

Why are Age-adjusted Rates Important?

Age-adjusted rates allow you to compare health statistics (like death rates) between population groups, even though the size of the groups or the age of group members might be very different.



An age-adjusted rate is the best summary statistic for comparing the impact of diseases like heart disease, cancer, stroke and diabetes that are heavily influenced by age.

Age-adjusted rates are useful for identifying differences that are due to environmental or behavioral risk factors instead of age.

How to calculate an age-adjusted rate

Step 1:

Break up the population into age groups and then track down the number of cases and the corresponding population total for each age group.

Step 2:

Calculate an age-specific rate for each age group.

An age-specific rate per 100,000 is calculated by dividing the number of cases by each group's total population and then multiplying that number by 100,000. For more information about how to calculate rates, please see page 155.

Step 3:

Choose a standard population and find the percentage of the standard population that is found in each age group. This report uses the 2000 US Census standard population to determine the percentage for each age group (shown below).

You can download US standard population files for 1940, 1950, 1960, 1970, 1980, 1990 and 2000 (at no cost) from the National Cancer Institute's website (found at <http://seer.cancer.gov/stdpopulations/>).

Step 4:

Calculate the weighted age-specific rate for each age group by multiplying each age-specific rate by the percent of the standard population that is found in that particular age group.

Step 5:

The sum of these weighted age-specific rates in a community or race/ethnic group is the age-adjusted rate for that particular community or race/ethnic group. See table below.

Example:

Heart disease deaths among all Contra Costa residents, 2000-2002

Age Group	Number of deaths (2000- 2002)	Population total (2000- 2002)	Age-specific rate*	2000 US Census (%) distribution United States	Weighted age-specific rate*
0-4	2	196,720	1.0	6.8%	0.1
5-9	2	219,369	0.9	7.3%	0.1
10-14	3	226,333	1.3	7.3%	0.1
15-19	3	203,912	1.5	7.2%	0.1
20-24	4	155,259	2.6	6.7%	0.2
25-29	10	166,444	6.0	6.9%	0.4
30-34	9	212,070	4.2	7.3%	0.3
35-39	31	246,185	12.6	8.1%	1.0
40-44	64	253,983	25.2	8.0%	2.0
45-49	120	232,038	51.7	7.1%	3.7
50-54	173	210,307	82.3	6.2%	5.1
55-59	230	157,862	145.7	4.8%	7.0
60-64	292	112,024	260.7	3.8%	9.9
65-69	304	86,837	350.1	3.4%	11.9
70-74	494	77,517	637.3	3.1%	19.8
75-79	785	70,758	1109.4	2.6%	28.8
80-84	974	49,865	1953.3	1.8%	35.2
>85	2123	43,920	4833.8	1.5%	72.5
Total:	5623	2,921,403		99.9%	198.1

Age-Adjusted Rate (w/ 95% confidence interval): * 198.1 (192.9 to 203.3)

* Per 100,000 persons.