Established in 1871
Swiss Medical Weekly
Formerly: Schweizerische Medizinische Wochenschrift
The European Journal of Medical Sciences

Original article | Published 14 January 2015, doi:10.4414/smw.2015.14085
Cite this as: Swiss Med Wkly. 2015;145:w14085

Older persons' perceptions of general practitioner or specialist primary care physicians: same point of view?

Matthieu Sauter, Jacques Spagnoli, Brigitte Santos-Eggimann

Institute of Social and Preventive Medicine (IUMSP), Lausanne University Hospital, Lausanne, Switzerland

Summary

BACKGROUND: Identification of a Primary Care Physician (PCP) by older patients is considered as essential for the coordination of care, but the extent to which identified PCPs are general practitioners or specialists is unknown. This study described older patients' experiences with their PCP and tested the hypothesis of differences between patients who identify a specialist as their PCP (SP PCP) and those who turn to a general practitioner (GP PCP).

METHODS: In 2012, a cross-sectional postal survey on care was conducted in the 68+ year old population of the canton of Vaud. Data was provided by 2,276 participants in the ongoing Lausanne cohort 65+ (Lc65+), a study of those born between 1934 and 1943, and by 998 persons from an additional sample drawn to include the population outside of Lausanne or born before 1934.

RESULTS: Participants expressed favourable perceptions, at rates exceeding 75% for most items. However, only 38% to 51% responded positively for out-of-hours availability, easy access and at home visits, likelihood of prescribing expensive medication if needed, and doctors' awareness of over-the-counter drugs. 12.0% had an SP PCP, in 95.9% specialised in a discipline implying training in internal medicine. Bivariate and multivariate analyses did not result in significant differences between GP and SP PCPs regarding perceptions of accessibility/availability, doctor-patient relationship, information and continuity of care, prevention, spontaneous use of the emergency department or ambulatory care utilisation.

CONCLUSIONS: Experiences of old patients were mostly positive despite some lack in reported hearing, memory testing, and colorectal cancer screening. We found no differences between GP and SP PCP groups.

Key words: *older persons' perception; primary care physician; general practitioner; specialist; prevention; ambulatory care*

Introduction

Patients' perception is a broad area of research that includes the concept of satisfaction. Today the sole term "patient satisfaction" searched on PubMed detects more than 55,000 publications. Satisfaction was first accumulated as the sum of certain patient experiences [1] and was of great interest for hospitals and public policies in making choices. However, this limited use of patient perception was questioned and criticised because of the consumerist point of view of satisfaction and the narrow-minded view of this measure [2, 3]. Assessing patients' experience is nevertheless essential to the evaluation of the performance of a health system, with patient centred attitude as one of its pillars [4]. This perspective is supported by studies that show that patients who have good experiences with health systems tend to have better adherence to treatment and medical advice [5], resulting in better outcomes [6, 7]. A recent strategy considers interactions between the health care provider and patient as something that has or has not been experienced [8].

Old persons did not stay behind this trend. Their experience has been studied [9–13] and should draw more interest in the future because they are a growing part of the population in western countries and Switzerland [14]. An increasing share of primary care physicians' (PCPs) work originates with older patients, not only because of their number, but also because older patients are associated with a higher level of chronic morbidity [15].

Although PCPs are usually general practitioners, some people with specific diseases recognise a specialist as their PCP. For example, individuals with asthma might identify a lung specialist as their PCP, or a patient with HIV might turn first to an infectious disease specialist for all health problems, including the most banal. The result of this habit can be questioned on the hypothesis that specialists may be less available and focused on their own area of expertise, and therefore may be less quick to see the patient as a whole. Although the designation of a specialist as one's PCP might be a gain for special diseases, it could lessen the quality of the support for diseases and preventive actions that are outside that PCP's area of expertise [16]. In Switzerland, a recent debate has been raised by health insurance companies denying specialised physicians the right to act as PCP, even when they hold a double title for internal medicine and a specialty, under the assumption of a less effective and more expensive medical practice.

The first aim of this study was to describe older patients' experiences with their PCP, ambulatory care utilisation, and prevention achievement in a Swiss canton. Our second

aim was to test the hypothesis that the experiences of patients who identify a specialist as their PCP (SP PCP) are different from those of patients who turn to a general practitioner as their PCP (GP PCP).

