3.8 Health Services Utilisation in Older Europeans
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Introduction

The old age is characterised by a high prevalence of chronic diseases and by the coexistence, in individuals, of multiple morbidities. Although ageing individuals are very heterogeneous in terms of health status, ageing populations constantly need a large range of health services, from acute care to long term care. In the past decades, these special needs of older persons induced an increase in health services utilisation and they participated to the elevation of health care expenditures in industrialised societies.

Little is known concerning the way older people get their care in the variety of European health systems. Large international variations in health services utilisation have been documented by the Organisation for Economic Co-operation and Development, including in the adult population of European countries, but comparisons suffer a lack of homogeneity in data collection across countries (van Doorslaer and Masseria 2004). Recent work also described variations related to the level of income and education in adults of European countries from the age of sixteen (van Doorslaer et al. 2004). Although older persons account for a large proportion of health care expenditures, the extent to which their level utilisation is affected by personal characteristics, by the diversity of social health insurance coverage or by other features of health care systems remains unclear.

The SHARE survey provides original data specifically collected in older persons, using a common questionnaire designed to explore such hypotheses in European countries. This uniform data source is essential to study prospectively the evolution of health services utilisation with ageing in various countries. As a first step, we explored cross-sectional relationships between factors such as age, gender, subjective health or education and the utilisation of various types of health services (ambulatory care, medication, hospital and surgery) in Europe, based on release 0 data from the SHARE mainet test performed in 2004 in 10 countries.

Measures and Analyses

Questions on health services utilisation were enclosed in the interview section of the SHARE mainet test. Of the two models of the SHARE survey, the first wave of ELSA did not contain much information on health services utilisation but the HRS helped to formulate some of the questions on health services utilisation included in SHARE. All data collected in the health care section of the SHARE survey were self-reported. Most indicators of health services utilisation (medical contacts, contacts with general practitioners and with specialised physicians, visits to dentists or dental hygienist, hospital admissions, inpatient and outpatient surgery) were based on a twelve months recall. Participants were also asked about the drugs they currently take at least once a week, from a list of 14 drugs categories (drugs for high blood cholesterol, high blood pressure, coronary or cerebrovascular diseases, other heart diseases, asthma, diabetes, joint pain or joint inflammation, other pain, sleep problems, anxiety or depression, osteoporosis hormonal, osteoporosis other, stomach burns, chronic bronchitis).

Age was expressed in 10 years categories based on the year of birth (age achieved by the end of 2004). Subjective health was evaluated by a single question „Would you say your health is... very good, good, fair, bad or very bad?” and answers were dichotomised into very good or good versus the three last answer categories. Education was first coded in
each country according to the 1997 UNESCO General Conference revised International Standard Classification and then further categorised across countries into four levels: None or primary, lower secondary, upper and post-secondary, first and second stage of tertiary.

Analyses of bivariate relationships between age, gender, subjective health or level of education with health services utilisation were performed on weighted data. The effect of education was then studied after adjustment for age and gender in unweighted multivariate regression models (logistic regression for dichotomous response variables, ordered logistic regression in case of response variables showing more than two levels); subjective health was finally introduced in our multivariate models beside age, gender and education.

Analyses were essentially conducted on the whole data set. Summarised crude estimates of health services utilisation by country are displayed in Tables 3A.24-3A.29 in the Appendix to this chapter.

Results

1 Ambulatory medical care

The number of reported medical consultations over the past twelve months is strongly related to age ($p<.0001$), as shown in Figure 1. The proportion of persons who did not consult at all ranged from 18% in the 50-54 years category to 6% at the age of 85+. At the opposite, seven consultations or more were reported by 19% in the first age category and by 52% at the age of 80-84; a lower proportion (42%) was recorded among the oldest persons.

![Figure 1](image)

**Figure 1** Distribution of the number of contacts with physicians in the past twelve months, by age

Gender is associated to the number of medical consultations ($p<.0001$): 16% of men did not consult at all, against 9% of women, and 32% of men consulted 1 to 3 times compared with 27% of women. A large number of contacts was more frequently reported in women (7+ visits in 38% of women and in 29% of men). As expected, a subjective health
rated as very good or good is inversely related to the distribution of the number of medical visits (p<.0001). There is also an inverse relationship between the level of education and the number of medical visits in the past twelve months (Figure 2, p<.0001). The effect of education persists after adjustment for age and gender; however, it seems to be explained by a better state of health in higher educational categories and it is no more significant when this variable is also controlled.

