

#ECONOMICSFOREVERYBODY

Social inequalities in health Pierre-Yves Geoffard

Socio-economic inequalities are most often approached, especially by economists, from the perspective of differences in income and wealth. However, numerous studies show that even before monetary riches and the living standards they allow, health is an essential determinant of individual well-being. When we observe these two components of well-being, we see almost systematically that these two dimensions, far from compensating for each other tend to reinforce each other. Statistically speaking, being richer is associated with better health. This association between health and income, or more generally between health and social status, is the object of research into the *socio-economic inequalities in health (SIH)*. The first step is to document these inequalities, and then to try to understand what determines them.

What are the social inequalities in health?

On the macro-economic level, international comparisons show a strong link between GDP per capita and average mortality rates, summarised as life expectancy at birth within a given population (Figure 1).



Source: Clio-Infra & UN Population Division, Maddison Project Database 2020 (Bolt and van Zanden (2020)) OurWorldInData.org/life-expectancy • CC BY



This link, often described as the "health gradient", is also seen at the individual level. But the change in the observation scale raises several questions, such as which indicator of social status should be used: income, wealth, social class, or educational attainments? A priori, each of these variables is pertinent, and the choice is conditioned, sometimes even determined, by what data are available. The same questions can be asked about measuring health: is it measured by "subjective health", measured in some studies by what those interviewed declare about their own state of health (whether it is very good, good, average, bad, or very bad)? By "objective health", so called because it is measured by a medical examination? By pathologies, declared or observed by a health professional? By biometric measures (size, weight, body-mass index, bio-markers)? Or by capacity to carry out certain life activities and thus by degree of autonomy; etc.? A state of health involves several elements which can be summed in very different ways, such as Robert Leriche's elegant formulation "health is life in the silence of the organs", or the WHO definition "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." This brief list shows that the range of possibilities is vast; it also suggests that in choosing one or another indicator, the SIH analysis is not only about inequalities in death, but can also supply multiple, complementary information. To take just one example, inequalities between men and women are great and complex: in France as in many other countries, the mortality rate is lower among women, whose life expectancy at birth is 83.5 years, while men's is only 79.7 years.¹ But the differences are less significant if we look rather at healthy living, summarised here as life expectancy without incapacity: this sits at 65.9 years for women and 64.4 years for men.² This example shows the extent to which it is important to cross-reference and to multiply our analyses using different health metrics. It also points to a paradox that we see in many countries: women live longer than men, but in less good health. And this paradox requires further investigation, through analysis of the interactions between sex (or gender, when more complex information is available, which is rare in most large statistical studies) and other socio-economic variables in the determination of health and mortality. In addition, when the health gradient is defined generally as an empirical observation showing a positive link between health and socio-economic status, it is also important to use several different measures of such status.

In the final instance, it is often the availability of data that determines the choice. Large statistical studies can be useful especially when the variable of interest is health. Unfortunately, when a study of a population's health derives from public health or epidemiological sources, the health variables can be very finely detailed, but the socio-economic elements are often scarce. It is rare to see mention of wealth; income information is often available only in very rough brackets; and the nature of work and past careers is not noted, for example. The problem is the reversed in social science studies: while living standards, income sources and the like are studied in detail, the health dimension is often treated with but a few rare questions. In addition, if we want to look at social inequalities in death, since death comes only once in the life of an individual, we need longitudinal data on

¹ (France, 2019) <u>https://www.insee.fr/fr/statistiques/4277640?sommaire=4318291</u>

² <u>https://drees.solidarites-sante.gouv.fr/publications/etudes-et-resultats/en-2020-lesperance-de-vie-sans-incapacite-65-ans-est-de-121-ans</u>



a large population followed over a sufficiently long period, which is also rare in big statistical surveys. To compensate for these lacunae, more and more studies use what are called "administrative" data, gathered by public administration management systems; usually, tax data can tell us about income and sometimes its composition, and data from health insurance funds can tell us about how often people use health care services and also, though rarely and often only indirectly, about states of health. Furthermore, when health data are localised (for example, death, or the prevalence of certain illnesses within a given area, in France the IRIS),³ they can be complemented by so-called "ecological" variables, relative to the socio-economic environment in which a person lives, particularly the average or median income in the area, which allows analysis of spatial correlations. The ecological variables, readily available, are often used as an imperfect measure of the same individual variables, even if, strictly speaking, they mainly give us information about the characteristics of a certain territory, but this can be as pertinent in terms of the impact on the health of the population.

What creates social inequalities in health?

The identification of a health gradient immediately raises questions of its interpretation. In particular, what causal mechanisms might be at work? These mechanisms are potentially several and non-exclusive. Better health promotes higher productivity at work, which can lead to greater supply of and demand for labour, and to higher salaries; a higher income allows one to live in a less polluted and less dense-populated environment, which is better for the health; it also allows, where medical care must be paid for by the user, access to it without concern for financial barriers. Historically, inequality in access to health care has often been seen as the main cause of health inequalities, and this theory suggests a way to remedy that. But this paradigm has been seriously undermined by the Whitehall Study in the UK : a cohort of more than 17,500 male civil service was strongly linked to several illnesses as well as to death, and this despite the fact that universal access to health care was guaranteed by the British National Health System.⁴ While access certainly reduces health inequalities, it is clearly not enough to abolish them .

