy	14
O26.4	Herpes gestationis	14
O26.5	Maternal hypotension syndrome	14
O26.6	Liver disorders in pregnancy, childbirth and the puerperium	14
O26.7	Subluxation of symphysis (pubis) in pregnancy, childbirth and the puerperium	14

O26.8	Other specified pregnancy-related conditions	14
O26.9	Pregnancy-related condition, unspecified	14
O28.0	Abnormal haematological finding on antenatal screening of mother	14
O28.1	Abnormal biochemical finding on antenatal screening of mother	14
O28.2	Abnormal cytological finding on antenatal screening of mother	14
O28.3	Abnormal ultrasonic finding on antenatal screening of mother	14
O28.4	Abnormal radiological finding on antenatal screening of mother	14
O28.5	Abnormal chromosomal and genetic finding on antenatal screening of mother	14
O28.8	Other abnormal findings on antenatal screening of mother	14
O28.9	Abnormal finding on antenatal screening of mother, unspecified	14
O29.0	Pulmonary complications of anaesthesia during pregnancy	14
O29.1	Cardiac complications of anaesthesia during pregnancy	14
O29.2	Central nervous system complications of anaesthesia during pregnancy	14
O29.3	Toxic reaction to local anaesthesia during pregnancy	14
O29.4	Spinal and epidural anaesthesia-induced headache during pregnancy	14
O29.5	Other complications of spinal and epidural anaesthesia during pregnancy	14
O29.6	Failed or difficult intubation during pregnancy	14
O29.8	Other complications of anaesthesia during pregnancy	14
O29.9	Complication of anaesthesia during pregnancy, unspecified	14
O30.0	Twin pregnancy	14
O30.1	Triplet pregnancy	14
O30.2	Quadruplet pregnancy	14
O30.8	Other multiple gestation	14
O30.9	Multiple gestation, unspecified	14
O31.0	Papyraceous fetus	14
O31.1	Continuing pregnancy after abortion of one fetus or more	14
O31.2	Continuing pregnancy after intrauterine death of one fetus or more	14
O31.8	Other complications specific to multiple gestation	14
O32.0	Maternal care for unstable lie	14
O32.1	Maternal care for breech presentation	14
O32.2	Maternal care for transverse and oblique lie	14
O32.3	Maternal care for face, brow and chin presentation	14
O32.4	Maternal care for high head at term	14
O32.5	Maternal care for multiple gestation with malpresentation of one fetus or more	14
O32.6	Maternal care for compound presentation	14
O32.8	Maternal care for other malpresentation of fetus	14
O32.9	Maternal care for malpresentation of fetus, unspecified	14
O33.0	Maternal care for disproportion due to deformity of maternal pelvic bones	14
O33.1	Maternal care for disproportion due to generally contracted pelvis	14
O33.2	Maternal care for disproportion due to inlet contraction of pelvis	14
O33.3	Maternal care for disproportion due to outlet contraction of pelvis	14
O33.4	Maternal care for disproportion of mixed maternal and fetal origin	14
O33.5	Maternal care for disproportion due to unusually large fetus	14
O33.6	Maternal care for disproportion due to hydrocephalic fetus	14
O33.7	Maternal care for disproportion due to other fetal deformities	14

