

Social Policy Expenditures and Life Expectancy in High-Income Countries



Megan M. Reynolds, PhD,¹ Mauricio Avendano, PhD^{2,3}

Introduction: The U.S. spends more than any other country on health care, yet Americans have lower life expectancy than people in most industrialized countries. Recent studies suggest that lower expenditures on social policies in the U.S. may contribute to less-favorable trends in life expectancy. This study tests the hypothesis that greater social spending will be positively associated with life expectancy across the countries of the Organisation of Economic Co-operation and Development and that the magnitude of these associations will outweigh those between government healthcare spending and life expectancy.

Methods: In 2016, longitudinal data on six domains of social expenditures for the U.S. and 19 other wealthy nations between 1980 and 2010 were used to estimate the associations between prior year expenditures on education, family, unemployment, incapacity, old age, and active labor market programs, and period life expectancy using fixed effects models.

Results: Controlling for a wide set of confounders and government healthcare expenditures, a 1% increase in prior year education expenditures was associated with 0.160 (95% CI=0.033, 0.286) of a year gain in life expectancy, whereas a 1% increase in prior year incapacity benefit expenditures was associated with 0.168 (95% CI=0.003, 0.333) of a year gain in life expectancy. Counterfactual models suggest that if the U.S. were to increase expenditures on education and incapacity to the levels of the country with the maximum expenditures, life expectancy would increase to 80.12 years.

Conclusions: The U.S. life expectancy lag could be considerably smaller if U.S. expenditures on education and incapacity programs were comparable with those in other high-income countries.

Am J Prev Med 2018;54(1):72–79. © 2017 American Journal of Preventive Medicine. Published by Elsevier Inc. All rights reserved.

INTRODUCTION

The U.S. spends more than any other country on health care, yet Americans have worse health and lower life expectancy than people in most industrialized countries. In 2016, the U.S. ranked 42nd in global life expectancy, below most other industrialized nations. Proposed explanations include differences in health care, behavior, and the built environment, all of which appear to play some role but do not fully explain the U.S. health disadvantage.¹ Recently, focus has shifted toward the potential role of social policy, with reports suggesting that lower social expenditures in the U.S. relative to peer nations may contribute to less-favorable life expectancy trends. Few studies, however, have examined whether higher social expenditures lead to life expectancy gains.

Emerging research from the U.S. provides evidence that social expenditures may bring benefits to health. In a recent study, a higher ratio of state social welfare spending relative to healthcare spending was associated with significant improvements in a variety of health outcomes.^{2,3} Cross-national evidence suggests that several social programs may have positive associations with

From the ¹Department of Sociology, University of Utah, Salt Lake City, Utah; ²Department of Global Health and Social Medicine, King's College London, London, England; and ³Department of Social and Behavioral Sciences, Harvard T.H. Chan School of Public Health, Cambridge, Massachusetts

Address correspondence to: Megan M. Reynolds, PhD, Department of Sociology, University of Utah, Salt Lake City UT 84112. E-mail: megan.reynolds@soc.utah.edu.

0749-3797/\$36.00

<https://doi.org/10.1016/j.amepre.2017.09.001>

health, including parental leave, child allowances and subsidized child care,^{4–6} unemployment benefits, and education.^{7–10} Experimental evidence from the U.S. also suggests that social programs, such as intensive early childhood interventions,¹¹ might bring some benefits to health, whereas other social investments such as welfare reform,¹² housing relocation,¹³ and small class sizes¹⁴ had both positive and negative health effects. Interestingly, experimental evidence from the Oregon Health Study shows that randomized assignment to Medicaid among uninsured Americans did not lead to significant improvement in physical health.¹⁵

Social expenditures may lead to better population health through at least three potential mechanisms. First, higher social spending may insure individuals against poverty, which may in turn translate into better health outcomes and lower risk of death. Second, social spending may promote human capital investment by increasing access to early childhood programs, education, and training, which may translate into better health in the long run. Third, social spending may provide reliable safeguards that reduce chronic stress pathways linked to hypothalamic–pituitary–adrenal axis dysregulation and subsequent metabolic, cardiovascular, and inflammatory changes.

