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Healthcare and aging: do European Union countries differ?

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# Healthcare and aging: do European Union countries differ?

Healthcare  
and aging

895

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## Abstract

**Purpose** – The purpose of this paper is to evaluate socio-economic inequalities in the use, accessibility and satisfaction with health services amongst 60-84 year old people from seven European urban communities.

**Design/methodology/approach** – Data for this study were collected in 2009. The target population was people aged 60-84 years from Stuttgart (Germany), Athens (Greece), Ancona (Italy), Kaunas (Lithuania), Porto (Portugal), Granada (Spain) and Stockholm (Sweden). The total sample comprised 4,467 respondents with a mean response rate across these countries of 45.2 per cent.

**Findings** – The study demonstrated that the majority of respondents had contact with a health care provider within the last 12 months. The highest percentages were reported by respondents from Spain (97.8 per cent) and Portugal (97.7 per cent). The results suggest that 13.0 per cent of respondents had refrained from seeking care services. The highest rates were amongst seniors from Lithuania (24.0 per cent), Germany (16.2 per cent) and Portugal (15.4 per cent). Logistic regression suggests that seniors who refrained from seeking health care was statistically significant associated with those with higher levels of education (odds ratios (OR) = 1.21; 95 per cent confidence intervals (CI) = 1.01-1.25) and financial strain (OR = 1.26; 95 per cent CI = 1.16-1.37). Furthermore, the majority of respondents were satisfied with health care services.

**Originality/value** – The findings from the “Elder Abuse: a multinational prevalence survey” study indicate the existence of significant variations in use, accessibility and satisfaction with health services by country and for socio-economic factors related to organizing and financing of care systems.

**Keywords** User satisfaction, Accessibility, Service quality, Ageing, Patient satisfaction, Satisfaction, Service delivery, European Union, Patient expectation, Care services

**Paper type** Research paper

## Introduction

Demographic forecasts estimated that the population aged 60 years and over in Europe will increase by more than 50 per cent from 264 million in 2009 to 416 million in 2050. In developing regions this segment of the population will grow by more than 300 per cent from 473 million in 2009 to 1.6 billion in 2050. In Europe, those aged 60+ years will increase from 161 million in 2010 to 236 million in 2050 (United Nations, 2009). Access, equity and quality of health services are major aspects related to the organization and delivery of health services for any population. Globally, ageing populations present demand in the growing number of aged people in the population as well as their proportion in relation to the total population (National Seniors Australia, 2010; Luo *et al.*, 2009). It is commonly agreed, that these demographic trends will subsequently change the socio-demographic structure of society and pose challenges around the use of healthcare services



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The Elder Abuse: a multinational prevalence survey (ABUEL) was supported by the Executive Agency for Health and Consumers (EAHC) (Grant No. A/2007123) and conducted with the help of ABUEL groups in each participating country.

(Kanopiene and Mikulioniene, 2000). As the numbers of elderly people increases so too will the pressure on the public sector for long-term care (Reinhardt, 2003). Recent forecasts estimate that some healthcare systems (e.g. the UK) will face annual increases in costs varying from 0.48 to 1.12 per cent due to an ageing population (Caley and Sidhu, 2011). However, growing evidence suggests that age is an insignificant factor in the increase of healthcare expenditure if we control for proximity to death (Zweifel *et al.*, 1999; Zweifel *et al.*, 2004). There are some results, which contradict such negative scenarios. Studies from different parts of the world suggest significant reductions in the disability and mortality of seniors and an increase of general well-being (Manton and Gu, 2001; Kalediene and Macijauskienė, 2013; Steptoe *et al.*, 2015). Notwithstanding, there is a great deal of evidence showing that seniors are the main users of healthcare services and they also consume a disproportionately larger amount of all prescribed drugs (World Health Organization, 1999; Department of Statistics of Lithuania, 2005; Maher *et al.*, 2014; Sganga *et al.*, 2015).

