

Guidelines to record ICD -10 codes for COVID-19 deaths

The COVID-19 disease outbreak was declared a Public Health Emergency of International Concern (PHEIC) on 30 January 2020 by the World Health Organization, and later on 11 March 2020 as a Pandemic. During such situations, mortality surveillance becomes a very important public health tool to assess the impact of the viral infections. Accurate documentation on underlying cause of death and contributory health conditions in the death certificates becomes invaluable to estimate cause of mortality statistics for disease burden estimations.

This document provides guidelines for recording morbidity and mortality due to COVID-19 as per the Guidelines of WHO and the general considerations of recording and reporting Medical Certification of Cause of death (MCCD) in India.

1. Emergency ICD-10 codes for COVID-19 by the WHO¹

Emergency ICD-10 Code	Usage conditions
U07.1	COVID-19, virus identified
U07.2	COVID-19, virus not identified, Clinically-epidemiologically diagnosed COVID-19 Probable COVID-19 Suspected COVID-19

2. COVID-19 Case definitions by Govt of India²

Term	Definition
Confirmed cases	A confirmed case is a person with laboratory confirmation of infection with the COVID-19 virus, irrespective of clinical signs and symptoms.
Suspected cases	All symptomatic individuals who have undertaken international travel in the last 14 days <i>or</i> <ul style="list-style-type: none"> • All symptomatic contacts of laboratory confirmed cases <i>or</i> <ul style="list-style-type: none"> • All symptomatic healthcare personnel (HCP) <i>or</i> <ul style="list-style-type: none"> • All hospitalized patients with severe acute respiratory illness (SARI) (fever AND cough and/or shortness of breath) <i>or</i> <ul style="list-style-type: none"> • Asymptomatic direct and high risk contacts of a confirmed case (should be tested once between day 5 and day 14 after contact) <i>Symptomatic refers to fever/cough/shortness of breath.</i> <i>Direct and high-risk contacts include those who live in the same household with a confirmed case and HCP who examined a confirmed case.</i> And Covid 19 virus test result is awaited in this category
Probable case (as per WHO)	A probable case is a suspected case for which the report from laboratory testing for the COVID-19 virus is inconclusive.

3. Mortality coding of COVID-19 with ICD-10 codes

a. The ICD -10 codes presently recommended by WHO for mortality coding are¹ :

Test	Symptoms of COVID-19	Diagnosis	Code
+ve	None	Confirmed COVID-19	U07.1
+ve	Present	Confirmed COVID-19 documented as UCOD	U07.1
+ve	Present with comorbid conditions like heart disease, asthma, COPD, Type 2 diabetes	Confirmed COVID-19 documented as UCOD	U07.1
Test Negative	Present	Clinically –Epidemiologically diagnosed COVID -19	U07.2
Test awaited	Present	Suspected COVID-19	
Test inconclusive	Present	Probable COVID-19	

b. Underlying cause of death (UCOD) and contributory conditions

Medical Certificate of cause of death (MCCD) Form 4 needs to be completed in deaths that occur in hospitals and Form 4 A needs to be completed in deaths that occur in non-institutions like residence. The MCCD form contains Part 1 to record the immediate and antecedent causes, and Part 2 to record the significant conditions that contributed to the death but were not part of the sequence of events leading to death

Part 1:

The time interval between the presumed onset of the condition, not the diagnosis, and death should be reported. It is acceptable to approximate the intervals or use general terms, such as hours, days, weeks, or years. Immediate cause is the condition that directly preceded death and is recorded in line ‘a’ of Part 1. COVID-19 is known to cause Acute respiratory distress syndrome (ARDS) or Pneumonia. These may lead to death and may be recorded in line ‘a’ or ‘b’. It is likely that COVID-19 is the Underlying cause of death (UCOD) that lead to ARDS or Pneumonia in most of the deaths due to COVID-19. In these cases COVID-19 must be captured in the last line / lowest line of Part 1 of MCCD form 4/4 A. Acute respiratory failure is a mode of dying and it is prudent not to record it in line a/b/c.

Part 2 :

Patients who present with other pre-existing comorbid conditions such as chronic obstructive pulmonary disease (COPD) or asthma, chronic bronchitis, ischemic heart disease, cancer and diabetes mellitus.

- These conditions increase the risk of developing respiratory infections, and may lead to complications and severe disease in a COVID-19 positive individual. These conditions are not considered as UCOD as they have directly not caused death due to COVID-19.
- Also a patient may have many co-morbid conditions, but only those that have contributed to death should be recorded in Part 2.

