Frequently Asked Questions:
International Classification of Diseases- 10th Revision (ICD-10)

Effective with data year 1999, the International Classification of Diseases, Tenth Revision (ICD-10) is used to code and classify causes of death. This change in coding systems will affect the comparison of mortality data between 1999 and previous years.

Definitions and Concepts

What is ICD-10?

ICD-10 is an abbreviation for the International Classification of Diseases- Tenth revision. The International Classification of Diseases is a classification system developed by the World Health Organization (WHO). The United States uses the ICD in accordance with an international agreement. The purpose of an international classification system is to promote international comparability in collecting, classifying, and tabulating mortality statistics.

Why has the ICD been revised?

The ICD is revised to reflect changes in medical classification practices. The ICD was first implemented in 1900, and has undergone revisions approximately every ten years, except for the Ninth revision which was in effect between 1979-1998. There has been an increase in the number of specific cause of death codes from about 4,000 codes in ICD-9 to about 8,000 codes in ICD-10. Beginning with 1999, mortality data are coded according to the Tenth revision of the ICD.

Can I compare data classified in ICD-10 to data classified in ICD-9?

Differences in the coding between ICD-9 and ICD-10 make direct comparisons between the two classification systems difficult for three reasons: 1) there have been changes made in the codes that are assigned to causes of death; 2) there have been changes to the rules used to determine the underlying cause of death; and 3) there have been changes in the codes that comprise the leading cause of death categories. Direct comparisons of causes of death between 1999 and previous years cannot be made. Any comparison needs to take into account these changes in the classification system.

To help make comparisons, the National Center for Health Statistics (NCHS) has provided preliminary **comparability ratios** (CR) for leading causes of death, which will assist in the interpretation of trends between 1998, when ICD-9 was used and 1999, when ICD-10 was used. In addition to comparing 1998 and 1999 data, the comparability ratios can be applied to data going back to 1994 so longer term trends can still be examined. (Please note, these comparability ratios are considered preliminary, and may change once the final comparability study is complete).

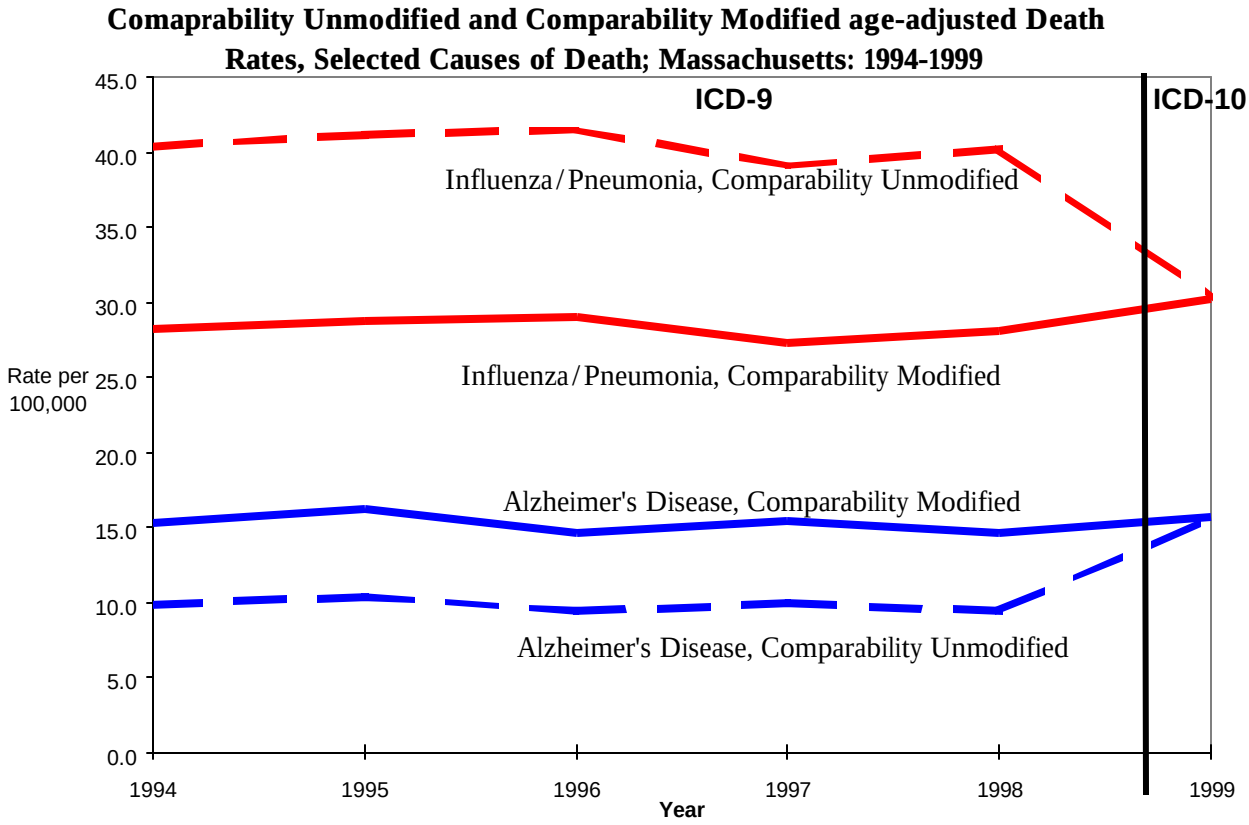
What is a comparability ratio?

The goal of the comparability ratio is to estimate the number of deaths that there would have been in past years if deaths were coded using the new ICD-10 system instead of the old ICD-9 system. A comparability ratio (CR) may be thought of as a multiplier. The purpose of a comparability ratio is to examine if an increase or decrease in a cause of death is "real" or due to the changes in the classification system for a specific cause of death. It is defined as the number of deaths coded in the new classification system divided by the number of deaths that would have been coded using the old classification system.

Examples

How do I use comparability ratios?

Comparability ratios are used to make comparisons between data classified under the new system with data classified under the old system. For example, in 1998, there were 2,897 deaths classified as influenza and pneumonia using ICD-9 (ICD-9 codes: 480-487). However, changes in the classification and coding of underlying causes of deaths using ICD-10 reduce the assignment of influenza and pneumonia as an underlying cause of death. The comparability ratio for influenza and pneumonia is 0.6982. Applying the comparability ratio to the 1998 number yields 2,023 deaths that would have been classified as influenza and pneumonia deaths in 1998, had the ICD-10 classification system and coding rules been in place. We can now compare that comparability modified number for 1998 (2,023 deaths) with the actual number of influenza and pneumonia deaths in 1999 (2,176 deaths). In 1999, there was a slight increase in influenza and pneumonia from what we would have expected if the same classification system was used for 1998.



As illustrated in the graph above, it would appear that influenza and pneumonia deaths decreased between 1998 and 1999 and Alzheimer's Disease deaths increased between 1998 and 1999. However, because the coding rules changed when ICD-10 was used, these changes are due almost entirely to changes in the classification and coding of the causes of death. When the comparability modified rates are used, there is a slight increase in the influenza and pneumonia and Alzheimer's Disease deaths between 1998 and 1999.

When comparing cause-specific mortality rates over time between 1994-1999, use the comparability modified data for years 1994-1998.