In order to better understand the health services needs of seniors, reliable and up to date data in this field is required. This research examines the needs and opinions of people 60-84 years living in communities in seven countries in Europe. The focus of this study is to understand the issues associated with care services and healthcare use. A socio-economic analysis using a 'bottom-up' approach has been undertaken where aged community members have used primary, secondary and tertiary healthcare services and have provided information on why health services were not used when they were needed.

The aim of our study was to evaluate socio-economic inequalities in the use, accessibility and satisfaction with health services amongst 60-84-year-old people from seven European urban communities.

## Methods

### *Population and design*

The data for this cross-sectional study were collected in 2009 during the European project "Elder Abuse: a multinational prevalence survey" (ABUEL) (Soares *et al.*, 2010). The target population for ABUEL was people aged 60-84 years that were not suffering from cognitive (e.g. dementia) or other impairments (e.g. blindness), and living in Stuttgart (Germany), Athens (Greece), Ancona (Italy), Kaunas (Lithuania), Porto (Portugal), Granada (Spain) and Stockholm (Sweden). These countries have been selected in order to represent the variety of EU countries, by geographical location and economic-social development. Inclusion criteria for the study were for people: aged 60-84 years; not suffering from dementia or other cognitive impairments; with a legal status (national citizens or documented migrants); living in the community or sheltered housing; who could read and write in their native languages; and who agreed to participate in the study. The sample size was customized for each country according to the population of individuals aged 60-84 years, with a maximum of 642 individuals in each of the participating countries because of the infinite population assumption. The sample was calculated proportionally to age-sex groups in the population in each city. Three sampling approaches were used in ABUEL: registry-based sampling (Germany, Spain, Italy, Lithuania and Sweden); sampling by random route (Greece); and cluster sampling (Portugal). The registry-based sampling was based on the city's population registries.

The final sample consisted of 4,467 persons. Response rates in the sampling base varied between countries from 18.9 to 87.4 per cent, with a mean of 45.2 per cent across countries.

More detailed description of sampling, data collection, differences between responders and non-responders used in the study are described in a separate paper (Lindert *et al.*, 2012).

### Measures

Participants completed a standardized questionnaire with various scales and questions. For this study questions were asked about use, accessibility and satisfaction with healthcare services. Respondents were requested to answer the various questions based on their experiences in the 12 months prior.

Self-reported use, accessibility and satisfaction with health services were measured with the following questions: "Have you been in contact with healthcare services?"; "What care services do you use and how often? (a) General practitioner; (b) Medical specialist; (c) Nurse; (d) Counsellor; (e) Psychologist; (f) Social worker; (g) Primary care; (h) Day center; (i) Dentist; (j) Eye specialist; (k) Hospital as an inpatient; (l) Hospital as an outpatient; (m) Other"; "Have you been in need of a certain care service during the past year, but did not seek help?"; "What were the reasons for not using care services? (a) The problems disappeared; (b) The waiting-list was too long; (c) The care services were difficult to contact; (d) The care services were not available; (e) I did not get an appointment fast enough; (f) I had negative experience from previous services; (g) I had financial problems; (h) I did not have the time, (i) I did not know who to contact; (j) Other reasons"; "How often are you worried about the expenses for healthcare?" (possible answers: never, quite often, often, always); "If you have been in contact with/received caring services at a hospital, in primary care, or private surgery or similar during the past year, how satisfied have you been with their service?" (Possible answers: not satisfied at all, slightly satisfied, moderately satisfied, quite a bit satisfied, very satisfied).

Information regarding demographic and socio-economic variables such as sex, age, marital status, living conditions, education level, status of employment and economic difficulties were also collected. These variables were measured with the following questions: "Sex? (a) Female; (b) Male"; "What is your year of birth or your age?"; "Marital status? (a) Single; (b) Married/cohabitant; (c) Divorced/separated; (d) Widowed"; "With whom do you live? (a) Alone; (b) My husband/wife/partner/cohabitant; (c) My daughter; (d) My son; (e) My brother; (f) My sister; (g) My grandchildren; (h) Paid personnel; (j) Other person"; "What is your education? (a) Cannot read nor write; (b) Without any degree; (c) Less than primary school; (d) Primary school/similar; (e) Secondary education/middle school/high school; (f) University/similar; (g) Other"; "Do you still work (paid work)? (a) Yes; (b) No"; "How often are you worried about the daily expenses? (a) Never; (b) Quite often; (c) Often; (d) Always".