O33.8	Maternal care for disproportion of other origin	14
O33.9	Maternal care for disproportion, unspecified	14
O34.0	Maternal care for congenital malformation of uterus	14
O34.1	Maternal care for tumour of corpus uteri	14
O34.2	Maternal care due to uterine scar from previous surgery	14
O34.3	Maternal care for cervical incompetence	14
O34.4	Maternal care for other abnormalities of cervix	14
O34.5	Maternal care for other abnormalities of gravid uterus	14
O34.6	Maternal care for abnormality of vagina	14
O34.7	Maternal care for abnormality of vulva and perineum	14
O34.8	Maternal care for other abnormalities of pelvic organs	14
O34.9	Maternal care for abnormality of pelvic organ, unspecified	14
O35.0	Maternal care for (suspected) central nervous system malformation in fetus	14
O35.1	Maternal care for (suspected) chromosomal abnormality in fetus	14
O35.2	Maternal care for (suspected) hereditary disease in fetus	14
O35.3	Maternal care for (suspected) damage to fetus from viral disease in mother	14
O35.4	Maternal care for (suspected) damage to fetus from alcohol	14
O35.5	Maternal care for (suspected) damage to fetus by drugs	14
O35.6	Maternal care for (suspected) damage to fetus by radiation	14
O35.7	Maternal care for (suspected) damage to fetus by other medical procedures	14
O35.8	Maternal care for other (suspected) fetal abnormality and damage	14
O35.9	Maternal care for (suspected) fetal abnormality and damage, unspecified	14
O36.0	Maternal care for rhesus isoimmunization	14
O36.1	Maternal care for other isoimmunization	14
O36.2	Maternal care for hydrops fetalis	14
O36.3	Maternal care for signs of fetal hypoxia	14
O36.4	Maternal care for intrauterine death	14
O36.5	Maternal care for poor fetal growth	14
O36.6	Maternal care for excessive fetal growth	14
O36.7	Maternal care for viable fetus in abdominal pregnancy	14
O36.8	Maternal care for other specified fetal problems	14
O36.9	Maternal care for fetal problem, unspecified	14
O40	Polyhydramnios	14
O41.0	Oligohydramnios	14
O41.1	Infection of amniotic sac and membranes	14
O41.8	Other specified disorders of amniotic fluid and membranes	14
O41.9	Disorder of amniotic fluid and membranes, unspecified	14
O42.0	Premature rupture of membranes, onset of labour within 24 hours	14
O42.1	Premature rupture of membranes, onset of labour after 24 hours	14
O42.2	Premature rupture of membranes, labour delayed by therapy	14
O42.9	Premature rupture of membranes, unspecified	14
O43.0	Placental transfusion syndromes	14
O43.1	Malformation of placenta	14
O43.8	Other placental disorders	14
O43.9	Placental disorder, unspecified	14
O44.0	Placenta praevia specified as without haemorrhage	14
O44.1	Placenta praevia with haemorrhage	14

O45.0	Premature separation of placenta with coagulation defect	14
O45.8	Other premature separation of placenta	14
O45.9	Premature separation of placenta, unspecified	14
O46.0	Antepartum haemorrhage with coagulation defect	14
O46.8	Other antepartum haemorrhage	14
O46.9	Antepartum haemorrhage, unspecified	14
O47.0	False labour before 37 completed weeks of gestation	14
O47.1	False labour at or after 37 completed weeks of gestation	14
O47.9	False labour, unspecified	14
O48	Prolonged pregnancy	14
O60.0	Preterm labour without delivery	14
O60.1	Preterm labour with preterm delivery	14
O60.2	Preterm labour with term delivery	14
O61.0	Failed medical induction of labour	14
O61.1	Failed instrumental induction of labour	14
O61.8	Other failed induction of labour	14
O61.9	Failed induction of labour, unspecified	14
O62.0	Primary inadequate contractions	14
O62.1	Secondary uterine inertia	14
O62.2	Other uterine inertia	14
O62.3	Precipitate labour	14
O62.4	Hypertonic, incoordinate, and prolonged uterine contractions	14
O62.8	Other abnormalities of forces of labour	14
O62.9	Abnormality of forces of labour, unspecified	14
O63.0	Prolonged first stage (of labour)	14
O63.1	Prolonged second stage (of labour)	14
O63.2	Delayed delivery of second twin, triplet, etc.	14
O63.9	Long labour, unspecified	14
O64.0	Obstructed labour due to incomplete rotation of fetal head	14
O64.1	Obstructed labour due to breech presentation	14
O64.2	Obstructed labour due to face presentation	14
O64.3	Obstructed labour due to brow presentation	14
O64.4	Obstructed labour due to shoulder presentation	14
O64.5	Obstructed labour due to compound presentation	14
O64.8	Obstructed labour due to other malposition and malpresentation	14
O64.9	Obstructed labour due to malposition and malpresentation, unspecified	14
O65.0	Obstructed labour due to deformed pelvis	14
O65.1	Obstructed labour due to generally contracted pelvis	14
O65.2	Obstructed labour due to pelvic inlet contraction	14
O65.3	Obstructed labour due to pelvic outlet and mid-cavity contraction	14
O65.4	Obstructed labour due to fetopelvic disproportion, unspecified	14
O65.5	Obstructed labour due to abnormality of maternal pelvic organs	14
O65.8	Obstructed labour due to other maternal pelvic abnormalities	14
O65.9	Obstructed labour due to maternal pelvic abnormality, unspecified	14
O66.0	Obstructed labour due to shoulder dystocia	14
O66.1	Obstructed labour due to locked twins	14
O66.2	Obstructed labour due to unusually large fetus	14

