

Principles for Including or Excluding 'Mechanisms' of Death When Writing Cause-of-Death Statements

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• **Objective.**—To develop principles and refined definitions designed to improve the content of cause-of-death statements regarding inclusion or exclusion of so-called mechanisms of death.

Data Sources.—Survey of readily available instruction manuals and other literature regarding mechanisms of death and instructions for death certificate completion.

Data Synthesis.—Definitions and principles contained in the information sources were reviewed, and a set of specific principles, criteria, and definitions were written. These principles are consistent with, but are more extensive and practically applicable than, those found in each of the information sources surveyed and may be used to decide which conditions to report in cause-of-death statements.

Conclusions.—Mechanisms of death include a defined list of terminal events (such as asystole) and a larger group of nonspecific physiologic derangements (such as portal hypertension) and are differentiated by definition from

nonspecific anatomic processes (such as cirrhosis). Three principles may be applied in individual cases. Principle 1 states that terminal events are not reported in cause-of-death statements. Principle 2 states that a nonspecific physiologic derangement or a nonspecific anatomic process should be reported if (1) it is a recognized, potentially fatal complication of the underlying cause of death; (2) it constitutes part of the sequence of conditions that led to the death of the patient in question; (3) it is not a symptom or sign; (4) its existence in the patient would not be apparent unless included and explicitly stated in the cause-of-death statement; (5) its inclusion does not constitute an oversimplification of the facts; and (6) an etiologically specific underlying cause of death is also reported. Principle 3 states that if the existence of the complication is obvious based on the underlying cause of death or another reported complication, it need not be reported.

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Mechanism of death is a phrase that often arises when discussing causes of death and the death certificate. In general, most instructions, guidelines, and other publications advise certifiers of death not to include mechanisms of death in cause-of-death statements.^{1–6} A problem arises, however, because mechanisms of death have been variably defined or given different names. On its laminated instruction card and in its publications on death certification, for example, the National Center for Health Statistics (NCHS) refers to mechanisms as “modes of dying.”² Recent improvements in electronic mortality-data-processing practices by states and by the NCHS have set the stage for improving the content and usefulness of cause-of-death information. Therefore, it may be helpful to more specifically define and categorize mechanisms of death to foster more complete and consistent reporting of causes of death, which will in turn facilitate improvement in the NCHS national mortality database. This report pro-

vides definitions and principles to help those completing death certificates or cause-of-death statements determine whether so-called mechanisms of death should be included.

THE BASICS OF CAUSE-OF-DEATH STATEMENTS

It is assumed that the reader understands the basic format for writing cause-of-death statements. Part I contains the underlying cause of death and often also includes complications of the underlying cause of death, including a sequence of conditions with an immediate and one or more intermediate causes of death.¹ Part II may contain conditions that contributed to death but did not lead to the underlying cause of death listed in part I. Publications with instructions for completing cause-of-death statements are available elsewhere.^{1,2}

BACKGROUND INFORMATION ON MECHANISMS OF DEATH

Adelson³ defined the mechanism of death as “the physiologic derangement or biochemical disturbance *incompatible* with life which is initiated by the cause of death.” Representative conditions that Adelson regarded as mechanisms of death are “hemorrhage, hypovolemic shock, acidosis, alkalosis, cardiac asystole, ventricular fibrillation, respiratory depression and paralysis, cardiac tamponade, sepsis with profound bacterial toxemia, and the like.”

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