### Statistical analyses

Continuous variables were presented as means/standard deviations. Categorical variables were processed with Pearson  $\chi^2$  tests. For evaluation of the impact of the "explanatory" variables on the analysed event (binary dependent variable), an enter model of multivariate logistic regression was used. The dependent variables were different factors related to health services use/accessibility/satisfaction and the independent variables were sex, age-group, marital status, education, habitation status (live alone, or with someone else), present employment status (has paid work, or not), financial strain. The association between education and somatic complaints was measured computing odds ratios (OR) with the respective 95 per cent confidence intervals. The significance level was set at  $p < 0.05$ . Data were analysed using the statistical package for the social sciences for Windows, version 13.0 (SPSS for Windows 13).

*Ethical permission*

Informed consent was gathered from each study participant. Participants were appropriately informed about the study and what was expected of them (both in writing and verbally). Information was provided regarding confidentiality, anonymity and the participant's rights. Ethical permission was sought and received for each country prior to data collection, except for Greece where ethical permission was not necessary.

**Results**

Of the 4,467 respondents, 1,908 (42.5 per cent) were males and 2,559 (57.5 per cent) females. The distribution of respondents by age was: 60-64 years (25.2 per cent), 65-69 years (24.4 per cent), 70-74 years (21.1 per cent), 75-79 years (16.1 per cent) and 80-84 years (12.2 per cent). A more detailed description of the study sample is presented in Table I and in a separate paper (Lindert *et al.*, 2013).

Our study revealed that most of respondents had contact with a healthcare provider in the previous 12 months. The highest percentages were reported by respondents from the Iberia Peninsula (Spain 97.8 per cent and Portugal 97.7 per cent). The lowest percentages were reported from Greece (81.2 per cent) and Sweden (87.7 per cent). Our results indicate that the majority of contacts were with general practitioners and other medical specialists. More detailed results on use of healthcare services by country and type of services are presented in Table II.

The results showed that 13.0 per cent ( $n = 579$ ) of respondents had refrained from seeking care services. The main reasons for not seeking needed care services for all countries were the following: problem disappeared (35.1 per cent); too long waiting list (21.0 per cent); did not get an appointment fast enough (16.2 per cent); financial problems (16.0 per cent); negative previous experience (14.2 per cent); did not have the time (11.7 per cent); difficult contact with care services (11.5 per cent); care services not available (8.3 per cent); did not know who to contact (7.9 per cent). The highest rates were among seniors from Lithuania (24.0 per cent), Germany (16.2 per cent) and Portugal (15.4 per cent). Italy, Spain, Sweden and Greece had much lower levels of refrain (10.4, 9.4, 8.5 and 7.2 per cent, respectively). Significant variations ( $p < 0.001$ ) have been identified between different countries by reason for not seeking healthcare services (Table II). In this analysis reasons given as "problem disappeared" and "did not have time" were excluded, as they are not directly related to the organization or delivery of health services.