Methods

Design

We analysed data collected in a postal, cross-sectional care survey conducted in 2012 in the Vaud population aged 68 and over. The survey questionnaire was sent to all participants of the population-based Lausanne cohort 65+ (Lc65+) who lived in the community in 2011 and to an additional sample of the Vaud population who participated in a health and quality of life survey in autumn 2011 using a selection of Lc65+ instruments.

The flow chart in figure 1 summarises the sampling procedure. The Lc65+ study was designed to study frailty in old age [17]. It started in 2004 with the random selection of 3,056 persons born between 1934 and 1938 from the Lausanne city population register (initial participation n = 1,564, 51.2%). In 2009, a second random sample of 3,170 people born between 1939 and 1943 joined the Lc65+ study (initial participation n = 1,489, 47.0%). Birthyear and sex were not associated to the participation in Lc65+ and socio-economic characteristics of participants (e.g., nationality, marital status, living arrangement) closely reflected the structure of the same age Lausanne population from the last population census, excepted a slightly higher participation of persons in the highest level of education.

In 2011, 1,356 and 1,430 persons (including 189 and 145 Lc65+ drop-offs) could potentially participate in the Lc65+ follow-up and complete a survey questionnaire including health and quality of life dimensions. An additional sample was drawn in order to cover both the Lausanne population born before 1934 (not invited in Lc65+) and the Vaud population aged 68+ living outside the city of Lausanne. This additional sample was stratified in order to include an equal number of men and women in each birthyear (before 1934, 1934–1938, 1939–1943) and place of residence (in and out Lausanne city) categories. In autumn 2011, 250 persons were randomly selected from the population list in each of eight age, sex and region strata. Six cases were excluded from the sample (4 deaths, 1 severe cognitive impairment, 1 undeliverable mail) and not replaced, thus 1,994 health and quality of life questionnaires were sent. Overall, 3,750 persons aged 68 and over completed this first questionnaire (response rate over 85% in both Lc65+ samples and 65% in the additional sample).

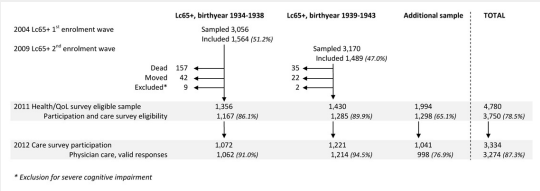

Figure 1

Care survey flow chart.

The care survey was conducted as a second step, by mailing of a self-administered questionnaire to all persons who had previously returned the health and quality of life questionnaire (n = 3,750). Overall, 3,274 persons provided valid responses for this study (87.3%). The self-administered questionnaire about care included sections regarding the perception of care, use of ambulatory care, prevention, home care, housing, insurance, access to care, and opinions about the best way of being supported by the healthcare system. This care study investigated the perception of PCP accessibility and care, and integrated the large range of demographic, socio-economic, and health information previously collected in the Lc65+ cohort or in the additional sample within the frame of the health and quality of life survey.

As this care survey included many dimensions, there was no preliminary power calculation. However, for the analysis presented in this article, the power to detect a 10% absolute difference in proportions between GP PCPs and SP PCPs when one of these two groups is at 50% (p1 = 0.5, p2 = 0.4, alpha = 0.05) is 0.94.

Definitions

To define whether a participant was classified with an SP PCP, each participant first had to positively answer the question of whether his/her PCP was a specialist (rather than a general practitioner). Then, each participant was asked to indicate the speciality of his/her PCP. All specialities on the list of the Swiss Medical Association (FMH) [19] were accepted. Participants who mentioned only internal medicine were grouped with GP PCPs. Since alternative medicines were reported exclusively in association with general or internal medicine, if only alternative medicine was mentioned, participants were grouped with the GP PCP.

Other variables are defined in the appendix.

Analysis

The first step was a quantitative analysis using mainly descriptive statistics from categorical variables. These included socio-demographic, health, and outcome variables (patients' perception 17 items, ambulatory care utilisation, ED visits, and prevention achievement).

Second, a bivariate analysis was made between PCP types (GP PCP versus SP PCP) and all of these variables using χ^2 test.

Finally, multivariate logistic regression analyses were performed. PCP type was the independent variable tested for each patient perception item (dependent variables), adjusting for age, sex, education, morbidity, depression symptoms, and length of patient-doctor relationship.