4. **Examples:**

Example 1 : 40 year old male diagnosed with COVID-19

CAUSE OF DEATH

Part I		Interval between onset and death approx	For statistical use
Immediate Cause State the disease, injury or complication which caused death, not the mode of dying such as heart failure, asthenia, etc	a) Respiratory acidosis	2 days	
Antecedent cause Morbid conditions, if any, giving rise to the above cause stating underlying conditions last.	b) Acute respiratory distress syndrome (ARDS) c) COVID-19	3 days 7 days	 U07.1
Part II Other significant conditions contributing to the death but not related to the disease or condition causing it.		

Example 2 : 60 year old male, father of COVID 19 patient and a known diabetes individual presented with Influenza like illness (ILI) and died, test for COVID-19 not available

CAUSE OF DEATH

Part I		Interval between onset and death approx	For statistical use
Immediate Cause State the disease, injury or complication which caused death, not the mode of dying such as heart failure, asthenia, etc	a) Acute respiratory distress syndrome (ARDS)	1 day	
Antecedent cause Morbid conditions, if any, giving rise to the above cause stating underlying conditions last.	b) Influenza like illness c) COVID-19 suspect	4 days 4 days	 U07.2
Part II Other significant conditions contributing to the death but not related to the disease or condition causing it.Diabetes.....	15 years	

Example 3 : 50 year old female completed chemotherapy for Breast cancer admitted with breathlessness and developed shock and died

CAUSE OF DEATH

Part I		Interval between onset and death approx	For statistical use
Immediate Cause State the disease, injury or complication which caused death, not the mode of dying such as heart failure, asthenia, etc	a) Disseminated Intravascular Coagulation (DIC)	2 days	
Antecedent cause Morbid conditions, if any, giving rise to the above cause stating underlying conditions last.	b) Pneumonia c) COVID-19	5 days 5 days	U07.1
Part II Other significant conditions contributing to the death but not related to the disease or condition causing it.	Breast Cancer	6 months	

Example 4 76 year old male with Ischemic heart disease developed fever and breathlessness two days ago, and was admitted and died in 24 hours, first test was inconclusive

CAUSE OF DEATH

Part I		Interval between onset and death approx	For statistical use
Immediate Cause State the disease, injury or complication which caused death, not the mode of dying such as heart failure, asthenia, etc	a) Acute cardiac injury	1 day	
Antecedent cause Morbid conditions, if any, giving rise to the above cause stating underlying conditions last.	b) Probable COVID-19	2 days	U07.2
Part II Other significant conditions contributing to the death but not related to the disease or condition causing it.	Ischemic heart disease		

5. Manner of death: refers to the circumstances under which death has occurred.

- Manner of death due to COVID-19 infection will mostly be ‘natural’, as it is the disease that led to the death.
- In case of suicide by an individual tested +ve for COVID-19, the manner of death may be captured as suicide / pending investigation if the medical autopsy is awaited.

6. Place of death:

- Most of the deaths due to COVID-19 occur in a hospital and in such cases the place of death should be captured as ‘Hospital’.
- In case an individual is discharged from hospital and the death occurs in his/her residence, the place of death must be captured as ‘House’.

7. General considerations:

1. Provide specific medical terms as cause of death. COVID-19 is a ‘viral infection’ and presentations include ‘influenza like illness’ (ILI) or “Severe acute respiratory illness (SARI). These are not specific and can be used in the sequence of the events and the specific virus / bacteria / agent that caused the disease should be recorded as UCOD, for example COVID-19.
2. Record the logical sequence of events in Part 1. There may be many medical conditions in a person. Based on the most logical events that caused death, these conditions are only mentioned in Part 1.
3. Avoid abbreviations and short forms like ARDS, COPD, SARI.
Though COVID-19 (Corona virus disease -19) is an abbreviation, it has been specified by the WHO and is an acceptable term to be used as UCOD³.

References :

1. World Health Organization. COVID-19 coding in ICD-10. Available from:
<https://www.who.int/classifications/icd/COVID-19-coding-icd10.pdf?ua=1>
2. Ministry of Health & Family Welfare, Directorate General of Health Services, (EMR Division). Revised Guidelines on Clinical Management of COVID – 19. Available from:
<https://www.mohfw.gov.in/pdf/RevisedNationalClinicalManagementGuidelineforCOVID1931032020.pdf>
3. National Center for Health Statistics. Guidance for certifying deaths due to COVID–19. Hyattsville, MD. 2020.