This study uses data from the U.S. and 19 other wealthy nations to examine whether greater social spending is associated with larger gains in life expectancy. Associations with health are examined across six domains of social spending, accounting for confounding with government healthcare spending. The contribution to life expectancy gains of social welfare spending relative to healthcare spending is also evaluated. The central hypothesis of the study is that greater social spending will be positively associated with life expectancy across the countries of the Organisation of Economic Co-operation and Development (OECD) and that the magnitude of these associations will outweigh those between government healthcare spending and life expectancy.

METHODS

Study Sample

Data were drawn from the OECD Social Expenditure Database, which provides yearly data on social spending as a percentage of gross domestic product (GDP) spanning 1980 to 2010 for 20 countries: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and the U.S. Data on Australia and Luxembourg were also available but were excluded from the analysis as they did not cover all years and variables required for the analysis. Analyses were conducted in 2016.

Measures

Data are provided for six domains that represent the largest social expenditures across nations and include both cash and in-kind public spending: education, family, unemployment, incapacity, old age, and active labor market programs (ALMP). Education is the sum of public spending on all levels from pre-primary to tertiary education. Family consists primarily of child allowances and credits, childcare support, income support during leave, and sole parent payments. Unemployment includes unemployment benefit compensation and early retirement programs. Incapacity covers care services, disability benefits, benefits accruing from occupational injury and accident legislation, employee sickness payments, and home-help and residential services for the working aged. Old age largely comprises spending on early retirement pensions and home-help and residential services for the elderly. ALMP includes expenditures on employment services, training, employment incentives, integration of the disabled, direct job creation, and start-up incentives.

Data were drawn from the OECD Health Database, which provides internationally harmonized data on period life expectancy derived from the WHO Mortality Database. Period life expectancy measures the average number of years that a person can be expected to live from birth, assuming that age-specific mortality levels remain constant.

All models included a linear time trend centered around the first year of observation, GDP per capita in millions of U.S. dollars adjusted for inflation (base year 2010), unemployment rates measured as the percentage of unemployed out of the total labor force, income inequality measured using the Gini coefficient, and variables for the percentage of the population age < 15 (reference), 15–64, and ≥ 65 years.

Statistical Analysis

A fixed effects design was employed to address confounding by unmeasured differences between countries that are stable over time but might also be correlated with life expectancy.^{16–18} Fixed effects models compare differences in life expectancy across years within countries, exploiting only within-country variation in social expenditures for estimation. The basic model specification was as follows:

$$y_{it} = \beta_0 + X_{it-1}\beta + v_i + \varepsilon_{it}, \quad (1)$$

where y_{it} is a measure of life expectancy for country i at time t , β_0 is the intercept, $X_{it-1}\beta$ is a country-level measure of social expenditures and other covariates for country i at time t , v_i is the unobserved time-invariant characteristics of each country, and ε_{it} is the residual for a country in a given year.

A test for serial correlation between successive time points was conducted using Stata's `xtserial` command.¹⁹ The null hypothesis of no first-order autocorrelation was rejected at a significance level of 0.07. Therefore, models were fit specifying a first-order autoregressive process. Specifying a first-order autoregressive process models the error term in equation (1) as $\rho\varepsilon_{i,t-1} + \eta_{it}$, where the absolute value of ρ (rho, the autocorrelation coefficient) is < 1 and η_{it} is independent and identically distributed with mean 0 and variance σ_η^2 . To account for potential delays in the effect of a given expenditure, models were fit including contemporaneous, 1- and 2-year lags of social expenditures. These analyses show the largest effect sizes at $t-1$, pointing to a 1-year lag as the preferred

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات