

Relationship Between Healthcare Spendings and Life Expectancy in the USA

Aurelija Ulbinaitė

Vilnius University, Lithuania

E-mail: aurelija.ulbinaite@ef.vu.lt

ORCID iD: 0000-0001-5025-7240

Ramūnas Radzevičius

Vilnius University, Lithuania

E-mail: ramunas.radzevicius@evaf.stud.vu.lt

ORCID iD: 0000-0002-2102-1252

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Introduction

Life expectancy in the USA is one of the lowest among the developed countries (46th out of 191), namely 79.11 years in 2021 (Worldometer, 2021); however, their spending on healthcare was the highest in the world (1st out of 191) in 2019 (OECD, 2019). On the one hand, Hawaii, California, Minnesota, and New York had 82, 81.3, 81, and 81 years of life expectancy, respectively, in 2015 (Kaiser Family Foundation, 2015). This is comparable to the top 30 countries' life expectancy: Hong Kong (No. 1, 85.29 years in 2021) and Japan (No. 2, 85.03 years in 2021) (Worldometer, 2021). Japan took the 15th place in the world by spending on healthcare in 2019 (OECD, 2019), 28th place for GDP per capita in 2017, and 3rd place in overall GDP in the world in 2017 (Worldometer, 2017). On the other hand, Mississippi and West Virginia had a life expectancy of 74.9 and 75.3 years in 2015 (Kaiser Family Foundation 2015). This is comparable to Guatemala, Jordan, and Jamaica which have 75.05, 75.01, and 74.88 years of life expectancy, 94th, 95th, and 96th place, respectively, in the world in 2021 (Worldometer, 2021).

Mississippi took the 34th place and West Virginia the 12th place on spending on healthcare in 2014 (Kaiser Family Foundation, 2014). Hawaii was 41st for spending on healthcare, California 37th, Minnesota 15th, and New York 8th in 2014 (Kaiser Family Foundation, 2015).

The above data shows that the amount of money spent on healthcare is not correlated with better health and higher life expectancy. There are some underlying factors that cause better or worse health, or lower or higher life expectancy. A better indicator is GDP; there is a correlation between GDP by state and corresponding life expectancy. However, there are still some discrepancies. E.g., Mississippi was 37th by GDP per capita, West Virginia 42nd, Hawaii 39th, California 1st, Minnesota 18th, New York 3rd in 2020 (Statista 2020). The USA's GDP was 13th per capita in 2017 and was the highest GDP overall in the world in 2017 (Worldometer, 2017).

The presented data raises the question of why there is such a low life expectancy in the USA.

The problem is that the USA's leading causes of death are the following: heart disease, cancer, accidents (unintentional injuries), chronic lower respiratory diseases, stroke, Alzheimer's disease, diabetes, nephritis, nephrotic syndrome, and nephrosis, influenza and pneumonia, intentional self-harm (suicide) (Centers for Disease Control and Prevention 2021). However, in the world overall, the leading causes of death are different: ischemic heart disease, stroke, chronic obstructive pulmonary disease, lower respiratory infections, neonatal conditions, trachea, bronchus, lung cancers, Alzheimer's disease, and other dementias, diarrheal disease (Statista 2020). Looking at these data, it is apparent that there are more cancer cases in the USA (which might be due to vigorous testing). However, the USA has fewer stroke deaths than the rest of the world. Also, the top 1% of income earners in the USA have the highest life expectancy in the world (Chetty et al., 2016).

Moreover, the population's health is affected by the level of education and level of income. The higher the income level the better is the health of the individual. The same applies to education, i.e., the higher the education level the better is the health of the person. However, if a person only has a high school degree and lives in an area next to highly educated individuals, then life expectancy of that person increases.

Furthermore, it seems that healthcare is not at fault regarding low life expectancy in the USA since there are more people being tested for cancer than in Europe, and more aggressive treatments are prescribed in the USA (Preston, Ho, 2009). Percentagewise, more people survive cancer in the USA than in Europe (Preston, Ho, 2009).

There are 91.4% of people covered by any health insurance in the USA (Statista, 2021). This raises the main research question of why spending more on healthcare and having the high GDP in the USA does not correlate to higher life expectancy.

Theoretical insights

Some studies have been carried out about this issue. Some authors (Sasson, 2016; Chetty et al., 2016) state that life expectancy in the USA is affected by income, educational attainment, and nature of diseases, their detection, and treatment.

Low-income individuals live longest in affluent cities next to high-income individuals such as New York City, New York, and San Francisco, California (Chetty et al., 2016). There could be many explanations why low-income individuals live longer in affluent cities next to highly educated individuals (Chetty et al., 2016). It could be that these areas restrict smoking and there is more funding for public services (Chetty et al., 2016). Low-income individuals could be also influenced by individuals who behave in a healthier way (Chetty et al., 2016). Death records were obtained from Social Security Administration (Chetty et al., 2016).

College-educated Americans have lower mortality rates and higher life expectancy than less-educated Americans (Hummer, Lariscy, 2011). Non-Hispanic whites that have less than 12 years of education have absolute declines in life expectancy (Olshansky et al., 2012). The widening life expectancy gap between higher educated Americans and lower educated Americans is alarming and is being questioned by scholars what the cause is (e.g., Behrman et al., 2011). Scholars have emphasized that each additional year of education adds years to

life expectancy (Montez et al., 2012). Data was gathered from the National Vital Statistics System and the US Multiple Cause of Death public use files (Sasson, 2016).

Other authors also state that less educated, and lower income individuals have lower life expectancy in the USA, and it worsened due to COVID-19 pandemic (Venkataramani et al., 2021).

Trends in obesity adversely affect the USA's population's health (OECD 2008; Cutler, Glaeser and Shapiro, 2003). The USA has more cases of diseases than Europe in cancer, cardiovascular diseases, and diabetes (Thorpe et al., 2007a; Avendano et al., 2009). More disease cases might show that there is better detection of diseases and longer survival which shows better treatment (Preston, Ho, 2009). High survival rates show that treatment is very successful or that diseases have been detected early (Preston, Ho, 2009). Early detection of disease allows better treatment (Preston, Ho, 2009). E.g., various data show that tumours are earlier diagnosed in the USA than in Europe (Gatta et al., 2000; Sant et al., 2004; Ciccolallo et al., 2005).

The high USA's spending on healthcare could be partially explained by the fact that Americans had the most visits to doctors; they are first to innovate in medical technology and by volume of technology such as magnetic resonance imaging (MRI) and computerized tomography (CT) units (Anderson et al., 2000).

Conclusions

In short, life expectancy in the USA depends on its population's educational attainment and income. Also, life expectancy is impacted by smoking, physical inactivity, obesity, which in turn may cause lung cancers, diabetes, heart diseases, and strokes. It does not appear that poor healthcare performance is a factor that causes low life expectancy. If anything, the USA healthcare does perform quite well since successfully treated cancer cases are higher in the USA than in Europe. This can be due to the fact that the USA tests for cancers more vigorously. Moreover, cancer survival rates are higher in the USA than in Europe; it can also be explained by the more aggressive treatment in the USA. In addition, some of the reasons that healthcare is so expensive in the USA is that they use newer technologies and there are more hospital beds and primary care physicians. Furthermore, testing for diseases is more vigorous using MRI and CT scans.

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