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# Technical Notes – Methodology

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## MORTALITY

Beginning in 1993, the underlying cause of death was determined by using Super MICAR, software distributed by the National Center for Health Statistics. In the past, the underlying cause of death was determined by a nosologist using information provided on death certificates by physicians. Super MICAR applies a set of algorithms to all the causes listed on a death certificate to arrive at the underlying cause of death. Because the error rate for Super MICAR is unacceptably high for deaths due to external causes (e.g. unintentional injuries and suicide), these death certificates are still manually coded by a nosologist. Additional edits have been added to the processing system to reduce the error rate for deaths due to natural causes. The end result is that the underlying cause of death coding is largely comparable to previous years.

This software is being used because the number of deaths among Oregonians increased by over 24 percent between 1986 and 1996 but was not accompanied by an increase in staff. Consequently, data availability became increasingly untimely during recent years. Instituting the Super MICAR system should ultimately result in more timely data.

An advantage of the Super Micar system is that all causes recorded on the death certificate are now inputted into the data file. We will be able to report, for example, not only the number of Oregonians who died from Alzheimer's Disease but the number of Oregonians who had the disease at the time of their death (provided it was mentioned on the certificate).

Except for Table 6-42 and Table 6-43, the death rates in this report are not age-adjusted. (However, age- and sex-specific death rates are presented in addition to crude death rates.) Age-adjusted death rates permit the comparison of populations with disparate age structures as if the populations had similar distributions.

The number of Oregonians whose deaths were linked to tobacco use are presented in the mortality section. However, the number is artificially low. This is because the role of tobacco, if any, is not routinely noted on the death certificates of Oregonians who died out-of-state. (The footnotes in the tables describe the question on the Oregon death certificate regarding tobacco use.) The potential for undercount is greatest for Oregon residents who live in counties bordering other states. A more detailed discussion can be found in *Tobacco and Oregon: A Legacy of Illness and Death*, published in 1992.

## **ADOLESCENT SUICIDE**

Data in the adolescent suicide attempt section were compiled from teen suicide attempt reports and death certificates filed with the Oregon Health Division's Center for Health Statistics. Attempt rates are age-specific and are expressed per 100,000 of the population at risk per year. The Center for Population Research and Census was the source of the population data. References to teenagers include persons 10-19 year-olds. References to adolescents and minors include only Oregonians 17 or younger. Methods of attempt are classified according to the International Classification of Diseases (ICD). The name of the attempter is not recorded on attempts reported to the Health Division.

Several problems are apparent with the data. The first is that the total number of attempts reported is low. Because Oregon is the only state to require that adolescent suicide attempts be reported, when Oregon adolescents attempt suicide in another state, the event is not reported. More significantly, although required by law, the data suggest that not all hospitals are fully cooperating with the program. It is uncertain whether reporting hospitals are using the same criteria in determining whether the patient attempted suicide. Finally, a few data items are poorly reported.