

Health and Socioeconomic Inequality among Older Adults in Mexico

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Extended Abstract

This paper addresses the following question: to what extent do we need to achieve a high socioeconomic status to achieve good health? The association between good health and high socioeconomic status appears to be virtually universal according to the literature from developed countries. This paper describes the health and socioeconomic inequalities found among older adults in Mexico, using a variety of indicators for health and for socioeconomic status.

Research with population-based data shows that better health or lower mortality is associated with higher socioeconomic status (SES). Arguments about the causality between SES and health are complicated, however, because the direction of the causality could vary according to the stage of the life cycle ((Smith 1999); (Smith 1998); (Smith and Kington 1997b), (Smith and Kington 1997a); (Attanasio and Hoynes 2000); (Hurd and Kapteyn 2003); (Adams, Hurd, McFadden, Merrill, and Ribeiro 2003)). For example, during childhood and early adolescence, the direction may be from SES to health. This is the stage in which human capital stocks are being formed and the unexpected economic shocks dominate unexpected changes in health, thus a better SES will result in better health. Starting at age 40 and into the 50's, those in working ages, in particular in developing-countries where wages are the main sources of income, better health will imply higher earning potential and higher income. At these ages, new health shocks affecting the potential to accumulate assets for the rest of the life cycle may appear, thus better health will imply better SES. *During old age*, when wages cease to be the main income source and in societies without universal access to health care, the expected direction would be from SES to health (and to functionality and mortality). Individuals with the financial means to purchase health care will afford higher levels of functionality and extend their life years, even in the presence of illness or disability. In summary, the direction and intensity of the association between SES and health is expected to vary across the life cycle. And, at different points in the life cycle, different factors may dominate. Among these the most important are the following: biological and genetic factors, early health status, human behavior influencing labor market productivity (and income), access to health care, impact of medical expenses on saving capacity, preferences for assets accumulation, and individual behavior modifying exposure to health risks. While the dominant flow of causality in the relationship between health and SES appears to be from SES to health (Robert and House 2000), we are mindful that in late adulthood, for example, the reverse flow may exert at least some influence.

In this research we shall focus on the role of four mechanisms through which SES shapes health status, functionality (and mortality) in late adulthood. The first mechanism is better access to health care. This depends on income and assets as well as on acquired knowledge about and preferences for health-related goods. The second is reduction in environmental risk factors including those implied by lifestyle. The third mechanism involves conditions shaped early in life that have direct effects on adult health. Some of these may also affect health status indirectly by influencing the earning capacity of individuals. The fourth mechanism could operate through latent, unobserved factors, say

attitudes or preferences that affect both health and productive capacity in the same direction (Hurd and Kapteyn 2003). The problem is complicated since one cannot expect that the SES-health relation be the same across different social, political and economic contexts. This is because characteristics of the contexts may influence the direction and magnitude of the relationship and because the effects exerted may be modified by policies, traditions and social organization. Thus, for example, levels of inequality in access to resources may change the nature of the SES-health relationship (Hurd and Kapteyn 2003). Or there may be aggregate traits, such as income inequality, which generate conditions that are consequential for health status or modify the way some mechanisms operate (Wilkinson 1999). It is for this reason that a cross sectional comparative work with heterogeneous groups within Mexico has important added value as a strategy to identify determinants of health in its multiple dimensions.

Does the differential impact of income and wealth on health hold also for developing countries of Latin America as it has been observed in developed countries? To what extent can differential access to health care explain the association between health and socioeconomic conditions across the observed sub-groups of the population? Does more inequality in wealth associate with inequality in health across the sub-groups, as has been reported for developed countries? (Hurd and Kapteyn 2003).

The data we use comes from the Mexican Health and Aging Study (MHAS) 2001 and its follow-up visit in 2003. This is a nationally representative, prospective panel study of Mexicans aged 50 and over as in 2000¹. Interviews were sought with spouse/partners of sampled persons regardless of their own age. Data were collected on multiple domains of health; demographic traits, including the migration history of respondents, their parents and offspring; family networks and transfers exchanged; some work history; income, assets, and pensions; and aspects of the built environment. States with high rates of out-migration to the U.S. were over sampled. Anthropometric measures also were obtained from a 20% sub-sample of respondents. Baseline interviews were completed with about 15,000 respondents. By U.S. standards, the individual non-response rate of 10.5 percent for a population based survey is very low. These data are particularly useful for the purpose of the proposed research because the survey gathers information on health, current income and wealth, and past-migration, a characteristic that has been difficult to obtain for a country such as Mexico, in which migration to the U.S. can be an important strategy for survival. The second wave of MHAS was successfully fielded in 2003. Both waves of the survey were carried out through pencil-and-paper, face-to-face interviews, carried out by experienced personnel from the INEGI (Instituto Nacional de Estadística, Geografía e Informática) the equivalent of the U.S. Census Bureau. For the 2003 re-visit, if a baseline respondent had died, a special exit-interview was sought with a next-of-kin or informed respondent. Sample attrition was small by U.S. standards. At the individual level, 93.4% response rate was obtained, for a total of about 12,000 follow-up with surviving individuals who were age 50 or older at the baseline. Of these, about 10,500 completed direct interviews both in 2001 and 2003. The number of next-of-kin interviews obtained in the follow-up (about 540) was consistent with the *apriori* expected number of deaths in the MHAS population during a two-year interval, estimated using Mexican life tables. The data files for the 2003 follow-up are public use as well.

¹ The data and documentation can be obtained from www.pop.upenn.edu/mhas.

We conduct the data analyses in two parts. First, we use only the 2001 cross-section; and second, we use the 2001-2003 to study health transitions. With the 2001 baseline, we perform descriptive analyses to show the inequality in health across population sub-groups (defined in terms of sex, age cohort, education groups, and urban/rural residence). For the multivariate analysis, we define the dependent variable as ~~the~~ health status and we try several dimensions of health (self-reported health status in five categories, functionality measured with ADLs and IADLs, presence of chronic illness). We use ordered logit, logit models, and in some cases two-sided Tobit models to examine the association between health and socioeconomic measures holding other factors constant, and make inferences about the heterogeneity of the association across the sub-groups formed. For the second part of the analysis we use information on health transitions, and employ logit and ordered logit models indexing on the initial level of health reported. As explanatory variables, we include demographic characteristics (age, sex, marital status), and traits that we postulate have influences on changes in health status, both in linear and non-linear forms. As economic measures, we include separate terms for income and wealth (evaluated in wave 1), since these two factors are likely to exhibit different effects on health. (Hurd and Kapteyn 2003). We experiment with various forms of capturing non-linearities of effects of SES on health, including the use of categorical variables and linear splines. We also include other indicators evaluated at wave 1 (early childhood, education, access to medical care).

The paper's discussion section focuses on interpretation of results to provide clues about the mechanisms through which the relationship between health and socioeconomic status may be operating in a developing economy. The paper also draws conclusions regarding the general relations between health and economic inequality.

References

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