

An 80yr old woman admitted to hospital from a nursing home with a temperature of 39.2 °C. She first became resident at the nursing home 2 years earlier after a cerebral infarct that left her with residual hemiparesis. Over the next year she became increasingly dependent on others to help her with activities of daily living, eventually requiring an indwelling catheter 6 months before the current admission. For the 3 days prior to admission she was noted to have lost her appetite & to have become increasingly withdrawn. On admission to hospital she had pyuria, a high leucocyte count & gram-ve rods were seen on the gram stain of a urine sample. Blood cultures 2 days after admission were positive for *Pseudomonas aeruginosa*. Despite antibiotics, fever persisted & on the fourth day after admission she became hypotensive and died. Patient had been diabetic (well-controlled, on oral hypoglycaemics) for 5 years, hypertensive for 15 years & obese for 20 years.

Cause of death		Approximate Interval between onset & death
Part I		
Disease or condition directly leading to death*	a) Septicaemia As a consequence of	2 days
<i>Antecedent causes</i> Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	b) Urinary tract infection - <i>Pseudomonas Aeruginosa</i> As a consequence of	3 days
	c) Indwelling catheter As a consequence of	6 months
	d) Cerebral Infarct with hemiparesis	2 years
Part II		
Other significant conditions contributing to death, but not related to the disease or condition causing it	Hypertension	15 years
	Diabetes Mellitus type II	5 years
	Obesity	20 years
*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

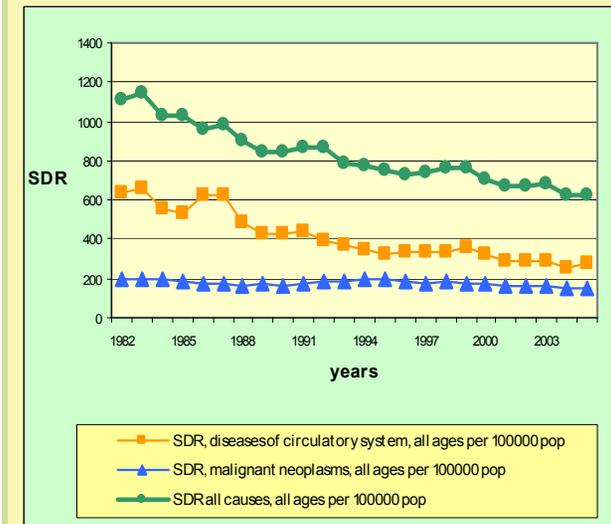
The woman had many risk factors for the cerebrovascular accident, which have been documented in part II. Though the stroke occurred 2 years previously, complications that resulted were due to her dependent state, which resulted from her hemiparesis.

Adding Important Information

- **Neoplasms:** Please specify behaviour: whether tumour is malignant, benign or unknown e.g. for brain neoplasm. State site of origin as precisely as possible and morphology if known e.g. carcinoma of sigmoid colon.
- **Hepatitis & Liver failure:** Indicate cause of liver disease e.g. alcohol, hepatitis A, B or C, autoimmune, etc and if acute or chronic.
- **Infections:** Specify if acute or chronic; Infecting organism; site if localized; state antecedent condition leading to septicaemia.
- **Pneumonia:** State the cause of any antecedent condition that led to the pneumonia. If possible identify causative organism. If due to immobility specify cause of the immobility.
- **Pulmonary embolism:** Specify cause of embolism. If post surgical or due to immobility— specify disease that lead to surgery or immobility.
- **Surgery/procedures:** specify what condition necessitated the surgery; what procedure was performed; any resulting complications.
- **Injuries e.g. fractures:** State how the fracture occurred and where the incident occurred.
- **Haematoma e.g. subdural haematoma—** specify if traumatic or not. If traumatic please state details of trauma.



Instructions for completing the medical part of the death certificate



Trends in standardised mortality rates in Malta 1982-2005 for all deaths, cardiovascular diseases and neoplasms

Source: WHO-Health For All Database, www.euro.who.int/hfadb

For more examples see **manual on certification of causes of death in Europe—EUROSTAT-ISTAT** on website:

www.sahha.gov.mt/entities/healthinformation.html

Or web-based training tool on website:

<http://ec.europa.eu/comm/eurostat/deathcert/>
Leaflet created in collaboration with the European Commission

Malta National Mortality Registry
Department of Health Information and Research
95, Guardamangia Hill,
Guardamangia PTA 1313
Malta

Phone: 356 25599000

Fax: 356 25599385

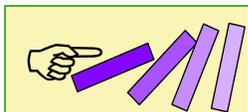
E-mail: healthinfo@gov.mt

A death certificate is a permanent record of the facts of death of an individual. It is the source of mortality statistics and forms the basis of the oldest and most extensive public health surveillance systems.

Cause-of-Death Section of Death Certificate

The cause-of-death section consists of two parts:

Part I is used to report the **sequence** of events leading directly to death, with the **immediate cause** of death



(the final disease, injury, or complication directly causing death) on line a (part I). If the condition on line a resulted from another cause, this other cause should be entered on line b (part I), and so on until the full sequence is reported. Always enter the **underlying cause** of death (the disease or injury which initiated the chain of morbid events that led directly to death, or the circumstances of the accident or violence which produced the fatal injury) on the lowest used line of part I.

- If an organ system failure such as congestive heart failure, liver failure etc. are listed as a cause of death, always report its etiology on the line(s) below it (e.g. renal failure due to insulin dependent diabetes mellitus).
- Terminal events e.g. cardiac arrest, or cardio-respiratory failure should not be used.
- For each cause of death indicate the best estimated time interval between the presumed onset and date of death.
- Statistically mortality research focuses on the underlying cause of death because public health interventions seek to break the sequence of causally related medical conditions as early as possible. However all information reported on death certificates is important for analysis.

Part II is for any other significant condition/s that contributed to the fatal outcome, but were not related to the disease or condition directly causing death.

Examples of proper completion of cause of death section.

A 62 year old man with a previous history of myocardial infarction 5 years ago was admitted to hospital with me-leana, which was found to be due to a colonic carcinoma. This was resected and patient made a good post-operative recovery. 3 months later however he suffered a myocardial infarction with cardiogenic shock and died. He was a smoker for 15 years and suffered from non-insulin dependent diabetes mellitus for 3 years which was well controlled.

Cause of death		Approximate Interval between onset & death
Part I		
Disease or condition directly leading to death*	a) Cardiogenic shock As a consequence of	min
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	b) Acute myocardial infarction As a consequence of	min
	c) Ischaemic heart disease at least since 5 years ago..... As a consequence of	
	d)	
Part II	Non-insulin dependent diabetes Mellitus Smoking Colonic carcinoma operated successfully	3 yrs 15 yrs 3 months
*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

The man suffered from ischaemic heart disease (entered on the lowest used line of part I, in this case line C of part I) which led to his myocardial infarction (entered on line B), and cardiogenic shock (entered on line A). Diabetes mellitus and cigarette smoking are both risk factors which should be put down in part II. Though the colonic cancer was under control it is believed to have contributed to the death, however not directly.

Examples of proper completion of cause of death section of death certificate:

An 80 year old man tripped over a rug in his home and sustained a fracture of the neck of the left femur. He was operated (hemi-arthroplasty) the following day. 3 weeks later his condition deteriorated, and he developed hypostatic pneumonia and died 2 days later. He had a history of hypertension over the last 10 years which was well controlled.

Cause of death		Approximate Interval between onset & death
Part I		
Disease or condition directly leading to death*	a) Hypostatic pneumonia As a consequence of	2 days
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	b) Operated—Hemiarthroplasty As a consequence of	3 weeks
	c) Fractured neck of left femur As a consequence of	3 weeks
	d) Accidentally tripped over rug at home	3 weeks
Part II	Hypertension	10 years
*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

In deaths involving injuries, it is important to specify the circumstances of the accident e.g. in this case – accidentally tripped over rug at home and this should be reported on the lowest used line of part I. This is important from a public health prevention point of view and is reported in mortality statistics. Any surgery done should also be reported.

If fracture or fall is due to known osteoporosis, osteomalacia or other disorders of bone density, this should also be reported.