

Mette Lindholm Eriksen, Sonja Vestergaard and
Karen Andersen-Ranberg

13 Health among Europeans – a cross-sectional comparison of 16 SHARE countries

-
- ▶ Poor self-rated health and several risk factors for cardio-vascular diseases are, in general, more common in Eastern European countries
 - ▶ Germany shows almost the same high levels of adverse health outcomes as East European countries
 - ▶ Differences in institutional factors have a major impact on health disparities and must be addressed to increase healthy and active ageing in Europe
-

Not only do older Europeans live longer today than earlier; they also seem to be living their longer lives in better health, at least in terms of physical functions (Christensen 2009). However, although improvements are clear in a national setting, even at very old ages (Christensen 2008), there are still differences across nations. Within the EU27 area there is a well-known disadvantage in health in the Eastern EU countries compared to the Western countries (OECD 2010). The divide is most clear in mortality and is mainly explained by chronic diseases in adulthood and a high prevalence of underlying health risk factors such as health behaviour, diet, alcohol consumption and smoking, while pollution and access to health care are believed to have less impact (Bobak 1996). However, changes in institutional factors may reverse adverse health outcomes as shown by Vaupel and colleagues (2003) in their remarkable comparative study of age specific mortality rates of German birth cohorts born around the year 1900; before the re-unification in 1990 Germans living in the former Eastern Germany had higher mortality rates than their birth cohort peers living in the former Western Germany, but just a few years after the re-unification these higher mortality rates declined to the same level as in the western part of Germany. It is generally accepted that this effect is explained by improved health care services, also to older people, in the former Eastern Germany.

Europe is ageing due to several factors: (a) the baby boomer generations after World War II now entering the older age groups, (b) a decline in oldest old mortality, and (c) declining birth rates. The challenges of an ageing Europe are substantial, especially since the dependency ratio is increasing (i. e. the sum of

young aged <15 years and older adults aged >65 years divided by the number of people aged 15–64). Demographic projections show that especially the Eastern and Southern EU countries will experience the highest dependency ratio in the future (EUROSTAT 2011, Lancieri 2011), which reinforces the need for increasing our knowledge in the dynamics of the ageing process and the relation to health and socioeconomic situation.

While the health of the citizens in the European Union in general is monitored by Eurostat with the collection of information from national health surveys including mortality data to calculate life expectancy and healthy life years (also called disability-free life expectancy) (Robine 2003), it must be acknowledged that health is more than mortality. Health is also disability in various areas, and morbidity, but while information on disabilities and functional declines are rather easily collected, morbidity data from population studies are scarcer. In fact, little is known about disparities in various common diseases across the European countries. Since morbidity in most cases precedes disability and functional decline, understanding disparities in morbidity is important to address disparities in health across Europe (O'Donnell 2009). SHARE is the only cross-national longitudinal ex-ante harmonised survey that collects data from a wide range of health indicators; i. e. from very subjective measures, e. g. self-perceived health, to more objective measures, e. g. walking speed and grip strength.

13.1 The cross-national measurement of health

This chapter aims at describing the health of middle-aged and older Europeans participating in the fourth wave of SHARE in 2010–2011. The health area in SHARE is composed by a wide range of questions covering different areas of health: general health, functional health, physical and mental health, but here we focus on diversities in functional and physical health across SHARE. Of the 16 countries participating in SHARE Wave 4, four were new in SHARE and meant the addition of three more Eastern European countries (Slovenia, Hungary, Estonia) to the existing two (the Czech Republic and Poland), and one more Southern European country (Portugal) to the already included Spain and Italy (see Malter & Börsch-Supan 2013 for details).

We present here cross-sectional results within three of the health domains: *general health* (self-perceived health, the Global Activity Limitation Index (GALI), and longstanding health problems), *physical functions* (information on Basic Activities in Daily Living (B-ADL) and Instrumental Activities of Daily Living (I-ADL)), and specified *chronic diseases*. In the reporting of diseases and chronic

conditions the questions were phrased: “Has a doctor ever told you that you had/have [specific disease/condition]...”, e. g. a heart attack, high blood pressure, stroke, diabetes, chronic lung disease, arthritis (osteoarthritis and rheumatism), cancer, gastrointestinal ulcer, Parkinson’s disease, cataracts, hip fracture, other fractures, and dementia/cognitive impairment.