Variable	ESP <sup>a</sup>	GER <sup>a</sup>	GRE <sup>a</sup>	ITA <sup>a</sup>	LTU <sup>a</sup>	POR <sup>a</sup>	SWE <sup>a</sup>	ABUEL
Eligible respondents	636	648	643	628	630	656	626	4,467
Women (%)	57.2	52.9	55.4	57.0	64.3	61.0	53.2	57.5
Mean age (with SD)	70.9 ± 7.0	70.3 ± 6.4	69.3 ± 6.6	71.0 ± 6.9	70.5 ± 6.6	70.4 ± 6.7	69.2 ± 7.1	70.2 ± 6.8
Married/cohabiting (%)	66.8	64.6	56.5	80.9	56.7	64.0	65.8	65.0
Lives alone (%)	17.9	32.7	26.3	13.1	24.2	21.6	33.9	24.2
University or similar education (%)	15.4	27.5	9.0	10.8	22.5	16.0	33.1	19.2
Still employed (%)	16.0	17.1	12.6	9.2	15.9	17.7	34.3	17.6
Always worried about daily expenses (%)	43.2	4.3	42.0	7.5	14.0	36.0	4.3	21.7

**Table I.** Characteristics of the survey from each of the survey countries

**Notes:** <sup>a</sup>IOC country codes: GER, Germany; GRE, Greece; ITA, Italy; LTU, Lithuania; POR, Portugal; ESP, Spain; SWE, Sweden; SD, standard deviation

Variables	ESP <sup>a</sup>	GER <sup>a</sup>	GRE <sup>a</sup>	ITA <sup>a</sup>	LTU <sup>a</sup>	POR <sup>a</sup>	SWE <sup>a</sup>	P-value <sup>b</sup>
Had contact with any healthcare services <sup>c</sup>	97.8	93.2	81.2	95.5	91.4	97.7	87.7	< 0.001
Had contact with a general practitioner <sup>c</sup>	94.0	82.7	68.1	93.6	89.2	90.4	63.7	< 0.001
Had contact with a medical specialist <sup>c</sup>	62.3	68.6	49.5	71.8	63.3	72.1	47.8	< 0.001
Had contact with a nurse <sup>c</sup>	35.4	2.2	1.0	7.8	2.5	39.9	39.0	< 0.001
Had contact with a psychologist <sup>c</sup>	3.3	5.0	1.7	1.6	1.9	2.3	1.6	0.009
Had contact with a social worker <sup>c</sup>	4.6	1.6	1.7	0.2	2.1	1.8	1.6	< 0.001
Had contact with a dentist <sup>c</sup>	36.0	76.7	17.2	58.0	41.6	51.8	64.0	< 0.001
Had contact with a eyes specialist <sup>c</sup>	39.9	63.3	27.6	53.5	38.4	49.8	27.8	< 0.001
Had contact with a hospital (as inpatient) <sup>c</sup>	15.9	21.2	11.3	17.7	22.7	18.4	25.1	< 0.001
Had contact with a hospital (as outpatient) <sup>c</sup>	37.3	14.1	14.9	33.3	12.7	52.0	7.5	< 0.001
Was in need of health services, but did not seek help <sup>c</sup>	9.4	16.2	7.2	10.4	24.0	15.4	8.5	< 0.001
Did not seek help because of long waiting list	0.8	2.3	2.2	3.5	4.1	4.1	1.3	< 0.001
Did not seek help because of difficulties in contacting health care services	0.3	2.2	1.7	1.4	1.9	1.2	1.3	0.137
Did not seek help because health care services were not available	0.8	2.0	0.5	0.5	1.0	2.3	0.2	< 0.001
Did not seek help because did not get an appointment fast enough	0.3	2.9	2.2	0.8	3.7	3.5	0.6	< 0.001
Did not seek help, because of negative previous experiences	1.3	1.2	0.3	1.0	4.9	2.4	1.3	< 0.001
Did not seek help because of financial problems	0.9	1.1	1.4	1.3	6.2	2.1	1.0	< 0.001
Did not seek help because did not know who to contact	0.2	2.0	0.5	1.4	2.7	2.4	1.0	< 0.001
Often and always worried about the expenses for health care	17.5	16.9	56.6	17.4	32.5	28.0	4.6	< 0.001
Satisfied and very satisfied with health care services	82.3	85.7	44.5	73.6	71.5	63.3	71.4	< 0.001

**Table II.**  
Percentages (%) of reported use, accessibility and satisfaction with health services

**Notes:** <sup>a</sup>IOC country codes: GER, Germany; GRE, Greece; ITA, Italy; LTU, Lithuania; POR, Portugal; ESP, Spain; SWE, Sweden. <sup>b</sup>Pearson  $\chi^2$  test. <sup>c</sup>at least one time in past 12 months

Our study revealed that the majority of respondents were satisfied with healthcare services (Table II). It is noteworthy to mention, that Greece stands in contrast to the other countries in respect to the lowest percentages for satisfaction of healthcare services and the highest percentage of concerns regarding expenses for healthcare services.

