

Impact of Registration Delays on Mortality Statistics, 2011

Introduction

The information used to produce mortality statistics is based on the details collected when deaths are certified and registered. In England and Wales, deaths should be registered within five days of the death occurring, but there are some situations which result in the registration of the death being delayed. Deaths considered unexpected, accidental or suspicious will be referred to a coroner who may order a post mortem or carry out a full inquest to ascertain the reasons for the death. The coroner can only register the death once any investigation is concluded and they are satisfied that the death was natural and that the cause of death has been certified correctly. The time taken to investigate the circumstances of the death can often result in a death registration exceeding the five day grace period and these are defined as registration delays. While delays are commonly only a few days, registration delays can extend into years.

Mortality statistics are usually presented based on the number of deaths registered in a particular period, rather than the number of deaths that actually occurred in that period. This method is used because there is a requirement for timely data, despite a potential limitation in data quality caused by registration delays. This paper provides an overview of the impact of registration delays on data quality.

Tables 1, 2 and 3 referred to in this report can be found in reference table 1.

Causes of death and registration delays

In 2011, there were 484,367 deaths registered in England and Wales. Of these deaths, 463,450 (95.7 per cent) occurred in 2011 (table 1). The number of deaths that occurred and were registered in 2011 as a proportion of all deaths registered in 2011 varies by underlying cause of death. For example, deaths that occurred in 2011 as a result of diseases of the eyes and adnexa (ICD-10 Chapter 7) were registered in 2011. Conversely, for deaths from external causes only 58.2 per cent of deaths registered in this category occurred in the same year. This is because a large number of deaths in this group need to be referred to a coroner.

Of all deaths occurring before 2011 but included in 2011 registration statistics, deaths from external causes (35 per cent), diseases of the circulatory system (19.7 per cent), neoplasms (12.8 per cent) and respiratory system diseases (11 per cent) displayed the highest proportions.

Length of registration delays

In England and Wales, deaths should be registered within five days. For deaths registered in 2011, 77.7 per cent of deaths were registered within this time frame (table 2). Overall, 94 per

cent of deaths were registered within one month and 95.4 per cent of deaths registered in 2011 were registered within 3 months of the date of death.

The length of the registration delay varies by the underlying cause of death, with 88.3 per cent of cancer deaths (ICD-10 chapter 2) registered in 2011 being registered within five days compared with only 13 per cent of deaths caused by external causes of morbidity and mortality (ICD-10 chapter 20).

For most causes of death, the majority of deaths are registered within 5 days. However, registration for a small minority of deaths is delayed for long periods after they occurred. These delays have a disproportionate effect on the mean registrations delay period. As a result, the median registration delay is presented. For the majority of causes of death in the ONS short list of cause of death codes, the median registration delay is five days or fewer for deaths registered in 2011 (table 3). The median delay is longer for deaths caused by: mesothelioma (94 days); mental and behavioural disorders due to psychoactive substance abuse (83 days); pregnancy, childbirth and the puerperium (39 days); sudden infant death syndrome (149 days); other ill-defined and unspecified causes of mortality (148 days); and all but one of the external causes of morbidity and mortality (median of delay of 139 days for the whole chapter). The median registration delay was highest for deaths caused by transport accidents (227 days) and lowest for some forms of cancers (2 days).

Conclusion

The data presented above show that the vast majority of deaths are registered within the required five day registration period, with 94 per cent being registered within one month of death. Consequently, statistics based on death registrations should provide an accurate reflection of all death occurrences. This is true for statistics aggregating all deaths and statistics based on specific causes of death which are not influenced by registration delays.

Interpreting statistics from specific causes of death which typically show long registration delays should be interpreted more carefully. In particular, data on deaths from external causes are more likely to reflect a proportion of delayed as well as recent occurrences of deaths. Therefore, analysing trends in deaths where there are few registration delays, such as most types of cancers will provide an accurate reflection of occurrences. In contrast, analysing trends in external causes of death can reflect the confounding influence of delayed registrations. Data will reflect instances of death registration delays which occurred some time ago, and not include deaths which have occurred and are currently unregistered.