Another possible explanation for the link between health and social-economic status lies in a factor that positively influences both dimensions. Among these causal factors, education is the principal suspect. Indeed, a higher level of education is associated with higher income, but also with better health, especially because it is connected to more conducive behaviour. In an important article on the situation in the US since 1998, Case and Deaton⁵ show that the

³ <u>https://www.insee.fr/fr/information/2017499</u>

⁴ Marmot, Michael; Kogevinas, M; Elston, M.A. (1987) <u>"Social/Economic Status and Disease"</u>. Annual Review of Public Health. **8**: 111–135. <u>doi:10.1146/annurev.pu.08.050187.000551</u>

⁵ Case, Anne, and Deaton, A. (2017), "Mortality and morbidity in the 21st century," *Brookings Pap Econ Act.* Spring: 397–476. doi: <u>10.1353/eca.2017.0005</u>



historical trend of decreasing mortality has not only stopped but has also even been reversed; the mortality rate among non-Hispanics between 35 and 60 years old, especially among the less educated, has risen. Analysis of the causes of death shows that, inter alia, a significant number of them can be described as "deaths of despair": suicide, excessive consumption of alcohol, and overdoses of licit and illicit drugs. The analytical method, essentially descriptive, does not allow definitive conclusions to be drawn about the causes of this change, but Case and Deaton offer a "plausible story", of a *cumulative disadvantage* which affects certain cohorts of individuals who entered the labour market at a moment when it was highly degraded for the less educated, then those difficulties combine with unfavourable changes to marriage, and more generally to a dissolving of the social bond.

Another branch of the literature focuses on the social inequalities of health among children. The reasons are two-fold: first, such inequalities cannot be blamed on the children themselves, and more than other inequalities they are the fruit of unfavourable circumstances, which makes them particularly unjust. Moreover, a health gradient among children cannot be due to a causal link from their health to their socio-economic status, which is that of their family. With Bénédicte Apouey, we have shown that the health gradient is more strongly linked to the parents' education level than to household income, and we have analysed whether this gradient is already present at birth, or intensifies during infancy, especially in France and in the UK.⁶

These few examples also illustrate that the methods used to investigate diversity of social inequalities of health are not all focused on the identification strategies that seem to obsess many economists, but more often solid descriptions of the data, modifying the perspectives by choosing different health indicators as well as socio-economic status, changing focus by closer observation of certain populations or territories, and exploring the robustness of statistical links by controlling for other variables. It is true that the health inequalities raise questions that are too important to be left only to economists. Important contributions in the field have been made by epidemiologists, demographers, sociologists, who cross-reference quantitative methods close to those of economists and also use qualitative methods that bring to light more complex, sometimes intimate, relationships.

The intersection of approaches can also be more fertile than sticking to a disciplinary rut. This is the conviction that led us, after several exchanges that raised more questions than they answered, to engage with three colleagues – sociologists, demographers, and epidemiologists – in an ambitious project of analysing social inequalities in health through a gender lens.⁷ Why such an approach? Because, as already mentioned, gender inequality in health is significant and even, with age, the most important of the inequalities. Also, because the gender dimension must be crossed with other socio-economic variables. The interaction or

⁶ Apouey, Bénédicte, and PY. Geoffard (2013), "<u>Family income and child health in the UK</u>" Journal of Health Economics: 715-727.

⁷ The project is being conducted by four Principal Investigators: Nathalie Bajos (sociologist and demographer, INSERM), Muriel Darmon (sociologist, CNRS), Michelle Kelly-Irving (social epidemiologist), and myself. https://gendhi.eu/



intersection of the different variables that can shed new light on the subject. This project was awarded funding by the ERC for six years⁸ within the *Synergy* framework, which has allowed us (notwithstanding the eruption of Covid-19 pandemic which has both disrupted the fields of study and raised new and pertinent questions) to launch a dialogue with a longer time-frame than that of a usual interdisciplinary seminar. The general project sits within a framework of analysis of life trajectories. It addresses both the determinants of health and disease (with an accent on socialisation processes, including the earliest ones, which we suspect have a lasting impact on health behaviours), and on the inequalities in access to the health system and care pathways.

What can an economist contribute?

Mainly, economics can contribute some particular attention to the effects of employment, which has strong structuring effects not only on health but also on living conditions and social status, and a reminder that health behaviours are also modified by incentives, monetary or other, as well as by attitudes towards risk and time. An economist also develops statistical methods that can offer causal interpretations. This preoccupation is shared with epidemiology, which approaches it in a different way, but is less central to a sociological approach. Economics also bring a conceptual analysis of social well-being,⁹ that explains the ethical and philosophical values underlying the choice of one or another measure of social inequalities in health.

⁸ The European Council for Research funds, through a call for European projects, ambitious research programmes, in all disciplines. https://erc.europa.eu/homepage

⁹ Abul-Naga, Ramses, and P.Y. Geoffard (2006), "Decomposition of bivariate inequality indices by attributes" *Economics Letters*, 90(3): 362-367