

The rich are outliving the poor in both Norway and the U.S.

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Inequalities in life expectancy by income in Norway were substantial, and increased between 2005 and 2015, according to a study from the Norwegian Institute of Public Health in collaboration with the Institute For Health Metrics And Evaluation (IHME). Although considerable differences in life expectancy by income levels were found in both Norway and the U.S., the shape of the association differed.

The differences in life expectancy between the 1 percent richest and 1 percent poorest in Norway were 14 years for men and eight years for women.

"It has surprised researchers and policy makers that even with a largely tax-funded public health care system and relatively evenly distributed income, there are substantial differences in life expectancy by income in Norway" says Dr. Jonas Minet Kinge, senior researcher at the Norwegian Institute of Public Health. He is also Associate Professor in Health Economics at the University of Oslo.

"We also observe important differences between the U.S. and Norway. Life expectancy was higher in Norway than in the U.S. across most of the

[income distribution](#), except for the very highest and very lowest income percentiles, in which life expectancies were similar in the two countries. The largest differences in life expectancy between the countries were seen for the lower to middle income men and women," he explains. Here, low and medium income refers to those who earn less than the median income, but more than the 5 percent lowest.

The purpose of the study was to describe income-based differences in life expectancy and causes of death in Norway during the period from 2005 to 2015 compared with corresponding calculations from the U.S.

This is the first time that life expectancy is estimated by income percentiles in Norway and then analysed for cause of death. Furthermore, this is the first time that the association between income and life expectancy in Norway is compared directly with corresponding estimates for the U.S., which was a very demanding analysis process.

Results

When comparing the 1 percent richest with the 1 percent poorest in Norway:

- Life expectancy in Norway was high among the richest 1 percent of women. In this group, the average age was 86.4 years. These women lived on average 8.4 years longer than the 1 percent of women with the lowest income.
- The poorest 1 percent of men had the lowest life expectancy. In this group, the average age was 70.6 years, which was 13.8 years lower than among the 1 percent of men with the highest income.

When comparing the 25 percent richest with the 25 percent poorest, the differences in life expectancy are 8 years for men and 6 years for women. Higher

mortality rates from cardiovascular disease, [chronic obstructive pulmonary disease](#) (COPD), [lung cancer](#) and other cancers explain the higher mortality overall among the low-income groups. Cancer deaths are more significant for men than women.

Deaths due to substance abuse and suicide were highest for the low-income groups under the age of 60, particularly among men in the 40-49 age group.

Life expectancy gap has increased

In the period 2005-2015, the life expectancy gap between the richest 25 percent and the poorest 25 percent increased (see figure 2):

- The richest 25 percent women increased life expectancy by 3.2 years while the poorest 25 percent reduced life expectancy by 0.4 years.
- The richest 25 percent men increased life expectancy by 3.1 years and the poorest 25 percent by 0.9 years.

Chronic diseases explain much of the life expectancy gap. Deaths from [cardiovascular disease](#) and cancer contributed most to the difference in life expectancy. Cardiovascular disease has decreased in all income groups but there is still some way to go before mortality in the low-income groups is on par with the high-income groups.

In the high-income groups there has been a decrease in cancer deaths but not among the low-income groups.

Smoking explains parts of the life expectancy gap and why low-income women did not increase their life expectancy in the period from 2005 to 2015. About 20 percent of the income-based differences in life expectancy could be explained by smoking in this study.

"This is a descriptive study. We know little about why the differences are so great and why they are increasing. Studies from Sweden and other countries suggests that other factors besides money in itself explain why those with lower income

have lower life expectancy. For example, those who have a low income live more often alone and often have a lower education. Furthermore, foetal life, upbringing and other environmental conditions can be important," says Kinge.

"We need more research on the causes of the gradient. Fortunately, the research environment in Norway has the competence to link the health registries on an individual level with income, education and household information. Via such data merging we can perform more advanced analyses than most other countries, as this study also demonstrates," he concludes.

The study shows that:

- Among the poorest 1 percent of men and women, 50 percent lived alone without children. Among the richest, the corresponding figure was about 10 percent.
- Among the poorest 1 percent, 20 percent had university and college education compared to just over 50 percent among the richest 1 percent.

Norway versus U.S.

The researchers compared the Norwegian results with a similar study from the U.S. during the same period.

The comparisons show:

- Life expectancy was higher in Norway than in the U.S. across most of the income distribution, except for the very highest and very lowest income percentiles.
- The difference in life expectancy between the 1 percent richest and poorest men in the U.S. is roughly the same as in Norway, while the difference is somewhat smaller for Norwegian women compared to American [women](#).
- Poor Americans have had a significantly lower increase in life [expectancy](#) than rich Americans from 2000-2014. The researchers observe the same tendency in Norway.

"The comparison is of interest to researchers because Norwegian health and education systems are largely funded by government spending, whereas in the U.S. the share of private funding has traditionally been higher. Furthermore, Norway has relatively low income inequalities compared with the U.S.," says Kinge.

About the study

- The study included 3,041,828 people aged at least 40 years and 441,768 deaths in Norway between 2005 and 2015.
- The mean number of household members per person were 2.5.
- The main outcomes were [life expectancy](#) at 40 years of age and cause-specific mortality.
- Household income was defined as the sum of all household members' individual income, adjusted for household size. Income included wages, self-employment, capital income, taxable and tax-free transfers during the calendar year, after deduction of tax and negative transfers.
- People without an income or with [income](#) from unregistered sources were not included in the study.

Provided by Institute for Health Metrics and Evaluation

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