The question on self-perceived health had five answer categories and was phrased “Would you say your health is excellent, very good, good, fair or poor?”. The answer categories were dichotomised into two categories: (0) excellent, very good and good vs. (1) fair and poor. The GALI question was phrased: “For the past six months at least, to what extent have you been limited because of a health problem in activities people usually do”? with three answer categories: ‘not limited’, ‘limited, but not severely’, and ‘severely limited’. The three categories were dichotomised into (0) ‘not limited’ and (1) ‘limited, but not severely’ or ‘severely limited’. Physical functions were measured by the ability to independently perform basic activities of daily living (ADL), i. e. dressing (including shoes and stockings), walking across a room, getting in or out of bed, bathing or showering, eating, incl. cutting up the food, and using the toilet, including getting up or down. ADL was dichotomised into 2 categories: (0) no ADL limitations or (1) one or more limitations (“1+ADL”). The variable of chronic diseases was dichotomised into two categories: (0) less than 2 chronic diseases and (1) 2 or more chronic diseases (“2+ chronic diseases”). All analyses were adjusted by age and gender, and included data from 59,599 participants.

13.2 General health poorer in Eastern and Southern European countries

Overall, there were considerable cross-country variations regarding the various health measures of 50+ year old Europeans, but with a certain geographical pattern. Higher prevalences of poor self-perceived health were seen in the more Eastern and Southern European countries compared to the Western and Northern ones, the only exception being Germany, which had the same level as Eastern European countries. Among the Eastern European countries, Hungary and Estonia, in particular, showed notably high prevalences (above 60%, Figure 13.1).

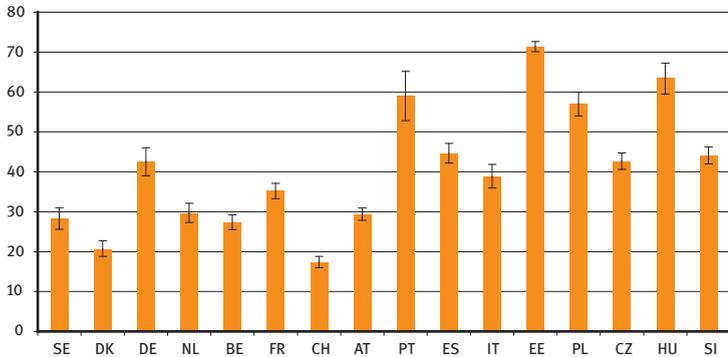


Figure 13.1: Cross-national prevalence proportions (y-axis; per cent) of respondents reporting poor self-perceived health (N=53,213)

Notes: Whiskers represent confidence intervals (CI). Adjusted by age and gender.

Source: SHARE Wave 4 release 1, using calibrated individual weight

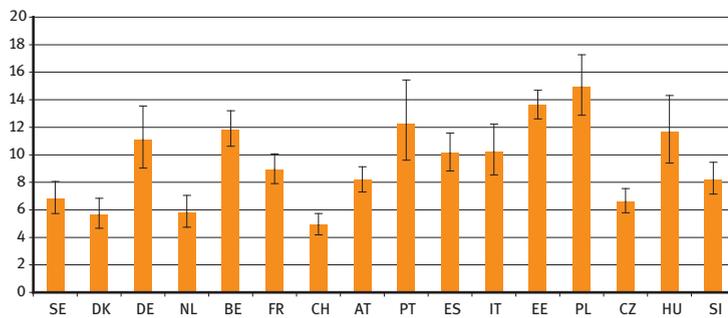


Figure 13.2: Cross-national prevalence proportions (y-axis; per cent) of respondents reporting limitations in activities of daily living (1+ADL) (N=53,222)

Notes: Whiskers represent confidence intervals (CI). Adjusted by age and gender.

