

Cumulative effects of economic and health-related vulnerabilities on health inequality in times of Covid-19 pandemic among the 50+ in Europe

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11th September 2020

Context

The Covid-19 pandemic is plunging most countries into an unprecedented health crisis and has resulted in more than 223,000 deaths to date. Promotion of "Covid guidance" (washing or sanitizing hands, wearing protection mask) and strict social distancing policies have been put in place, and lockdown periods have been enforced in most European countries (notably in Italy, Spain and France) at some point between March and June 2020. Altogether, these measures have succeeded in limiting the transmission of coronavirus (Flaxman et al., 2020), and ultimately contributed to reducing the number of associated deaths on the one hand, as well as the risk of exceeding intensive care capacity on the other hand, and therefore the avoidable deaths of other potential patients.

Although fundamental to protect those most at risk of developing a severe form of Covid-19, particularly the elderly, these measures have detrimental economic and social consequences¹, but also unintended consequence on global health. By limiting contact outside the home, periods of lockdown and compliance with social distancing measures may have had profound effects on social relations and on the mental health of individuals (Davillas et al., 2020; Qiu et al., 2020). Another side-effect of the pandemic on health services was to postpone most care considered as "non-urgent", which may damage people's health in the middle term (Baracchini et al., 2020; Chatterji, et al., 2020; CNAM (2020); Monziols et al., 2020; Wallis et al., 2020). Finally, even if they are still poorly documented, shortages in the provision of home care and services – including assistance to elderly dependent people – may have occurred in some countries during lockdowns, which could have had major adverse effects on health, disability and feeling of isolation of the elderly (Armitage and Nellums, 2020). Understanding the global impact of the Covid-19 lockdown period on health as a whole, besides effects directly attributable to virus infection, is all the more important since a phase of epidemic rebound seems more and more likely, and should therefore be accompanied by a reinforcement of measures to protect frail people against the coronavirus.

Given the pre-existing differences in health status among the population and the persistence of social inequalities in health in Europe (OECD, 2020), reducing inequalities in health among socioeconomic groups is recognised as a major goal of health policy in addition to health promotion in many European countries (Marmot et al., 2008; Marmot et al., 2016). It is therefore important as well to investigate the trend in health inequalities during the Covid-19 lockdown. Indeed, shortage in health care supply may have affected individuals differentially according to their health status, whereas adverse events on the labor market, economic hardships and shocks in consumption expenses may have played differently according to their initial socioeconomic status.

Objectives

The aim of this study is twofold. First, to what extent the pandemic – by itself and through related protective measures – is likely to amplify "pure" health inequalities in Europe, i.e. to further affect the health of people aged 50+ who were already the most at risk of suffering from chronic diseases before the outbreak of Covid-19? Second, what is the impact of the pandemic on social inequalities in health, especially between economically advantaged and disadvantaged populations? It is of great importance to investigate

¹ According to Eurostat, GDP declined by -3.1% in the first quarter alone in the EU-27 and by around -5.3% in Italy, Spain and France.

simultaneously the effects associated with these two types of initial vulnerabilities, as economic deprivation is proved to negatively influence health through various channels (Frijters et al., 2005; Lindahl, 2005).

We intend to measure the influence on health of economic and health vulnerabilities during the Covid-19 pandemics and their combined impact. We explore both their short-term effects on health status using various health indicators and their potential middle-term repercussions on health through their short-term impact on health care use. Finally, as the different European countries have implemented heterogeneous measures to deal with the pandemic, we propose an analysis by groups of countries to disentangle the effects of these different public strategies on health inequalities.

Data

Data arise from SHARE, from both main data collection of wave 8 (fieldwork October 2019 to March 2020) and ad-hoc phone survey centered on Covid-19 topics organized in June-July 2020 with SHARE panel respondents (referred to as SHARE-CATI). Final sample is comprised of SHARE panel respondents aged 50+, living a private household and who have answered both surveys².

Methods

Health-related vulnerability is restricted here to baseline vulnerability to Covid-19, identifying people most at risk of severe forms of the disease at the outbreak of the epidemic. Our definition is grounded in preliminary clinical evidence on risk factors of critical and mortal cases (Zhou et al, 2020; Zheng et al, 2020). Practical recognition of Covid-19 vulnerable individuals relies on two main criteria: i) chronic condition from the following list: heart condition, hypertension, stroke or other cerebrovascular disease, diabetes, chronic lung disease, cancer, chronic kidney disease³ and ii) obesity, defined as BMI \geq 30. Although highly correlated to excess mortality from Covid-19, age is accounted for in analyses but not considered as a criterion of Covid-vulnerability per se. Economic vulnerability is approached by the crude measures of self-perceived ability to "make ends meet" (before vs. after outbreak) and by two questions about the need to "postpone regular payments" and to "dip into savings" to cope with day-to-day expenses during the pandemic period.

