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ECON 220L: Final Project Part 1

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Introduction

The United States is unique in its facilitation of healthcare. For instance, it is the only country among high-income countries to not guarantee government/public health coverage to all its residents. It is also stand-alone in its exorbitant national health expenditures, which amounted to $4.3 trillion in 2021, accounting for 18.3 percent of the economy (Martin, Anne B., et al.). This metric is nearly twice as much as the average OECD country, and health spending per person is three to four times higher than countries such as South Korea, New Zealand and Japan (Gunja, Munira Z., et al.). Despite this abundant spending on healthcare both by the government and the people, the U.S finds itself at the lower end of most health outcomes than its OECD peers. It has the highest rate of infant and maternal deaths with the latter being more than twice the OECD average, as well as the highest number of avoidable deaths–deaths that are preventable and treatable–which was 336 per 100,000 population in 2020, far higher than the OECD average of 225 (Gunja, Munira Z., et al.). This discrepancy between healthcare spending and health outcomes raises the question: Is all this spending actually beneficial for U.S residents’ health? It is crucial to ascertain where the U.S is lacking in its healthcare system so that policies and reforms can be made in accordance with what is working to improve health, and what is not. We have decided to investigate a specific facet of healthcare, health insurance. Health insurance spending, which includes Medicare, Medicaid and private health insurance spending, takes up around 66% of national health expenditures, making it an aspect worth investigating. Health insurance, at its core, is meant to increase access to healthcare and reduce the financial burden that comes with it, which can be interpreted as a means to improve health as people can access and afford care as needed or regularly. We will be conducting a simplified inquiry into whether the aforementioned relationship holds by looking at insured vs. uninsured data as well as self-reported health status data in order to see whether those that are insured report a better health status and vice versa.

Martin, Anne B., et al. “National Health Care Spending in 2021: Decline in federal spending outweighs greater use of health care.” *Health Affairs*, vol. 42, no. 1, 2023, pp. 6–17, https://doi.org/10.1377/hlthaff.2022.01397.

Gunja, Munira Z., et al. “U.S. Health Care from a Global Perspective, 2022: Accelerating Spending, Worsening Outcomes.” *U.S. Health Care from a Global Perspective, 2022 | Commonwealth Fund*, The Commonwealth Fund, 31 Jan. 2023, www.commonwealthfund.org/publications/issue-briefs/2023/jan/us-health-care-global-perspective-2022.

“NHE Fact Sheet.” *CMS.Gov*, Centers for Medicare and Medicaid Services, 9 June 2023, www.cms.gov/data-research/statistics-trends-and-reports/national-health-expenditure-data/nhe-fact-sheet#:~:text=Historical%20NHE%2C%202021%3A,17%20percent%20of%20total%20NHE.

Levy, Helen, and David Meltzer. “The impact of health insurance on Health.” *Annual Review of Public Health*, vol. 29, no. 1, 2008, pp. 399–409, https://doi.org/10.1146/annurev.publhealth.28.021406.144042.

Literature Review

Levy, Helen, and David Meltzer. “The impact of health insurance on Health.” *Annual Review of Public Health*, vol. 29, no. 1, 2008, pp. 399–409, https://doi.org/10.1146/annurev.publhealth.28.021406.144042.

This article by Levy and Meltzer examines evidence on the impact of health insurance on health by referencing health insurance experiments, namely the RAND experiment, and other natural experiments to extract a conclusion on whether or not health insurance has an impact on health. They note that the RAND Health Insurance Experiment, where insurance coverage of varying degrees was randomly assigned, found that it improved the health of specific demographics such as individuals with poor vision or high blood pressure, but no clear relationship was established for the general population. Through the several natural experiments Levy and Meltzer reference, they find that Medicare specifically, increases consumption of medical care and may modestly improve self-reported health, but it has no established effect on mortality in the short-run. Their conclusions largely paint the picture that health insurance improves the overall health of vulnerable populations which include infants, children and AIDS patients, and also improves specific measures of health such as blood pressure, especially for those with low income. However, there is limited evidence on how health insurance affects health for the general population.

McWilliams, J Michael. “Health consequences of uninsurance among adults in the United States: recent evidence and implications.” *The Milbank quarterly* vol. 87,2 (2009): 443-94. doi:10.1111/j.1468-0009.2009.00564.x

This article by Michael J. McWilliams investigates the impact of not having health insurance on health. They conducted a systematic search of clinical and economic literature since 2002 to find that recent studies consistently show that having health insurance has significant and positive effects on various health outcomes which are most pronounced among older adults and those with acute or chronic illnesses. They also found similar evidence as the Levy and Meltzer study that those with conditions such as hypertension, heart disease, HIV infection etc. experience greater improvements in their health via health insurance. Another finding refers to the delayed health effects of health insurance, meaning that the effects reaped from health insurance may not show up immediately, but that long-term survival gains have been observed for adults with health insurance nonetheless. From these findings, McWilliams concludes that universal coverage would be beneficial as the evidence suggests that having health insurance improves the health of individuals to a certain extent. They specify that the mechanism of how the reforms are implemented such as cost-sharing and provider incentives should be considered to maximize the benefits of expanded or universal coverage.

Institute of Medicine (US) Committee on the Consequences of Uninsurance. *Effects of Health Insurance on Health*. National Academies Press, 2002, <https://www.ncbi.nlm.nih.gov/books/NBK220636/>.