Source: SHARE Wave 4 release 1, using calibrated individual weight

This pattern was, in general, also recognised in the cross-national comparisons of physical functions, defined as at least one limitation in basic activities of daily living (1+ADL), again with Germany being at the same level as Southern European countries, but now also accompanied by Belgium (Figure 13.2). In contrast, the Czech Republic was at about the same level as the Northern European countries. Interestingly, a somewhat different geographical pattern was seen in the prevalence of long-standing limitations in usual activities because of a health problem (GALI) (Figure 13.3). Compared to the prevalences of poor self-rated health and 1+ADL, the southernmost SHARE countries, i. e. Portugal,

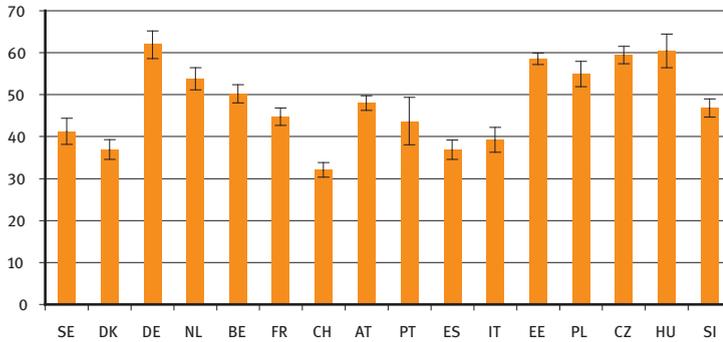


Figure 13.3: Cross-national prevalence proportions (y-axis; per cent) of respondents reporting to be limited in daily activities (severely or not severely) for at least 6 months (GALI) (N=53,225)

Notes: Whiskers represent confidence intervals (CI). Adjusted by age and gender.

Source: SHARE Wave 4 release 1, using calibrated individual weight

Spain and Italy reported the lowest proportions in health related activity limitation (GALI), which may be interpreted as Southern Europeans seeing activity limitations and poor health as natural consequences of ageing, not of age-associated diseases.

13.3 Cardio-vascular diseases and their risk factors were highly prevalent in Eastern European countries

In Europe, morbidity is dominated by diseases in the cardio- and cerebrovascular system (CVD) (Mendis 2011). SHARE data showed the same pattern. The most prevalent disease in all SHARE countries was hypertension, which moreover showed a clear geographical distribution (Figure 13.4a). The highest prevalences of hypertension were seen in East European countries (Hungary, Estonia, the Czech Republic, Slovenia and Poland), and all above 40 per cent. Again Germany stuck out by having almost the same high prevalence as in the East European countries. Hypertension is a well-known risk factor for diseases in the cardio- and cerebrovascular system, and therefore it was not a surprise to see almost similar patterns of high prevalences of cardiovascular diseases (Figure 13.5), although Estonia and Hungary showed particularly high prevalences when compared to the three other Eastern European countries, i. e. Poland, the Czech Republic and Slovenia.

Another well-known risk factor for diseases in the cardio- and cerebrovascular system is diabetes. Again, the cross-national pattern of diabetes prevalence was almost similar to the geographical pattern seen for the cardiovascular diseases; i. e. higher prevalences of diabetes in the more Eastern and Southern European countries, and in Germany (Figure 13.6a).

It is worth mentioning that the geographical pattern of diabetes prevalence found in SHARE was similar to the pattern found in OECD data (2010), which indicates the validity of the SHARE data.

Another risk factor for diseases in the cardio- and cerebrovascular system is high cholesterol, but in contrast to the rather uniform geographical pattern described above, the highest prevalences for high cholesterol were identified in Belgium, Portugal and Spain (Figure 13.7a).