Logistic regression revealed that being male (OR = 0.63), not employed (OR = 0.71) and with daily concerns about expenses (OR = 0.90) were negatively associated with being in contact with healthcare services in last 12 months. However, age had an opposite effect (OR = 1.24). Moreover, higher level of education (OR = 1.21) and financial strain (OR = 1.26) were both positively associated with refraining from seeking clinical care. Satisfaction with healthcare services was positively associated with education (OR = 1.12) and negatively related to financial difficulties (OR = 0.73). More detailed results on associations between various socio-economic factors and reported use, accessibility and satisfaction with health services are presented in Table III.

## Discussion

The findings from the ABUEL study indicate the existence of significant variations in use, accessibility and satisfaction with health services by countries and socio-economic factors.

**Table III.**  
The associations between various socio-economic factors and reported use, accessibility and satisfaction with health services

Dependent variables	Independent variables <sup>a</sup> (OR, 95%CI)						
	I	II	III	IV	V	IV	VII
Had contact with any healthcare services <sup>b</sup>	0.63; (0.50-0.80)*	1.24; (1.12-1.37)*	0.74; (0.52-1.06)	1.04; (0.71-1.54)	1.01; (0.89-1.15)	0.71; (0.53-0.94)*	0.90; (0.82-0.99)*
Had contact with a general practitioner <sup>b</sup>	0.76; (0.64-0.89)*	1.17; (1.10-1.26)*	0.97; (0.74-1.27)	0.77; (0.58-1.03)	0.94; (0.86-1.03)	0.70; (0.57-0.86)*	1.03; (0.96-1.11)
Had contact with a medical specialist <sup>b</sup>	0.79; (0.69-0.91)*	1.13; (1.07-1.19)*	0.86; (0.70-1.05)	0.94; (0.75-1.16)	1.18; (1.10-1.27)*	0.69; (0.58-0.83)*	0.95; (0.89-1.00)
Had contact with a nurse <sup>b</sup>	1.23; (1.04-1.45)*	0.99; (0.92-1.06)	1.07; (0.82-1.39)	1.12; (0.85-1.48)	0.75; (0.69-0.83)*	1.23; (0.98-1.54)	0.85; (0.78-0.91)*
Had contact with a psychologist <sup>b</sup>	0.46; (0.29-0.74)*	0.81; (0.67-0.96)*	1.20; (0.65-2.21)	1.05; (0.55-2.01)	0.97; (0.77-1.22)	1.13; (0.66-1.93)	1.11; (0.92-1.33)*
Had contact with a social worker <sup>b</sup>	0.67; (0.39-1.14)	1.02; (0.85-1.23)	0.91; (0.43-1.93)	2.55; (1.22-5.33)*	0.71; (0.55-0.92)*	0.43; (0.17-1.12)	1.27; (1.03-1.56)*
Had contact with a dentist <sup>b</sup>	0.63; (0.55-0.73)*	0.94; (0.89-0.99)*	0.67; (0.54-0.82)*	1.45; (1.16-1.81)*	1.51; (1.40-1.63)*	1.09; (0.91-1.32)	0.76; (0.72-0.81)
Had contact with an eye specialist <sup>b</sup>	0.64; (0.56-0.74)*	1.16; (1.10-1.22)*	0.94; (0.77-1.15)	0.95; (0.76-1.18)	1.23; (1.14-1.32)*	0.71; (0.59-0.86)*	0.98; (0.92-1.03)