O66.3	Obstructed labour due to other abnormalities of fetus	14
O66.4	Failed trial of labour, unspecified	14
O66.5	Failed application of vacuum extractor and forceps, unspecified	14
O66.8	Other specified obstructed labour	14
O66.9	Obstructed labour, unspecified	14
O67.0	Intrapartum haemorrhage with coagulation defect	14
O67.8	Other intrapartum haemorrhage	14
O67.9	Intrapartum haemorrhage, unspecified	14
O68.0	Labour and delivery complicated by fetal heart rate anomaly	14
O68.1	Labour and delivery complicated by meconium in amniotic fluid	14
O68.2	Labour and delivery complicated by fetal heart rate anomaly with meconium in amniotic fluid	14
O68.3	Labour and delivery complicated by biochemical evidence of fetal stress	14
O68.8	Labour and delivery complicated by other evidence of fetal stress	14
O68.9	Labour and delivery complicated by fetal stress, unspecified	14
O69.0	Labour and delivery complicated by prolapse of cord	14
O69.1	Labour and delivery complicated by cord around neck, with compression	14
O69.2	Labour and delivery complicated by other cord entanglement	14
O69.3	Labour and delivery complicated by short cord	14
O69.4	Labour and delivery complicated by vasa praevia	14
O69.5	Labour and delivery complicated by vascular lesion of cord	14
O69.8	Labour and delivery complicated by other cord complications	14
O69.9	Labour and delivery complicated by cord complication, unspecified	14
O70.0	First degree perineal laceration during delivery	14
O70.1	Second degree perineal laceration during delivery	14
O70.2	Third degree perineal laceration during delivery	14
O70.3	Fourth degree perineal laceration during delivery	14
O70.9	Perineal laceration during delivery, unspecified	14
O71.0	Rupture of uterus before onset of labour	14
O71.1	Rupture of uterus during labour	14
O71.2	Postpartum inversion of uterus	14
O71.3	Obstetric laceration of cervix	14
O71.4	Obstetric high vaginal laceration alone	14
O71.5	Other obstetric injury to pelvic organs	14
O71.6	Obstetric damage to pelvic joints and ligaments	14
O71.7	Obstetric haematoma of pelvis	14
O71.8	Other specified obstetric trauma	14
O71.9	Obstetric trauma, unspecified	14
O72.0	Third-stage haemorrhage	14
O72.1	Other immediate postpartum haemorrhage	14
O72.2	Delayed and secondary postpartum haemorrhage	14
O72.3	Postpartum coagulation defects	14
O73.0	Retained placenta without haemorrhage	14
O73.1	Retained portions of placenta and membranes, without haemorrhage	14
O74.0	Aspiration pneumonitis due to anaesthesia during labour and delivery	14
O74.1	Other pulmonary complications of anaesthesia during labour and delivery	14
O74.2	Cardiac complications of anaesthesia during labour and delivery	14

