



E89 Survey on Deaths and Causes of Death in a University Hospital: The Calabrian Experience

Debora De Bartolo, MD, University Magna Graecia of Catanzaro, Viale Europa, Catanzaro 88100, ITALY; Tatiana Cerra, MD, University Magna Graecia, Viale Europa, 88100 Catanzaro CZ, Catanzaro 88100, ITALY; Francesco Ausania, MD*, Largo Francesco Vito 1, Rome, ITALY; Santo Gratteri, MD, Viale Europa, Germaneto, Catanzaro 88100, ITALY; and Pietrantonio Ricci, Viale Europa-Località Germaneto, Catanzaro, ITALY*

After attending this presentation, attendees will be informed regarding the mortality rate in a southern Italian university hospital and better understand data related to the patients, the causes of hospitalization, and the discharge units. This presentation also describes the Italian National Institute of Statistics (ISTAT) death forms, a data collection system for deceased individuals.

This presentation will impact the forensic science community by increasing knowledge of statistical information regarding hospital deaths that allows the investigation of the existence of modifiable risk factors (such as low nurse staffing levels, medical errors, or nosocomial infections) as well as updating prevention and risk management programs.

Despite improvements in patient safety during the past years, inpatient mortality remains a current problem.¹ As one incentive for hospitals to focus on the goal of reducing mortality, publicly available data comparing hospital quality use mortality as an essential component; however, although several hospitals sought to reduce inpatient mortality, there is a scarcity of literature on effective methods to achieve this goal.^{2,3}

In Italy, a major role for the statistical management of deaths is provided by the ISTAT. A survey tool, the “ISTAT death form,” is an official document based on an international standard recommended by the World Health Organization (WHO). In Italy, the death form is composed of two parts: (1) part A, “medical”, completed by the doctor or coroner with the information regarding the causes that led to death; and, (2) part B, compiled by the register office, with demographic and social information regarding the deceased. The selection of the hospitalization and death causes follow the criteria and rules established by the International statistical Classification of Diseases and related health problems (ICD-10), ensuring the possibility of obtaining standardized data and making comparisons over time. This retrospective study reviews ISTAT death forms, from 2012 to 2015, to characterize mortality in a southern Italy university hospital. All death forms were reviewed in detail, considering the age and sex of patients, investigating the causes of admission and death, and the hospital discharge units.

The sample was comprised of 353 inpatients who died in the hospital from 2012-2015. The proportion of men (63%) exceeded that of women (37%) and 72% of the subjects were aged 65 and older. The average age of inpatients who died was 71 years throughout the period from 2012 to 2015. The sample was divided according to pathological causes that determined hospitalization. The cardiovascular diseases were clearly the most numerous (70%), followed by respiratory diseases (9%). The study found that death was due in 55.12% of the cases to cardiac dysfunctions and 31.16% to Multiple Organ Failure Syndrome (MOFS). The medical units were divided into three areas: medical care, surgical care and intensive care. Most mortality occurred in the intensive care area (62.4%) due to cardiogenic shock, pulseless electrical activity, MOFS or complicated sepsis.

This study enabled the detection of information for the deaths and causes of death that occurred in a small university hospital. This type of search should be extended, over time, to study the trends of mortality and determine



if there are modifiable risk factors (such as nosocomial infections). Ultimately, it would be interesting to know how many of these deaths were due to potentially preventable medical errors.

Reference(s):

1. Wachter R.M. Patient safety at ten: Unmistakable progress, troubling gaps. *Health Aff (Millwood)*. 2010;29(1):165–173.
2. Murphy J., et al. Methodology: *U.S. News & World Report Best Hospitals 2011–12*. Jul 19, 2011. Accessed Jul 21, 2013. <http://static.usnews.com/documents/health/best-hospitals-methodology.pdf>.
3. John S. Barbieri et al. The Mortality Review Committee: A Novel and Scalable Approach to Reducing Inpatient Mortality. *The Joint Commission Journal on Quality and Patient Safety*. 2013;39: 9.

Hospital Mortality, Epidemiology, Statistic Tool