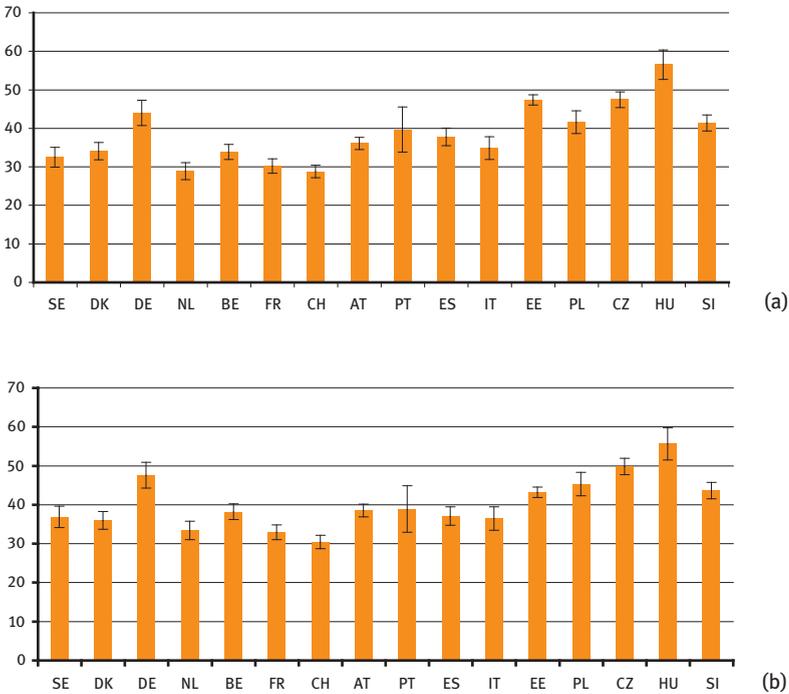


Figure 13.4: Cross-national prevalence proportions (y-axis; per cent) of respondents reporting to have hypertension (N=53,207) (a) and taking anti-hypertensive medication (N=53,225) (b) Notes: Whiskers represent confidence intervals (CI). Adjusted by age and gender. Source: SHARE Wave 4 release 1, using calibrated individual weight

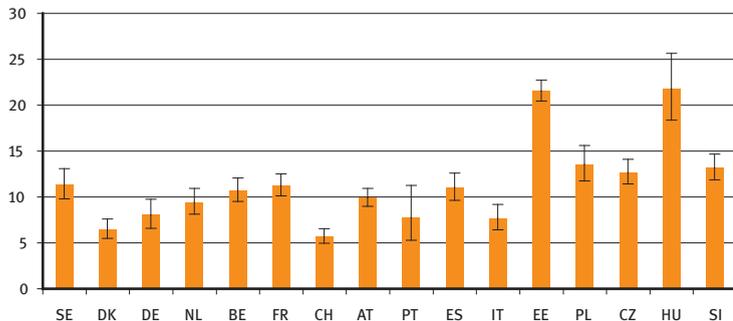
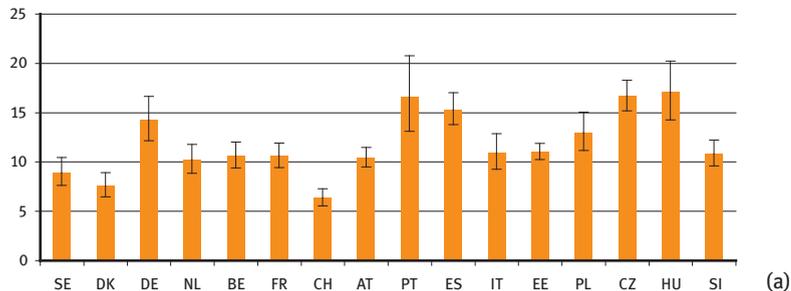


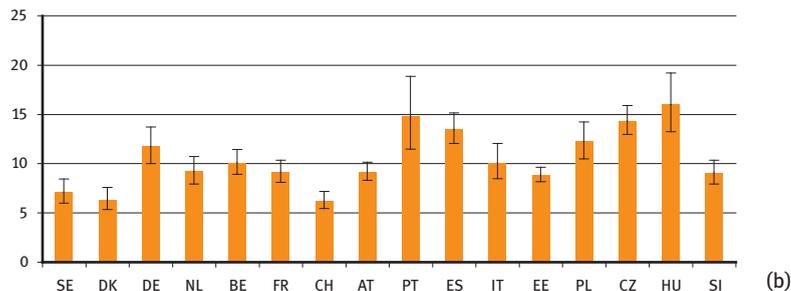
Figure 13.5: Cross-national prevalence proportions (y-axis; per cent) of respondents reporting to have a cardiovascular disease (N=53,207)

Notes: Whiskers represent confidence intervals (CI). Adjusted by age and gender.