O74.3	Central nervous system complications of anaesthesia during labour and delivery	14
O74.4	Toxic reaction to local anaesthesia during labour and delivery	14
O74.5	Spinal and epidural anaesthesia-induced headache during labour and delivery	14
O74.6	Other complications of spinal and epidural anaesthesia during labour and delivery	14
O74.7	Failed or difficult intubation during labour and delivery	14
O74.8	Other complications of anaesthesia during labour and delivery	14
O74.9	Complication of anaesthesia during labour and delivery, unspecified	14
O75.0	Maternal distress during labour and delivery	14
O75.1	Shock during or following labour and delivery	14
O75.2	Pyrexia during labour, not elsewhere classified	14
O75.3	Other infection during labour	14
O75.4	Other complications of obstetric surgery and procedures	14
O75.5	Delayed delivery after artificial rupture of membranes	14
O75.6	Delayed delivery after spontaneous or unspecified rupture of membranes	14
O75.7	Vaginal delivery following previous caesarean section	14
O75.8	Other specified complications of labour and delivery	14
O75.9	Complication of labour and delivery, unspecified	14
O80.0	Spontaneous vertex delivery	14
O80.1	Spontaneous breech delivery	14
O80.8	Other single spontaneous delivery	14
O80.9	Single spontaneous delivery, unspecified	14
O81.0	Low forceps delivery	14
O81.1	Mid-cavity forceps delivery	14
O81.2	Mid-cavity forceps with rotation	14
O81.3	Other and unspecified forceps delivery	14
O81.4	Vacuum extractor delivery	14
O81.5	Delivery by combination of forceps and vacuum extractor	14
O82.0	Delivery by elective caesarean section	14
O82.1	Delivery by emergency caesarean section	14
O82.2	Delivery by caesarean hysterectomy	14
O82.8	Other single delivery by caesarean section	14
O82.9	Delivery by caesarean section, unspecified	14
O85	Puerperal sepsis	14
O86.0	Infection of obstetric surgical wound	14
O86.1	Other infection of genital tract following delivery	14
O86.2	Urinary tract infection following delivery	14
O86.3	Other genitourinary tract infections following delivery	14
O86.4	Pyrexia of unknown origin following delivery	14
O86.8	Other specified puerperal infections	14
O87.0	Superficial thrombophlebitis in the puerperium	14
O87.1	Deep phlebothrombosis in the puerperium	14
O87.2	Haemorrhoids in the puerperium	14
O87.3	Cerebral venous thrombosis in the puerperium	14
O87.8	Other venous complications in the puerperium	14

O87.9	Venous complication in the puerperium, unspecified	14
O88.0	Obstetric air embolism	14
O88.1	Amniotic fluid embolism	14
O88.2	Obstetric blood-clot embolism	14
O88.3	Obstetric pyaemic and septic embolism	14
O88.8	Other obstetric embolism	14
O89.0	Pulmonary complications of anaesthesia during the puerperium	14
O89.1	Cardiac complications of anaesthesia during the puerperium	14
O89.2	Central nervous system complications of anaesthesia during the puerperium	14
O89.3	Toxic reaction to local anaesthesia during the puerperium	14
O89.4	Spinal and epidural anaesthesia-induced headache during the puerperium	14
O89.5	Other complications of spinal and epidural anaesthesia during the puerperium	14
O89.6	Failed or difficult intubation during the puerperium	14
O89.8	Other complications of anaesthesia during the puerperium	14
O89.9	Complication of anaesthesia during the puerperium, unspecified	14
O90.0	Disruption of caesarean section wound	14
O90.1	Disruption of perineal obstetric wound	14
O90.2	Haematoma of obstetric wound	14
O90.3	Cardiomyopathy in the puerperium	14
O90.4	Postpartum acute renal failure	14
O90.5	Postpartum thyroiditis	14
O90.8	Other complications of the puerperium, not elsewhere classified	14
O90.9	Complication of the puerperium, unspecified	14
O91.0	Infection of nipple associated with childbirth	14
O91.1	Abscess of breast associated with childbirth	14
O91.2	Nonpurulent mastitis associated with childbirth	14
O92.0	Retracted nipple associated with childbirth	14
O92.1	Cracked nipple associated with childbirth	14
O92.2	Other and unspecified disorders of breast associated with childbirth	14
O92.3	Agalactia	14
O92.4	Hypogalactia	14
O92.5	Suppressed lactation	14
O92.6	Galactorrhoea	14
O92.7	Other and unspecified disorders of lactation	14
O94	Sequelae of complication of pregnancy, childbirth and the puerperium	14
O95	Obstetric death of unspecified cause	14
O96	Death from any obstetric cause occurring more than 42 days but less than one year after delivery	14
O97	Death from sequelae of direct obstetric causes	14
O98.0	Tuberculosis complicating pregnancy, childbirth and the puerperium	14
O98.1	Syphilis complicating pregnancy, childbirth and the puerperium	14
O98.2	Gonorrhoea complicating pregnancy, childbirth and the puerperium	14
O98.3	Other infections with a predominantly sexual mode of transmission complicating pregnancy, childbirth and the puerperium	14
O98.4	Viral hepatitis complicating pregnancy, childbirth and the puerperium	14
O98.5	Other viral diseases complicating pregnancy, childbirth and the puerperium	14

