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32 Health status of older Europeans living alone: The role of living arrangements, healthcare, and social supports in the COVID-19 pandemic

Key points

- During the COVID-19 pandemic, older adults who were living alone were more likely to report a health decline than their counterparts who were living with others.
- People aged 60 or older who had limited access to healthcare during the COVID-19 pandemic were more likely to report worsened health.
- A more generous "welfare state", better coverage of health services, and higher per capita health and social protection expenditures were associated with a more moderate decline in health among older Europeans.

1 Introduction

A growing number of older Europeans are living alone. In the European Union (EU) in 2020, nearly 28 million, or almost 31% of the adult population aged 65 or older, were living alone (Eurostat, 2022). These older adults face many challenges, including an increased risk of social isolation, poorer health status, financial strain, and a greater need for social support (Esteve et al., 2020). Living alone has been associated with a higher risk of loneliness and depression and of nursing home admission, and with more intensive use of health-related public supports (Mudrazija et al., 2020). In addition, studies conducted during the COVID-19 pandemic have confirmed that older adults living alone faced an elevated risk of loneliness (Atzendorf and Gruber, 2022) and of an overall deterioration in mental health. The COVID-19 health crisis has greatly exacerbated older people's health vulnerabilities, impeding their access to healthcare services due to either their own or their healthcare providers' decisions. Therefore, it is critically important to understand how the resiliency of older adults during the COVID-19 pandemic differed depending on their living arrangements. People who live alone have generally relied more on the public health system to meet their health and long-term care needs than people who live with others.

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Recent studies have called for the health needs of older adults in poorer health who are living alone in a crisis, such as the ongoing pandemic, to be identified and addressed. To this end, we use data from the SHARE Corona Survey (SCS) to examine the changes in older Europeans' health status during the pandemic, and the role of different policy settings. We explore systemic differences in the health status of older adults depending on their living arrangements, and investigate how their socio-demographic and health-related characteristics may moderate the link between their living arrangements and their health. Furthermore, we focus on variables indicating that these older adults had unmet healthcare needs, and the importance of these variables in shaping their health status. Another goal of this chapter is to examine whether different institutional contexts – i.e., differences between welfare regimes more broadly and the characteristics of health systems more specifically – can be related to the health status of older Europeans who were living alone during the COVID-19 crisis. Finally, we discuss our findings on the health of older Europeans living alone during the COVID-19 pandemic in the context of public healthcare policies designed to address their needs.

2 Data and methods

We use the SCS datasets, and supplement them with data collected in previous ("regular") SHARE waves, as well as data from the official releases of Eurostat, the Organisation for Economic Co-operation and Development (OECD), and the World Health Organization (WHO). The outcome variable was obtained by asking respondents whether their health had improved, stayed about the same, or worsened compared to three months before the interview. These three categories were transformed into a binary variable that equals one if the respondent's health had declined, and that equals zero otherwise. The respondent's living arrangements – that is, whether the respondent was living alone or with others (e.g., in a couple, with others) – is the key explanatory variable of interest. Three dummy variables that reflect limited access to healthcare in the second SCS (healthcare forgone, postponed, or denied) are also predictors of particular interest. Our socio-demographic controls include gender, age (in years), education (in years), and area of residence (rural or urban). Our health-related controls include the number of current chronic conditions (≤ 1 and 2+), self-reported health status (SRH) before the pandemic (poor/fair and good or better), whether the respondent has limitations due to health problems, and whether the respondent has been vaccinated against COVID-19 or had symptoms of COVID-19.

The full sample includes 49,253 respondents aged 50 or older from 27 European countries and Israel. Our analytic sample includes 40,491 respondents aged 60 or older.[1] Women comprised 56% of the working sample, while the average age of the respondents was 71.6 years (SD = 8.5 years). Men had, on average, one year of education more than women (11.6 vs 10.7), and almost one in three respondents were living alone. The countries with the highest proportions of respondents aged 60+ living in single households were Estonia (47%) and the Netherlands (41%), while the countries with the lowest proportions were Portugal (18%) and Romania (19%). Nearly 13.9% of respondents reported a decline in health, and 29% said they had poor or fair SRH before the pandemic. Close to 15% indicated that they were not vaccinated against COVID-19, and 5.5% reported experiencing COVID-19 symptoms.