Source: SHARE Wave 4 release 1, using calibrated individual weight



(a)



(b)

Figure 13.6: Cross-national prevalence proportions (y-axis; per cent) of respondents reporting to have diabetes (N=53,207) (a) and taking anti-diabetic medication (N=53,225) (b)

Notes: Whiskers represent confidence intervals (CI). Adjusted by age and gender.

Source: SHARE Wave 4 release 1, using calibrated individual weight

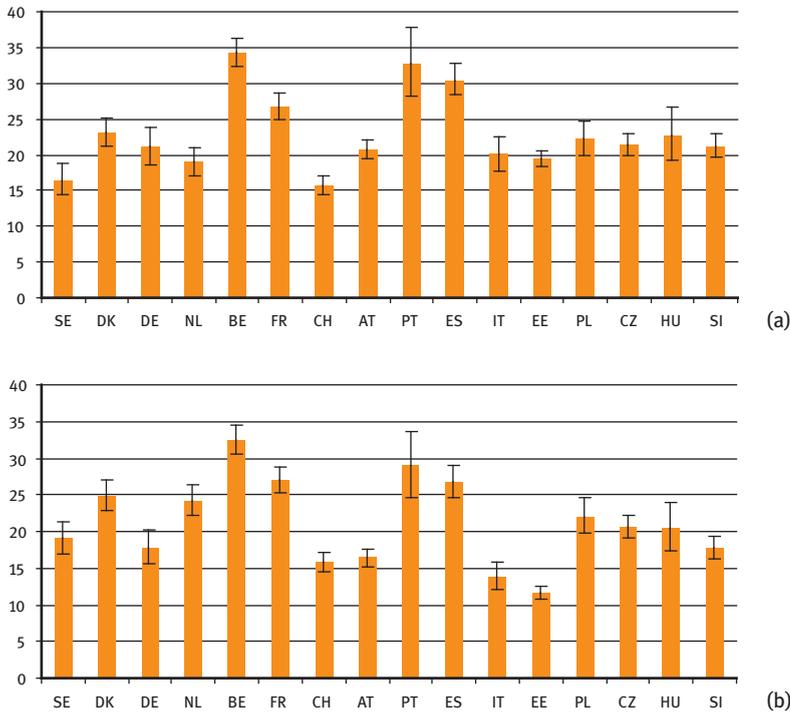


Figure 13.7: Cross-national prevalence proportions (y-axis; per cent) of respondents reporting to have high cholesterol (N=53,207) (a) and taking cholesterol lowering medication (N=53,225) (b) Notes: Whiskers represent confidence intervals (CI). Adjusted by age and gender. Source: SHARE Wave 4 release 1, using calibrated individual weight.

13.4 Use of medication mirrors the cardiovascular diseases and its predisposing conditions in SHARE respondents

Use of medication may sometimes be a useful tool as a proxy for diseases, as respondents may underreport diseases by simple forgetfulness or because they believe that ongoing medical treatment has cured them. A typical example is hypertension, where lay people may think that when they take their antihypertensive pill they no longer have the disease. A comparison of the prevalences of specific diseases with the equivalent specific medical treatment, e. g. hypertension is treated with antihypertensives, showed that underreporting of some common diseases may be the case also in the SHARE survey. Comparing the cross-national

prevalences of hypertension with the respective prevalences of antihypertensives showed very similar patterns, but higher prevalences of use of antihypertensives than what was actually reported (Figure 13.4a & b). In contrast, treatment with antidiabetics was lower than the prevalence of diabetes, which however, may be explained by treatment only by sugar-free diet (Figure 13.6a & b). An interesting finding was that in most countries cholesterol lowering medication was less prevalent compared to the actual prevalence of having the condition of high cholesterol, in contrast to the more Northern SHARE countries Sweden, Denmark and the Netherlands where the opposite was found. This may be explained by differential national guidelines for treatment of diseases. International guidelines recommend cholesterol lowering treatment as a primary preventive measure in diabetic patients with affected kidneys even though they have normal levels of cholesterol. The lower treatment prevalence in most other countries may also reflect low adherence to international guidelines, dietary treatment, or even costs. This should be investigated further, as there might be a link between higher prevalences of cardiovascular diseases in the Eastern SHARE countries and less treatment with cholesterol lowering medication (Figure 13.7a & b).