O98.6	Protozoal diseases complicating pregnancy, childbirth and the puerperium	14
O98.8	Other maternal infectious and parasitic diseases complicating pregnancy, childbirth and the puerperium	14
O98.9	Unspecified maternal infectious or parasitic disease complicating pregnancy, childbirth and the puerperium	14
O99.0	Anaemia complicating pregnancy, childbirth and the puerperium	14
O99.1	Other diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism complicating pregnancy, childbirth and the puerperium	14
O99.2	Endocrine, nutritional and metabolic diseases complicating pregnancy, childbirth and the puerperium	14
O99.3	Mental disorders and diseases of the nervous system complicating pregnancy, childbirth and the puerperium	14
O99.4	Diseases of the circulatory system complicating pregnancy, childbirth and the puerperium	14
O99.5	Diseases of the respiratory system complicating pregnancy, childbirth and the puerperium	14
O99.6	Diseases of the digestive system complicating pregnancy, childbirth and the puerperium	14
O99.7	Diseases of the skin and subcutaneous tissue complicating pregnancy, childbirth and the puerperium	14
O99.8	Other specified diseases and conditions complicating pregnancy, childbirth and the puerperium	14
Z32.0	Pregnancy, not (yet) confirmed	14
Z32.1	Pregnancy confirmed	14
Z33	Pregnant state, incidental	14
Z34.0	Supervision of normal first pregnancy	14
Z34.8	Supervision of other normal pregnancy	14
Z34.9	Supervision of normal pregnancy, unspecified	14
Z35.0	Supervision of pregnancy with history of infertility	14
Z35.1	Supervision of pregnancy with history of abortive outcome	14
Z35.2	Supervision of pregnancy with other poor reproductive or obstetric history	14
Z35.3	Supervision of pregnancy with history of insufficient antenatal care	14
Z35.4	Supervision of pregnancy with grand multiparity	14
Z35.5	Supervision of elderly primigravida	14
Z35.6	Supervision of very young primigravida	14
Z35.8	Supervision of other high-risk pregnancies	14
Z35.9	Supervision of high-risk pregnancy, unspecified	14
Z36.0	Antenatal screening for chromosomal anomalies	14
Z36.1	Antenatal screening for raised alphafetoprotein level	14
Z36.2	Other antenatal screening based on amniocentesis	14
Z36.3	Antenatal screening for malformations using ultrasound and other physical methods	14
Z36.4	Antenatal screening for fetal growth retardation using ultrasound and other physical methods	14
Z36.5	Antenatal screening for isoimmunization	14
Z36.8	Other antenatal screening	14
Z36.9	Antenatal screening, unspecified	14

Z37.0	Single live birth	14
Z37.1	Single stillbirth	14
Z37.2	Twins, both liveborn	14
Z37.3	Twins, one liveborn and one stillborn	14
Z37.4	Twins, both stillborn	14
Z37.5	Other multiple births, all liveborn	14
Z37.6	Other multiple births, some liveborn	14
Z37.7	Other multiple births, all stillborn	14
Z37.9	Outcome of delivery, unspecified	14
Z39.0	Care and examination immediately after delivery	14
Z39.1	Care and examination of lactating mother	14
Z39.2	Routine postpartum follow-up	14
Z64.0	Problems related to unwanted pregnancy	14

APPENDIX C: ICD 10 CODE LIST FOR MDC-15

This code list is adapted from:

- German Diagnosis Related Groups, Version 2006. Definitionshandbuch. Institut für das Entgeltsystem im Krankenhaus gGmbH (InEK), Siegburg, Germany, and
- Australian Refined Diagnosis Related Groups V 4.1. Definitions Manual, Vol. 1-3. Commonwealth of Australia 1998.

ICD-10 WHO	Title	MDC
A33	Tetanus neonatorum	15
P00.0	Fetus and newborn affected by maternal hypertensive disorders	15
P00.1	Fetus and newborn affected by maternal renal and urinary tract diseases	15
P00.2	Fetus and newborn affected by maternal infectious and parasitic diseases	15
P00.3	Fetus and newborn affected by other maternal circulatory and respiratory diseases	15
P00.4	Fetus and newborn affected by maternal nutritional disorders	15
P00.5	Fetus and newborn affected by maternal injury	15
P00.6	Fetus and newborn affected by surgical procedure on mother	15
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