Had contact with a hospital (as inpatient) <sup>b</sup>	1.22; (1.03-1.43)*	1.16; (1.09-1.24)*	1.27; (1.00-1.63)	0.98; (0.75-1.27)	1.07; (0.98-1.17)	1.06; (0.84-1.34)	0.93; (0.86-0.99)*
Had contact with a hospital (as outpatient) <sup>b</sup>	0.88; (0.76-1.02)	1.11; (1.04-1.18)*	1.13; (0.91-1.41)	0.73; (0.57-0.93)*	0.82; (0.76-0.88)*	0.90; (0.73-1.13)	1.12; (1.05-1.20)*
Was in need of health services, but did not seek help <sup>b</sup>	0.86; (0.71-1.05)	0.99; (0.92-1.07)	1.19; (0.90-1.58)	1.09; (0.80-1.47)	1.21; (1.01-1.25)*	1.19; (0.92-1.53)	1.26; (1.16-1.37)*
Did not seek help because of long waiting list <sup>b</sup>	0.88; (0.59-1.32)	0.97; (0.83-1.14)	1.08; (0.61-1.91)	0.93; (0.50-1.72)	1.11; (0.89-1.37)	0.88; (0.51-1.54)	1.45; (1.23-1.72)*
Did not seek help because of difficulties in contacting health care services <sup>b</sup>	1.02; (0.59-1.76)	1.19; (0.96-1.48)	0.66; (0.27-1.62)	1.89; (0.75-4.77)	1.10; (0.82-1.47)	2.00; (1.02-3.92)*	1.33; (1.06-1.66)*
Did not seek help because of absence of health care services <sup>b</sup>	1.11; (0.58-2.11)	1.09; (0.85-1.40)	1.12; (0.44-2.86)	1.21; (0.46-3.23)	1.25; (0.88-1.76)	1.38; (0.60-3.14)	1.59; (1.21-2.09)*
Did not seek help because did not get an appointment on time <sup>b</sup>	0.72; (0.45-1.13)	1.04; (0.87-1.24)	1.31; (0.72-2.39)	0.65; (0.33-1.27)	1.27; (1.00-1.62)	0.93; (0.50-1.75)	1.40; (1.16-1.70)*
Did not seek help because of negative previous experiences <sup>b</sup>	0.77; (0.46-1.29)	0.99; (0.81-1.20)	1.66; (0.85-3.28)	1.14; (0.58-2.26)	1.17; (0.90-1.53)	1.37; (0.73-2.56)	1.44; (1.17-1.77)*
Did not seek help because of financial problems <sup>b</sup>	0.72; (0.44-1.16)	0.94; (0.78-1.13)	1.42; (0.79-2.58)	0.76; (0.40-1.46)	1.05; (0.82-1.33)	1.04; (0.56-1.93)	2.15; (1.72-2.67)*
Did not seek help because did not know who to contact <sup>b</sup>	0.66; (0.34-1.29)	1.27; (0.99-1.63)	0.98; (0.39-2.48)	1.22; (0.47-3.20)	1.12; (0.79-1.57)	2.38; (1.08-5.25)*	1.35; (1.03-1.76)*
Often and always worried about the expenses for health care	0.80; (0.67-0.95)*	1.09; (1.02-1.17)*	1.26; (0.99-1.60)	1.01; (0.78-1.31)	0.96; (0.88-1.05)	0.71; (0.55-0.91)*	2.82; (2.60-3.04)*
Satisfied and very satisfied with health care services	1.00; (0.86-1.17)	1.04; (0.98-1.10)	0.82; (0.66-1.03)	0.87; (0.69-1.11)	1.12; (1.03-1.21)*	0.97; (0.78-1.19)	0.73; (0.69-0.78)*

**Notes:** Logistic regression analysis. <sup>a</sup>The list of independent variables, <sup>b</sup>at least one time in past 12 months. I, being male; II, age (each age group); III, being married/cohabiting; IV, living alone; V, education (higher level of education); VI, being not employed; VII, daily worries about daily expenses. \**p* < 0.05



In this discussion, we address some of our findings which could be considered as the most important ones.