13.5 Eastern European SHARE countries followed by Southern European SHARE countries experience worse health than their Northern and Western peers

In conclusion, adverse health outcomes varied across Europe, but with a clear geographical pattern: Compared to their Northern and Western age and gender peers, people living in the Eastern European SHARE countries, and to some extent also those living in the Southern countries, suffered from poorer health, whether it was assessed as general health, physical functions or common cardiovascular diseases including well known risk factors (i. e. diabetes, hypertension). A striking result was to see that Germany showed a general pattern of adverse health outcome more similar to Eastern and Southern European countries than its more Western and Northern peers. This is in parallel with other findings based on SHARE data showing that Germans tend to underrate their true health (Jürges 2007, for details also see the chapter by Schoenmaeckers in this volume). On the other hand compared to their Western and Northern peers Germans also report more often problems with activities in daily living (1+ADL), suffering from long-term illness, having long-standing health related limitations in activities people

usually do, and suffering from hypertension and diabetes, even when adjusting for relevant covariates i. e. BMI and physical activity (analyses not shown).

Disparity in the health of Europeans is evident. Some of it may be explained by lifestyle factors (sedentary lifestyle, obesity, smoking and drinking, unhealthy diet), but adjusting for these factors in our analyses did not change the results significantly, and neither did adjusting by educational level (analyses not shown). The results presented here are only adjusted by age and gender, which was chosen in order to increase comparability with other mainly national studies, which more often report results with basic adjustments. Further, as lifestyle factors and education did not significantly change the cross-national differences in health in SHARE it may be suggested that institutional factors have a certain impact. Therefore these results may be used at the national level to identify possible intervention schemes within the areas of public health and health care.

To meet the challenges of an ageing Europe we must address the path to increase active ageing in the European community. One path is to focus on the most common diseases leading to functional decline and disability. Both primary, secondary and tertiary preventive measures as well as active treatment strategies should be implemented, but in particular in the easternmost European countries, which seem to suffer more from common ill health, chronic conditions and diseases.

Increasing healthy and active ageing in Europe will lessen the burden on the younger generations and thereby increase the intergenerational solidarity.

References

- Bobak, Martin, Marmot, Michael (1996): “East-West mortality divide and its potential explanations: proposed research agenda”. In: *BMJ* 312, p. 421–425.
- Christensen, Kaare, McGue, Matt, Petersen, Inge, Jeune, Bernard, Vaupel, James. (2008): “Exceptional longevity does not result in excessive levels of disability”. In: *Proceedings of the National Academy of Sciences* 105, p. 13274–13279.
- Christensen, Kaare, Doblhammer, Gabriele, Rau, Roland, Vaupel, James (2009): “Ageing populations: the challenges ahead”. In: *The Lancet* 374, p. 1196–1208.
- EUROSTAT (2011): *EU27 population is expected to peak by around 2040*. Luxembourg: EUROSTAT.
- Jürges, Hendrik (2007): “True health vs response styles: exploring cross-country differences in self-reported health”. In: *Health Economics* 16, p. 163–178.
- Lancieri, Giampaolo (2011): *The greying of the baby boomers. A century-long view of ageing in European populations*. Luxembourg: EUROSTAT.
- Malter, Frederic, Börsch-Supan, Axel (Eds.)(2013): *SHARE Wave 4: innovations & methodology*. Munich: MEA, Max Planck Institute for Social Law and Social Policy.
- Mendis, Shanthi, Puska, Pekka, Norrving, Bo (2011): *Global atlas on cardiovascular disease prevention and control*. Geneva:WHO.

- O'Donnell, Owen. (2009): "Measuring health inequalities in Europe. Methodological issues in the analysis of survey data". *Eurohealth*, LSE Health.
- OECD, EuropeanUnion (2010): *Health at a Glance: Europe 2010*. OECD Publishing.
- Robine, Jean-Marie, Jagger, Carol (2003): "Creating a coherent set of indicators to monitor health across Europe: the Euro-REVES 2 project". In: *The European Journal of Public Health* 13, p. 6–14.
- Vaupel, James, Carey, James, Christensen, Kaare (2003): "It's never too late". In: *Science* 301, p. 1679–1681.