Dental care is strongly associated with age (p<.0001) but not with gender: the proportion of persons who visited a dentist or a dental hygienist in the past twelve months is inversely related to the age category. While 63% of persons aged 50 to 54 had a contact, only 25% of individuals aged 85+ reported dental care. A good or very good health is significantly associated with a higher proportion of dental care report (52%, against 45% in persons with fair, poor or very poor subjective health, p<.0001). In addition, the level of education has a pronounced effect on the use of dental care: only 29% of persons with no education or an education limited to primary school had a contact in the past twelve months. Meanwhile, the proportion observed in persons with tertiary education reaches 73% (p<.0001). This effect is not explained by differences in perceived health: multivariate analyses confirm that both subjective health and education are associated with dental care in the past twelve months.

2 Medication

Age, gender, subjective health and the level of education are all related to the distribution of the number of medication categories taken at least once a week (p<.0001 in all comparisons). As shown in Figure 3, a majority of persons aged 50 to 54 do not take any drug from the 14 categories mentioned in the SHARE interview; at the age of 80-84, some 17% of individuals still reported that they take no drugs from this list. While 3% of the youngest participants mentioned drugs from 4 categories or more, the proportion in the 80-84 age group reaches 16%. The distribution of the number of medication categories in the oldest age group (85+), compared to that of individuals aged 80-84, is slightly shifted to the left. Men mentioned more frequently no medication than women (41%, against 32%) and women were more likely than men to report 2, 3 and 4+ categories of drugs. Although a favourable appreciation of health status is associated with a lower
consumption of medicaments, 9% of individuals in good or very good subjective health indicated that they regularly take medication from two categories or more.

The level of education is inversely associated with the reported medication (Figure 4). In the first category (no education or primary school), 27% of individuals indicated that they take none of the listed drugs and 12% mentioned 4+ categories. Among individuals with tertiary education, 46% do not take drugs from the proposed list and only 5% reported 4+ categories. The inverse relationship between education and medication is not totally explained by differences in age, gender and subjective health: when these factors are controlled, the lowest educational level is characterised by a higher level of medication compared to the three other categories.

**Figure 3** Distribution of the number of medication categories taken at least once a week, by age

**Figure 4** Distribution of the number of medication categories taken at least once a week, by level of education
3 Hospital stays

Contrasting with the use of ambulatory care, hospital admissions seem to be unrelated to gender. Overall, 15% of men and 14% of women experienced one or more overnight hospital stays in the past twelve months (p=.08). Figure 5, first of all, illustrates the fact that, at whatever age, a large majority was not admitted in a hospital. However, the proportion of unique or multiple overnight hospital stays is higher in the older age categories up to 80-84 years (p<.0001). At this age, more than one in five persons reported one or more hospital admissions over the last twelve months. The proportion of repeat hospitalisations reaches 8% at the age of 75-79; it is slightly lower in older age groups.

Some 7% individuals in good or very good subjective health experienced one hospitalisation and 1% reported multiple stays. In contrast, 14% mentioned one hospital stay and 7% indicated multiple hospital stays in the subgroup in fair, poor or very poor self-reported health (p<.0001). While the level of hospital use seems unrelated with education either bivariate analyses or in multivariate models adjusting for age and gender, when subjective health is also taken into account, the lowest level of education appears to be significantly associated with a lower level of hospital admission, compared to the three higher levels.

![Figure 5 Distribution of the number of hospitalisations over the past twelve months, by age](image)

4 Surgery

Reports of inpatient or outpatient surgery, like hospital stays, are not associated to gender, but they are related both to age (p=.4) and to a negatively perceived health (p<.0001). Figure 6 illustrates the effect of age: whilst 9% of individuals aged 50-54 had inpatient or outpatient surgeries in the past twelve months, the proportion in the 75-79 age category is 14%. Lower rates are observed at the age of 80-84 (13%) or 85+ (9%). When age, gender and subjective health are taken into account, a higher education is associated with a more frequent report of surgery performed in the past twelve months.
5 The level of health services utilisation in participating countries

For all indicators of health services utilisation presented earlier in this contribution, countries differ significantly. Country-specific estimates are printed in Tables 3A.24-3A.29 and are briefly commented in this section.