Our results showed that the most intensive use of healthcare services was reported by 60-84-year-old people from Southern European countries (Spain, Portugal and Italy). This finding is reviewed, focusing in particular, on the situation in Italy.

In general, Italy is characterized as a country with one of the highest and further increasing demands for care in the world while, paradoxically, also by a proportionally low level of public provision in this sector. However, this is counterbalanced by another basic characteristic of the Italian welfare state: its “cash-for-care” orientation, which could explain the medium-high level of contacts with services by seniors and their low level of refrain from seeking care services (money transferred by the welfare system is invested in formal services provided both by public and private sectors). Regarding the role of formal care services in Italy, it remains underdeveloped and unequally distributed throughout the country. Use of home care services reaches only 5.6 per cent of the people over 65 years, with unequal distribution in the national territory (Barbabella *et al.*, 2013). Coverage of domiciliary services is usually wider in Northern Italy but in many regions the intensity of the services (in terms of nurse visits at home) is much lower than in the other parts of the country. On the whole, the very high rate of physicians (4.2 per 1,000 inhabitants), compared to a relatively low presence of nurses (5.4 per 1,000 inhabitants) (World Health Organization, 2006) reflects a long-standing shortage of nursing staff and the lack of initiatives to move resources from the acute care to the long-term care sector.

As for direct monetary transfers, an amalgamation of the different types of care payments shows a total amount of €500-1,300 per month as available to recipients. Due to a lack of controls, (and especially) the State care allowance has reached a very wide audience – currently amounting to approximately 12.5 per cent of all over 65-year old Italians, which is up from 5.5 per cent in 2001 (Lamura and Principi, 2009). The “cash-for-care” orientation of the Italian welfare system has gradually developed into a care regime where monetary transfers to dependent (older) people are often used to buy in-kind services or to privately employ migrant care workers (Di Rosa *et al.*, 2010). Since family support in Italy is declining and seniors rely increasingly on privately paid home care, new forms of inequality in accessing important public services could arise for those persons who cannot afford to pay for private assistance. A possible solution regarding this risk could be the development of policies specifically targeted for older people living alone and without private support. This will only occur by strengthening integrated care models. Gathering information concerning the social background and problems for the users is primarily the responsibility of municipal social services. However, communication between social services and the professionals that are part of the health system (like general practitioners) is not always successful (Di Rosa *et al.*, 2013).

Our study showed that 13.0 per cent of the respondents had refrained from seeking care services. This percentage varied from 7.2 per cent in Greece to 24.0 per cent in Lithuania. The organization and financing of health care systems could be one of the reasons in explaining this variation. We have noticed that the highest proportion of people who refrained from seeking care were among Bismarck finance model (insurance-based) countries (i.e. Lithuania, Germany, Greece). Interestingly, for Beveridge finance model (tax-based) countries (i.e. Portugal, Italy, Spain, Sweden), there was a lower rate of refraining from seeking care (Thomson *et al.*, 2009; Stankunas *et al.*, 2015).

In this discussion the countries with the lowest and the highest rates will be focussed on. The lowest rate of refrain was found in Sweden, which should not be surprising as

this Nordic country has a universal health insurance where 94 per cent of the healthcare system is publicly financed and prescribed medication is subsidized (Wamala *et al.*, 2007). Nevertheless, for Lithuania which has reported the highest percentage of refrain has universal healthcare coverage and a very similar system for reimbursement of expenditures for medications (Valstybinė ligonių kasa, 2011). It is noteworthy that all ABUEL study countries ensure an adequate accessibility to healthcare services. This suggests that financing of healthcare system only explains in part the differences and Lithuania's high percentage of seniors in refraining from seeking medical care. Data for this study were collected during the economic crisis in Lithuania and many parts of Europe (Racickas and Vasiliauskaite, 2010; Woolfson, 2010). This may have had a negative impact on the economic accessibility to healthcare services. It should also be noted that the Lithuanian Government reduced senior pensions from 2010 (Tiazkijus, 2010). Therefore, we think that the influence of the financial crisis on respondents' answers is very limited. Further research on this issue is needed.