We are primarily interested in the impact of the pandemic period on health considered in its multidimensional perspective, and to this end, we characterize four "final" health outcomes. General health is measured through the standard measure of self-assessed health status. Mental health is captured by the following variables: feeling of anxiety, of depression, of loneliness, sleep disorders. Specifically, Covid-related health is assessed by respondents in SHARE-CATI, who report whether they have experienced symptoms, undergone tests or been hospitalized. Finally, barriers in access to health care is proxied by the unmet needs, due to medical appointments postponed or denied, to forgone healthcare, or to home care and services made less available.

The empirical strategy consists in two main steps. First, the magnitude of correlation between vulnerability to Covid-19 and economic vulnerability is assessed in baseline (i.e. based on SHARE w8 collection before the outbreak of coronavirus) in order to verify the key assumption of a relation between both types of vulnerability. Then, statistical models are used to get estimates of i) the evolution between t0 (baseline) and t1 (post-outbreak period) for global and mental health outcomes and ii) the level of unmet care needs in t1. Both approaches involve estimates conditional to our primary variables of interest: baseline economic and Covid vulnerabilities and an interaction term. Additional control covariates are included, in particular age and socio-economic status (household composition, occupational category, education...). Variations of

² Sample selection on preliminary version of raw databases yields a sample size of around 35,000 individuals.

³ More precisely, a "chronic condition" is accounted here if an individual declares either to suffer from one of these conditions of the list (SHARE question PH006) or to take drugs on a regular basis to treat it (PH011).

the models are performed to get stratified estimates by countries or groups of countries (based on similarities in their strategies against Covid-19).

Preliminary results and conclusion

Very preliminary analyses on partial versions of the databases show that around 70% of sample can be considered as “vulnerable to Covid-19” in baseline according to our definition. This proportion of vulnerable individuals is greater for men (73%) than women (69%), and also greater among the elderly which is common-sense: 76% amongst the 65+ vs. 56% amongst the 50-64 years old. Situations of economic vulnerability account for around 40% of the total sample, and this situation is over-represented amongst the youngest: 53% of economically vulnerable people in the 50-64 vs. 40% in the 65+. Crude bivariate analyses seem to demonstrate that most primary health and health care outcomes have got worse for those initially in situation of health-related or economic vulnerability; for example, self-assessed health has declined for both 10% of health-vulnerable and economically vulnerable people, while it has declined for for “only” 6% of non health-vulnerable and 8% of non economically vulnerable people. Same can be observed for sadness and depression feelings which worsen for 17% of the health vulnerable individuals (vs. 13% for the non-vulnerable) and for 19% of the economically vulnerable individuals (vs. 14% for the non-vulnerable). These preliminary results can be seen in tables 1 and 2 (appendix).

This analysis will provide new findings for assessing the consequences on health inequalities of European pandemic management policies, in particular lockdown policies and health care supply shortage. Those results will provide new elements to design equitable preventive policies in case of epidemic rebound, aiming at managing Covid-19 epidemic without enlarging the magnitude of health inequality.

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Appendix

Table 1 – Health vulnerability and economic vulnerability by age group and sex

	Health vulnerability (Most at risk of severe forms of Covid-19)			Economic vulnerability (Have difficulties to make ends meet)		
	Men	Women	Total	Men	Women	Total
Age 50-64	59%	53%	56%	42%	41%	53%
Age 65+	77%	75%	76%	37%	34%	40%
Total 50+	73%	68%	70%	39%	36%	41%

Sample: N = 34,921 respondents to regular SHARE W8 and to SHARE-CATI survey, all countries

Note: unweighted frequencies; health and economic vulnerability measured at baseline in w8

Table 2 – Health and healthcare outcomes amongst individuals in situation of initial health-related or economic vulnerability

	Health vulnerability (Most at risk of severe forms of Covid-19)		Economic vulnerability (Have difficulties to make ends meet)		
	No	Yes	No	Yes	
	N	10,428	24,493	21,421	13,500
Evolution of health status since outbreak					
Has experienced symptoms of Covid-19		2%	2%	2%	1%
Deterioration in self-assessed health status (compared to before outbreak)		6%	10%	8%	10%
Feeling more sad/depressed (than before outbreak)		13%	17%	14%	19%
More sleep disorders (than before outbreak)		7%	8%	6%	11%
Feeling more nervous (than before outbreak)		19%	22%	19%	24%
Unmet needs in health care and home care since outbreak					
Forgone medical treatment (because of fear to become infected)		11%	14%	12%	13%
Medical appointments postponed		15%	20%	19%	20%
Medical appointments denied		4%	5%	5%	6%
With home care before outbreak		3%	7%	5%	7%
Among those with home care before outbreak: more difficulties in getting the amount of home care needed		26%	21%	18%	26%

Sample: N = 34,921 respondents to regular SHARE W8 and to SHARE-CATI survey, all countries

Note: unweighted frequencies; health and economic vulnerability measured at baseline in w8