Table 3A.24 suggests that the number of ambulatory medical consultations is rather low in Sweden, Denmark and Switzerland, where large proportions declared no visit or a number limited to 3 visits, and that it is higher in Germany, France, Italy and Spain. Among individuals who consulted at least once in the past twelve months, a very large majority reported at least one visit to their general practitioner or their health care centre (Table 3A.25); the proportion exceeds 90% in all countries except in Sweden (85%) and in Greece (82%). Visits to specialists are less frequently mentioned; proportions of individuals who reported at least one visit to specialists (among respondents who consulted physicians in the last year) is the lowest in Denmark (25%) and the highest in Germany (60%).

Table 3A.26 points to large differences in the proportion of persons who reported at least one visit to dentists or dental hygienists in the past twelve months. The lowest rates are recorded in Italy, Spain and Greece and the highest rates in Sweden, Denmark and Germany.

Variations also characterised the distribution of the number of drugs categories taken at least once a week (Table 3A.27), with large proportions of individuals reporting no medication in Sweden, Denmark, the Netherlands and Switzerland. Numerous categories were frequently reported in France, in Spain and, to a lesser extent, in Greece.

![Chart showing proportion of persons with any inpatient or outpatient surgery in the past twelve months, by age](image)

*Figure 6 Proportion of persons with any inpatient or outpatient surgery in the past twelve months, by age*

Proportions of persons reporting one or more overnight hospitalisations are the highest in Austria and in Germany (Table 3A.28). This last country is also characterised by the highest proportion of individuals who mentioned at least one inpatient or outpatient surgery in the past twelve months (Table 3A.29).
Conclusions

- First data from the SHARE maintest confirm the high level of health services utilisation in the old age: higher use is observed among older persons for ambulatory medical consultations, for medication, for hospital admissions and for surgery. It is worth noting that this effect of age seems to level off at the age of 80 and the oldest old (85+) reported, in most of these dimensions of health care, a lower utilisation. As expected, subjective health is strongly associated with all measures of health services utilisation. One remarkable exception to the effect of age and subjective health on health services utilisation is observed in the field of dental care. Although many older respondents may have lost their natural teeth, dental prostheses still require regular checks and adjustments. Reasons behind the sharp decrease recorded in the frequency of annual dental controls with age should be further investigated in the longitudinal perspective that is a major strength of the SHARE project.

- Women reported significantly more medical consultations and more medications than men. However, a same proportion of men and women reported dental care in the past twelve months and genders did not differ significantly in their hospital use or in their reports of surgical procedures.

- There is a strong relationship between the level of education and several, but not all, indicators of health services utilisation in Europe. It is crucial to investigate the effect of education on utilisation at the light of other factors that may act as confounding. Taking advantage of the multidisciplinary nature of SHARE, our analyses show that individuals with a lower education do not consult more frequently physicians in ambulatory care; their apparently higher consumption suggested by bivariate analyses is explained by other factors, including a poorer subjective health (see Section 3.2 for the relationship between socio-economic characteristics and health). The better educated consume a significantly lower number of drugs but, by contrast, they are much more likely to report dental care. Dental care is excluded from the coverage of many social health insurance systems, which might result in lower access for disadvantaged subgroups of the population. Further analyses of SHARE data will allow to investigate relationships between specific private insurances and the use care in each of the participating country and to interpret socio-economic differences in the level of dental care utilisation at the light of states’ health policies. Other types of care are also related to the level of education, in spite of their coverage by most social health insurance systems: taking into account demographic characteristics and subjective health, persons in the lowest educational category reported significantly less hospital admissions and surgeries.

- Finally, a first sight at crude indicators of use at a country level points to variations that deserve more detailed investigation, taking into account differences in populations structure. Further work on the next data release will be based on multivariate modelling of health services utilisation in order to provide a better insight on international comparisons within Europe and to serve as a basis for health policy decisions.
References
Avendano M., A. Aro, and J. P. Mackenbach. 2005. Socio-economic disparities in physical health in 10 European countries. This volume.