Figure 1 shows the shares of older adults who reported worsening health by living arrangements. On average, older adults who were living alone were significantly more likely to report a decline in health than those who were living with others (16% vs 12.9%). If we assume that close to 122 million people in the EU were aged 60 or older in 2021, our findings suggest that at least six million people who were living alone experienced a health decline. The share of older adults living alone who reported a decline in health varied considerably across countries: the proportions were largest in Bulgaria and Lithuania, and were smallest in Denmark and the Netherlands.

Our macro-level explanatory variables include a dummy variable describing welfare regimes as more or less generous (more details on its construction are available in Mudrazija et al., 2020). Other variables we use are the 2019 Universal Health Coverage (UHC) score (Lozano et al., 2020) related to essential health services (low for values < 80, high for values 80 and above) and health system type (Bismarck or Beveridge). Finally, we include dummy variables indicating whether health or social protection expenditures per capita are high or low, and indicators of health system resources based on the number of practising doctors and nurses. These macro-level variables capture the state of health systems in 2019, and thus in the period preceding the pandemic. Before dichotomising them into "high" and "low", we compare country-specific values to the average figures for all countries in the sample, or the EU-27 average.

Figure 2 shows the correlations of the macro-level variables and the percentages of older Europeans living alone whose SRH had recently worsened. Al-

1 In addition to those younger than age 60 (N = 4,540), we exclude respondents from Israel (N = 1,203) (to limit the analysis to European countries only), interviews with proxy respondent only (N = 1,269), and respondents in nursing homes (N = 385). Another 862 cases were excluded due to missing information on SRH before the pandemic, and 503 cases were excluded due to missing information on all other variables (1.2%).

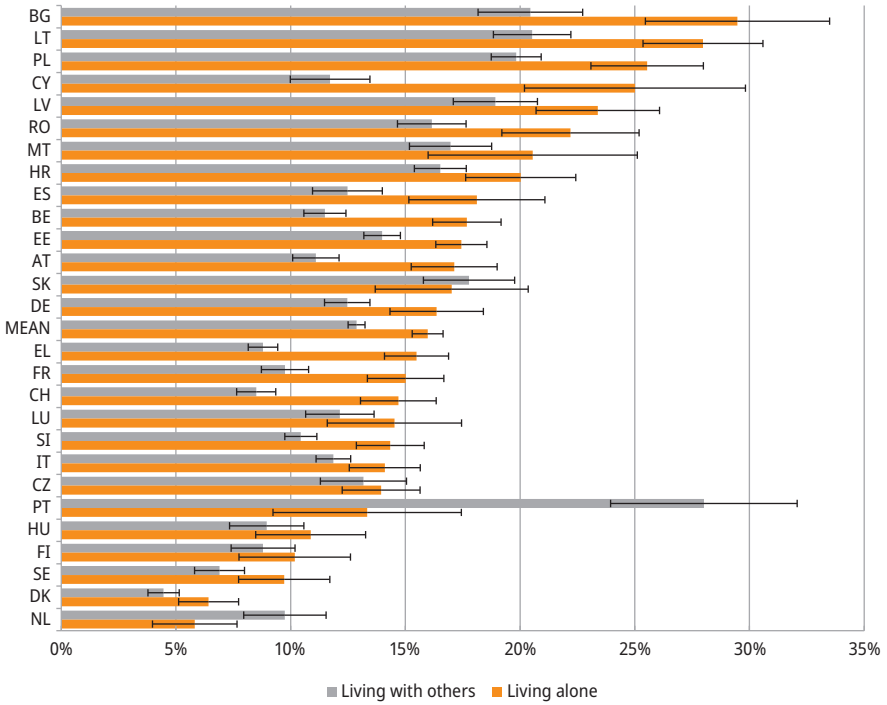

Figure 1: Percentages of older adults aged 60+ whose health worsened by living arrangements.
Note: N = 40,491 (Living with others = 29,758; Living alone = 10,733).
Error bars represent 95% CI. Subsample mean of worsened health: Living with others = 12.9%; Living alone = 16.0%. Older adults living with others in NL, PT, and SK were more likely to report worsened health than those living alone. One reason for this might be relatively small sample sizes, but this issue should be investigated more thoroughly.
Source: SHARE Corona (W2), release 8.0.0. Weighted data.

though the associations were generally weak to moderate, the proportion of older adults living alone who reported a health decline was lower in countries with higher health and total social protection expenditures. Moreover, the same pattern is visible for countries with more comprehensive essential health care coverage and a higher density of health personnel.