This chapter by the Institute of Medicine Committee on the Consequences of Uninsurance, *Effects of Health Insurance on Health,* surveys several studies, many of which are observational, to examine the effects of health insurance on health. They find that adults without health insurance coverage die sooner and experience a steeper decline in their health overtime than their counterparts. Adults with chronic conditions are the most likely to improve their health from gaining health insurance coverage, a similar finding as the other articles aforementioned. Population groups with the highest risk of lacking stable health insurance coverage that have worse health, which include racial minorities and low-income adults, would most benefit from expanded health insurance coverage. The Institute projects that coverage expansion would help to reduce the racial disparities seen in healthcare and health outcomes especially regarding morbidity and mortality. It also suggests that health insurance that includes access to preventive and screening services, prescription drugs, and specialty mental health care, is more likely to facilitate appropriate care. They conclude that because health insurance is found to benefit the vulnerable the most, broad-based health insurance strategies across the uninsured population would increase significant and general health outcomes such as life expectancy, as opposed to insurance becoming a “rescue” program that targets only the seriously ill.

Nixon, John, and Philippe Ulmann. “The Relationship between Health Care Expenditure and Health Outcomes: Evidence and Caveats for a Causal Link.” *The European Journal of Health Economics*, vol. 7, no. 1, 2006, pp. 7–18. *JSTOR*, http://www.jstor.org/stable/20445502. Accessed 27 Oct. 2023.

This article discusses the relationship between health care expenditure and health outcomes by conducting an empirical study of countries in the European Union. The analysis focuses on life expectancy and infant mortality as the health outcomes and health care expenditure, life-style, environment and occupational factors as the inputs of the relationship between expenditure and health outcomes. They find that their long-run analyses indicate that health care has a relatively weak impact on life expectancy, but that there is a considerable impact of health care on infant mortality. The authors note that defining a relationship between expenditure and health outcomes is a complicated issue since health expenditure is only one of a web of factors that contribute to health outcomes, and that their findings should be interpreted with this complexity in mind. They also acknowledge that their available sample was not sufficient to test for the existence of any lag structure in the explanatory variable such as expenditure on cigarettes, alcohol consumption and environmental influences.

Farag, Marwa, et al. “Health Expenditures, Health Outcomes and the Role of Good Governance.” *International Journal of Health Care Finance and Economics*, vol. 13, no. 1, 2013, pp. 33–52. *JSTOR*, http://www.jstor.org/stable/23352541. Accessed 27 Oct. 2023.

This paper focuses on developing countries and the struggles they face in improving their populations’ health considering the conflicting evidence they face. Many empirical studies suggest that investing in health care does very little for improving population health outcomes when the country’s income is controlled for, meaning that just developing the country’s economy in general is what will actually affect health outcomes for their population. Other studies, however, back the stance that health care expenditures directly affect health outcomes. The authors thus examine the relationship between a country’s health expenditures and health outcomes, represented by infant mortality and child mortality to reconcile the two perspectives and add to previous studies. The authors conduct an empirical analysis by estimating multivariate regressions that use country level health outcomes as the dependent variable and health spendings and GDP per capita as the main explanatory variables. They split the analysis into two sections, where section one considers the relationship between total health spending and health outcomes and section two considers the relationship between government health spending and health outcomes. Their findings suggest that though income proves to be a significant factor in improving health outcomes, health spending is also an important determinant. Government health spending also turns out to have a significant effect on reducing infant and child mortality according to the authors’ analyses, and that the return on public investment in health care depends on the level of government effectiveness achieved by the country.

Spithoven, A. H. G. M. “Why U.S. Health Care Expenditure and Ranking on Health Care Indicators Are so Different from Canada’s.” *International Journal of Health Care Finance and Economics*, vol. 9, no. 1, 2009, pp. 1–24. *JSTOR*, http://www.jstor.org/stable/40270601. Accessed 27 Oct. 2023.

This study examines the discrepancy between health expenditure and health indicators for the United States by quantifying the impact of different variables on health care spending for the year of 2002 such as pharmaceutical prices, investment in technology, physician’s income etc. to arrive at a possible explanation as to why health expenditure is so high. They find that supply factors explain a larger part of health care expenditure than demand factors. Comparing the U.S. to Canada, the authors explain that the difference in expenditures seem to arise from the contrasting national cultures. They claim that the U.S.’s strong belief in individualism and limited government intervention compared with Canada’s strong attachment to a robust public sector has an influence on the two country’s health expenditures. The U.S. cares less for adequacy and equity in access and income protection than they do for the freedom of choice for consumers and providers alike, according to the authors. This results in the relatively unequal distribution of income seen in the U.S. which contributes to the paradox of the high health care.

Data

The IPUMS database is an indispensable resource for social science research since it contains a large amount of individual and population-level data from multiple worldwide surveys and censuses. IPUMS harmonizes and standardizes economic, social, and demographic datasets to give academics a unified and intuitive platform to analyze and assess data. Numerous topics are covered, such as employment, education, demographics, and more. By utilizing IPUMS, scholars can perform cross-temporal and cross-national analyses, resulting in a deeper understanding of societal dynamics and trends. Researchers can use this invaluable resource in a number of fields, such as economics, sociology, demography, and more. In particular, to evaluate and respond to our research question, we will be using IPUMS Health Surveys.

The primary objective of this research project is to investigate the relationship between health insurance and overall health outcomes. We'll look at a number of significant factors to try and answer this. The primary independent variable is Health Insurance Coverage Status (HINOTCOVE), which categorizes survey participants as either having health insurance or not. This variable serves as the main frame of reference for understanding the potential impact of insurance on health. One of the most important components of the research is the dependent variable, health, which measures the respondents' state of health. It enables researchers to assess the general health of the population and maybe identify any disparities between those with and without health insurance. Three minor variables that will be examined are age, gender, and race. These factors can provide helpful demographic context and help determine whether there are variations in health outcomes based on these demographic criteria. By examining the relationships between health insurance, health status, and demographic variables, the study hopes to clarify whether or not health insurance has a major impact on people's health.