

When do palliative patients die?

Johan Menten

Catholic University Leuven, Belgium

56 million people died in 2017. What caused their death? How did the causes of death change over time and differ between different countries and world regions? And what are the risk factors that lead to early death? These are the big questions. It is important to understand what is meant by the cause of death and the risk factor associated with a premature death: In the epidemiological framework of the Global Burden of Disease study each death has one specific cause. In their own words: 'each death is attributed to a single underlying cause — the cause that initiated the series of events leading to death'. This is different from the deaths that happened due to risk factors. These deaths are an estimation of the reduction of the number of deaths that would be achieved if the risk factors to which a population is exposed would be eliminated (in the case of tobacco smoking, for example) or reduced to an optimal, healthy level (in the case of body-mass index). Many caregivers have the gut feeling that patients die mostly in the night, die more in the weekend than on working days, die more in the winter time than in summer. Therefore we analyzed the moment of death in the database of the palliative care unit. Material and methods used in this retrospective quantitative study was for all 2774 patients who passed away in the palliative care unit of the University Hospital of Leuven from 1999 to 2015. Data were extracted from the individual electronic patient files. Time and date of death per patient were noted. Analysis searched for the of death moment per hour over 24h, per week and per month. Results which were deduced, Four to 5 patients died per hour equally over 24 hours a day. Every day of the week 13 to 15 patients died and 7 to 9 patients died every month. There is no statistical difference in death frequency per hour over 24 h and the death rate per day and per month is also constant. Conclusion found was that the Natural death in the palliative care unit is equally spread over the day, over the week and over the year. This analysis helps caregivers to communicate correctly with patients and family and is important for the management and support of caring teams. In 2017, there were 56 million deaths globally; nearly half of these

(49%) were people who were 70 years or older; 27% were between 50 and 69 years old; 14% were between 15 and 49; only 1% were older than 5 and younger than 14; and almost 10% were children under the age of 5. The age at which people die has changed significantly since 1990. Fewer people die at a young age. In 1990 nearly one-quarter of all deaths were in children younger than 5. In 2017, this had declined to just under 10%. In contrast, the share of deaths in the over-70s age bracket has increased from a third to half of all deaths over this period. For the oldest age category (70 years and older), non-communicable diseases (NCDs) still dominate, however other death causes including Alzheimer's/dementias, and diarrheal diseases also become dominant. Diarrheal diseases remain within the few leading causes of deaths in 70+ year olds for many low-income countries, despite being relatively low at higher incomes. Cardiovascular disease (CVD) is a term used to refer to the range of diseases which affect the heart and blood vessels. These include hypertension (high blood pressure); coronary heart disease (heart attack); cerebrovascular disease (stroke); heart failure; and other heart diseases. Cancers are defined by the National Cancer Institute as a collection of diseases in which abnormal cells can divide and spread to nearby tissue. Cancers can arise in many parts of the body – leading to a range of cancer types, as shown below – and in some cases spread to other parts of the body through the blood and lymph systems. A key point to emphasise is that attributing deaths to risk factors necessarily implies making assumptions about the magnitude of the causal impact that each factor has on the probability of death, everything else equal. Establishing causal impacts this way is difficult. The GBD studies rely on state-of-the-art evidence from cohort, case studies and trials, but extrapolating from this evidence still requires making assumptions, with an implied margin of error. As scientific research advances, new evidence becomes available – the estimates from the GBD studies adapt, and become more precise when new academic research emerges.