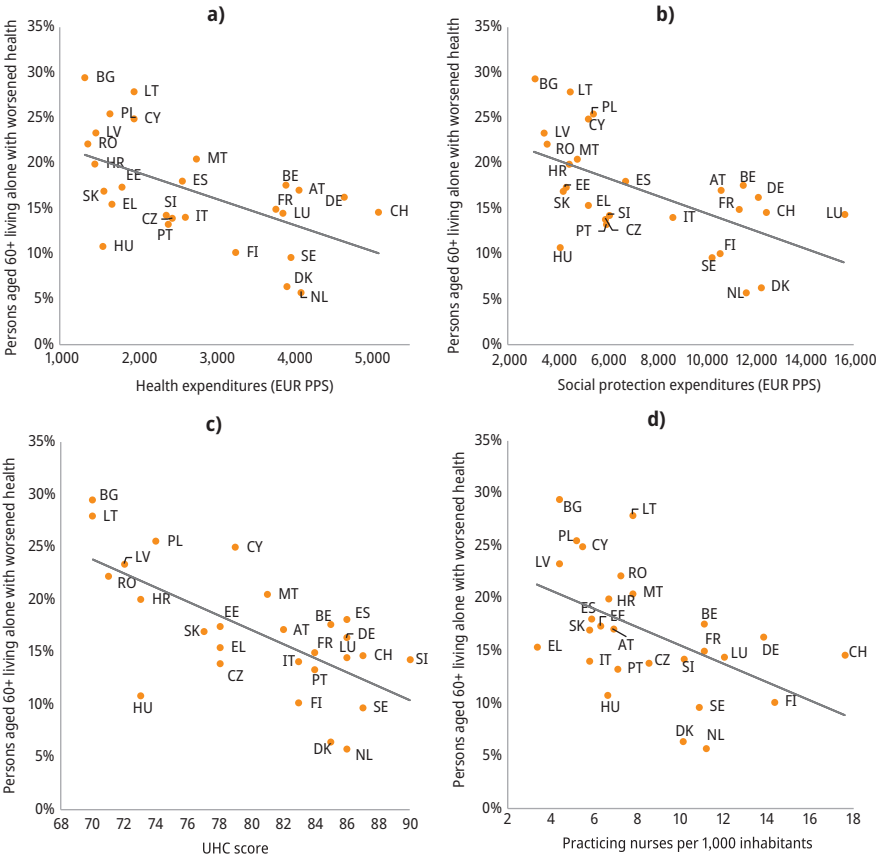

Figure 2: Correlations between macro-level variables and shares of older adults who were living alone and reported worsened health in the pandemic.
Note: N = 40,491. PPS – purchasing power standard.
Data for the macro-level variables are for 2019, or for the latest available year in the Eurostat, WHO, or OECD databases.
Source: SHARE Corona (W2), release 8.0.0. Weighted data.

In addition, Figure 3 shows the differences in the proportions of older Europeans who reported a health decline during the COVID-19 pandemic by welfare state generosity. Regardless of their living arrangements, older adults in countries with a more generous welfare state were less likely to report a health decline during the pandemic.

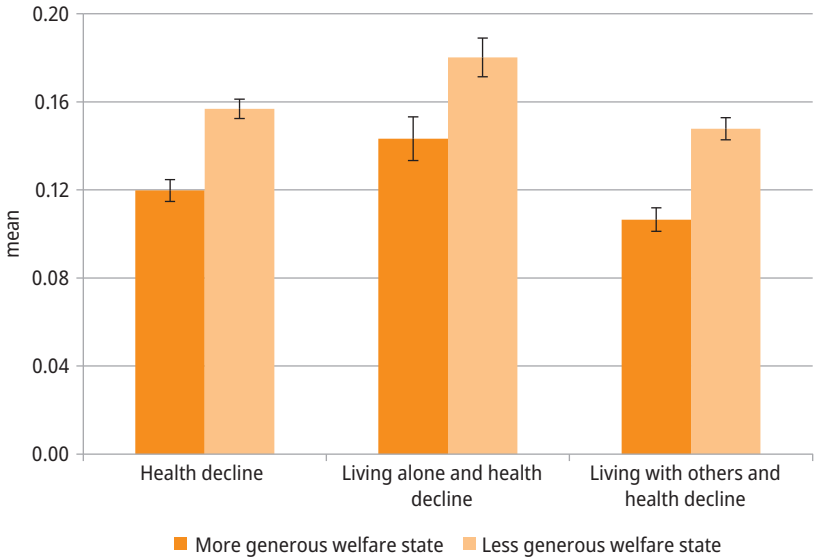

Figure 3: Health decline among older adults by living arrangements and welfare state generosity.
Note: N = 40,491. Countries in the "more generous welfare state" group: AT, BE, CH, DE, DK, FI, FR, LU, NL, SE; others in the "less generous welfare state" group.
Source: SHARE Corona (W2), release 8.0.0. Weighted data.