The organization and financing of healthcare systems could be one of the reasons that explain the variation. Nonetheless, there are other important factors that need to be reviewed and considered. These include patient behaviour, expectations, the general economic situation and cultural norms (Payer, 1996).

This study has identified the importance of socio-economic variables for use, accessibility and satisfaction with healthcare services. One of the most dominant variables was education level. Education had positive impact in relation to refrain and satisfaction with healthcare services. This coincides with other surveys which show a positive impact of education on the utilization of health care services (Helasoja *et al.*, 2006; Kalediene *et al.*, 2008; Liao *et al.*, 1999). According to Graham (2000), education amongst other factors is related to higher material living standards and better accessibility to health which ensure better health. It is agreed that the level of education is directly associated with better health within the population. It could be that health problems for more educated respondents were not very serious and this caused them to refrain from seeking medical assistance. It could also be related to better health literacy of the more educated people. According to some authors (Zagurskiene and Miseviciene, 2010) patients that are more educated demand more information about their health status, treatment procedures and use of medications. It is common in research for an emphasis on the positive effect of education on higher incomes in older persons and better financial accessibility to healthcare services (Avlund *et al.*, 1995; Morgan, 1980; Stankuniene *et al.*, 2011). However, it may not be an explanation for every country. For instance, Lithuania has reported high inequalities by education but this gap amongst older people can hardly be explained in economic terms (Kalediene *et al.*, 2008). Present Lithuanian seniors have lived most of their life under a communist regime. Under that system, higher education did not guarantee higher income or more respect in society. On the contrary, skilled "blue-collar" workers were more valued than "white-collar" ones. This indicates that economic factors may not be suitable for explaining educational inequalities in some societies.

### *Limitations*

As the participants (women and men) were recruited from urban centres in seven European countries, the results might not be applicable to rural areas. Second, non-responders were not investigated. It could be that the people who did not participate in the survey could have had higher levels of ill health and different patterns of use of health services. Third, the accuracy of the data was dependent on the participant's

subjective assessment. No objective evaluations (e.g. with hospital records) have been performed to corroborate survey responses. More detailed discussion on methodological limitations is described in a separate paper (Lindert *et al.*, 2012). A further limitation of the study is that the data were collected in 2009. It is possible that this information is outdated and does not reflect the present situation. Reports from some countries support predictions that this could be an issue such as for Greece (Karamanoli, 2015). It is noteworthy, that all cross-sectional studies present the information which was at the moment of survey. Therefore, this paper and the results should be considered as the reflection of the situation in 2009 in selected European urban communities. Thus, in spite of these limitations our data provides a reliable snapshot on healthcare use, accessibility and satisfaction.

### Conclusions and recommendations

The findings from the ABUEL study indicate the existence of significant variations in use, accessibility and satisfaction with health services by countries and socioeconomic factors. The organization and financing of healthcare systems could be one of the reasons for explaining this variation. This study provides valuable information about the key issues for the policy, planning and delivery of services as they relate to preferences for health services, individual and systemic access problems as well as quality and value perceptions by service users. Our findings have implications for adequacy, organization, cost and quality. Changes in policy, systems and education of communities can have outcome changes in terms of access and equity for the elderly; improved compliance in medication regimes will enhance quality of life and detract from premature and excessive burden on healthcare services and systems; efficiency and effectiveness in both use of health services and use of medication therapy will constrain costs; and improvement in risk and safety outcomes are important quality improvements that can be achieved in these service and social settings. However, we need to consider other factors such as patient behaviour, expectations, general economic situation and cultural norms. Further research is needed on the association of integrated care models on the help seeking behaviours of the ageing population.

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