3 Empirical analyses and results

To explore the determinants of health decline among Europeans aged 60 or older, we estimated logistic regression models. In the first step, we identified the characteristics of older adults who were more likely to report a health decline during the COVID-19 pandemic. In the second step, we added the macro-level variables to the models to estimate the effects on the odds of reporting worsened health status. In the univariate analyses (based on the *chi-square* test), previous health status was associated with health decline (in all p-value < 0.001). In addition, the respondents who reported having unmet healthcare needs in the pandemic were more likely to report a health decline than those who did not. Furthermore, the respondents who were not vaccinated against COVID-19 and who had COVID-19-related health symptoms were significantly more likely to report a health decline. Finally, macro-level variables, such as higher UHC and health and social protection expenditures, were associated with a lower likelihood of reporting a health decline (based on the *t-test* results).

Figure 4 summarises the estimates from the logistic regression model with micro-level variables. We conclude that the odds of older adults reporting a health decline were significantly higher if, holding other things equal, they were living alone. Health-related variables had a significant effect on the likelihood of reporting a health decline. For example, individuals who had two or more chronic conditions had, on average, 80% higher odds of reporting an adverse change in health. Moreover, the odds of reporting worsened health status were around 25% higher for respondents who had forgone healthcare due to fear of contagion, and were 70% higher for those who were denied a medical appointment.

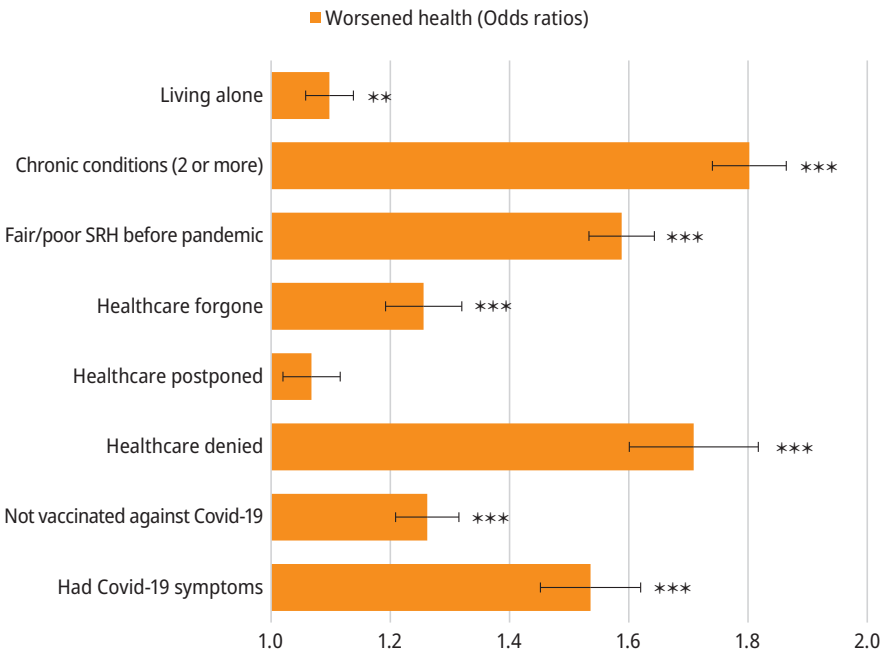

Figure 4: Estimated results for health decline among older Europeans (micro–level variables).
Note: *** p < 0.01, ** p < 0.05, N = 40,491. We control for age, gender, years of education, area of residence, and limitations due to health. Country controls = yes.
Source: SHARE Waves 1–8 and SHARE Corona (W2), release 8.0.0.

Figure 5 shows estimates of the logistic regression models with macro-level variables added stepwise. A more generous welfare state, more substantial coverage of health services, and higher health and social protection expenditures were associated with lower odds of older Europeans experiencing a health decline during the pandemic. Health personnel stock had mixed effects on the outcome. While above-average den-

sity of nursing staff was associated with lower odds of reporting a health decline, the density of practising doctors was not significantly related to better health.

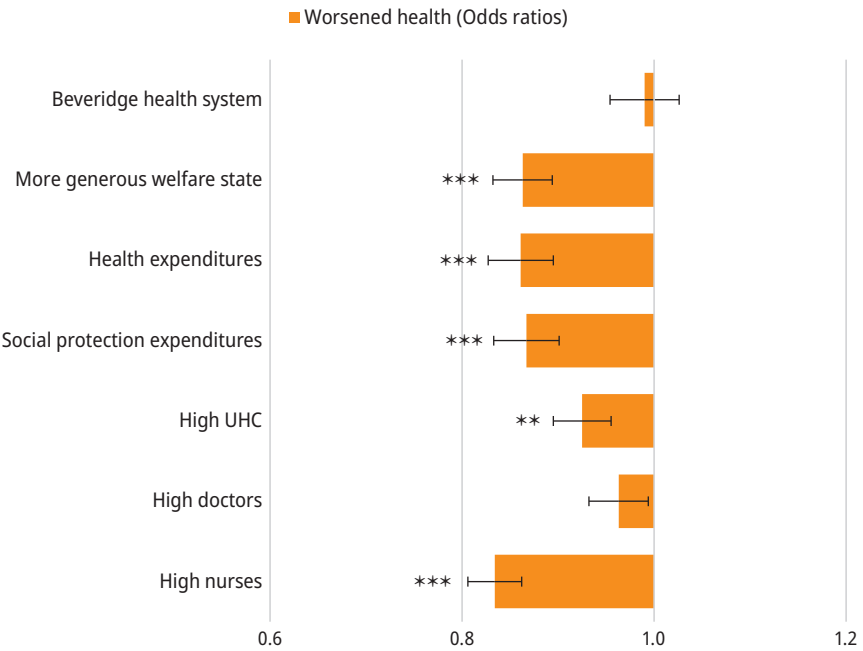

Figure 5: Estimated results for health decline among older Europeans (macro–level variables).
Note: *** $p < 0.01$, ** $p < 0.05$, N = 40,491. Individual controls = yes.
Source: SHARE Waves 1–8 and SHARE Corona (W2), release 8.0.0. Eurostat, WHO and OECD databases.

4 Conclusion

A significant increase in single-person households among the elderly population is a well-known phenomenon in the developed world, especially in the last few decades. As more older people are living alone, the demand for public healthcare services is likely to increase, given that living alone has been linked to adverse health consequences. Coping with health issues or impairments may be particularly difficult for older individuals who are living alone, and who do not receive adequate help from their family members or others.

The COVID-19 health crisis affected older people who were living alone in many ways. On the one hand, people's living arrangements became an essential

factor in the risk of contracting COVID-19, and those who were living alone were less exposed to the disease. On the other hand, due to the COVID-19 pandemic, barriers to accessing healthcare increased, and the supply of formal and informal care decreased for non-pandemic-specific health needs.

The preliminary results presented in this chapter suggest that socio-demographic factors were significant predictors of reporting a health decline in the pandemic. In particular, we conclude that the odds of reporting a health decline during the pandemic were higher for older adults who were living alone than for those in other living arrangements. Further evaluations showed that having unmet healthcare needs due to COVID-19 – and particularly if healthcare was forgone or denied – negatively affected the health status of older adults, especially if they were living alone. Therefore, vulnerable population groups, including those living alone, should be targeted by health interventions aimed at reducing barriers to healthcare access and maintaining continuity in the provision of health and social services. These interventions could slow down health decline among older adults, and improve their quality of life.

Closer examination of our macro-level variables suggests that countries with more developed health and social protection systems had significantly smaller shares of older adults who were living alone and reported a health decline during the pandemic. In addition, we showed that older adults in more generous welfare states had lower odds of experiencing a health decline. We found similar effects for the coverage of essential health services (UHC) and health and total social protection expenditures. While there is a clear need to increase health and social protection spending, this is likely to be a challenging proposition for policymakers in the context of post-pandemic economic conditions, limited fiscal capacity, and competing social demands. Another growing challenge is the shortage (and ageing) of health workers, even as our results show that having sufficient nursing staff plays a vital role in the health status of older adults. As more information becomes available, future analyses and data evaluations will be able to build on our insights, and further improve our understanding of the interplay between the living arrangements and health of older adults and institutional contexts in Europe.

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