Some perception items, prevention tests, or controls had a non-negligible proportion of non-respondents. A sensitivity analysis was made in which non-respondents were recorded as having answered negatively. The decision to place non-respondents on the negative side was made because the questions with the highest proportion of them had more negative than affirmative answers (as was the case for colonoscopy, which we assumed would be difficult for respondents to forget).

All analyses were performed using Stata 12 software (College Station, TX) on weighted data (12 strata) to make the sample fit considering the distribution of the population regarding age class, sex, and geographic region.

Ethical approval

The Ethics Commission of Research on Human Beings (canton Vaud) approved protocols for Lc65+ and extensions on Quality of Life and Care.

Results

Sample description

Socio-demographic and health variables are summarised in table 1. In the population estimates, the majority were female (58.3%); younger than 79 years old (58.5%); and had limited education, with compulsory school or apprenticeship accomplished (64.2%). The majority had no depression symptoms and 55.4% had multiple chronic diseases.

Almost all participants reported having a PCP (n = 3,063, 97.2% of valid responses; missing n =123, 4.0%). In 199 cases (7.3%) responders did not specify the specialty. The identified PCP was a general practitioner in 88.0% (n = 2,521) and a specialist in 12.0% (n = 343). In all but 14 cases (4.1%), the reported specialty of SP PCPs implied one or several years of postgraduate training in internal medicine. The five most visited SP PCPs (not shown) were reported as an onco-haematologist, rheumatologist, pneumologist, cardiologist, and endocrino-diabetologist. The relationship with the PCP lasted in most cases more than five years (77.0%). Its duration did not differ between GP PCP and SP PCP groups.

Univariate analysis of perception and outcomes

Overall, participants expressed favourable perceptions (table 2), with absolutely or rather positive experience exceeding 75% for most items. Ease of obtaining a quick appointment, appropriate opening hours, good referral to specialists, having time to discuss their problem, and being up-to-date on their actual treatment, reached 70–80% "Yes absolutely" responses.

Absolutely positive experiences were less frequent (ranging between 45% and 65%), even though most respondents had positive opinions, for items such as emotional and psychological needs taken seriously, information about possible treatment, preferences in treatment choices and preventive tests, whether their doctor was aware of other doctors' examinations, and what medication they received from other doctors. Items that referred to weekend and evening availability, easy access or at-home visits, likelihood of prescribing expensive medication if needed, and doctors knowing what over-the-counter drugs participants were taking garnered positive answers from only 38% to 51% of respondents.

For some questions, there was a non-negligible proportion of missing responses, up to 20% to a question regarding the likelihood of a costly treatment if needed.

As shown in table 3, PCPs, specialists (other than PCPs), dentists, and dental hygienists were visited more often in the past 12 months than physiotherapists, psychotherapists, pharmacists, and phone centres for medical advice. PCPs were visited at least once in the past 12 months by 94.2% of participants, and specialists other than PCPs by 71.0%. Dentists and dental hygienists were consulted by 70.3% of participants in the past 12 months. All other professionals were visited during the past year by 1.2% to 27.3% of respondents; the lowest rate of consultation was for psychotherapists. In addition, 13.5% of participants visited an ED by themselves, not having been referred by a doctor or brought by an ambulance.

Preventive tests or controls (table 4), such as blood pressure, cholesterol, glycaemia, visual acuity, ocular tension, and influenza vaccination, were achieved within periods recommended by guidelines for 97% to 70% of participants (valid percentage of respondents). In contrast, hearing or memory tests were reported less often than advised: 55.6% mentioned a hearing test in the past 2 years, and 32.6% mentioned memory testing in the past 5 years.

Only 51.4% of participants underwent a colonoscopy in the last 10 years, and 31.1% reported a test for blood in the stool in the past 2 years. Prostate cancer screening was reported in the last 2 years by 68.7% of men; 53.7% of women reported mammography in the advised interval, and 35.8% reported gynaecological control in the last year.

Comparison between GP and SP primary care physicians groups

The distribution of all demographic, social, and health characteristics was comparable for GP PCP and SP PCP groups (table 1). Likewise, none of the perception items and outcomes shown in tables 2–4 differed significantly between the two groups.

In sensitivity analysis, after allocation of non-responses to the "negative response" group, the only change was a slightly more frequent positive perception ($p = 0.047$) regarding the question about easy accessibility or home visits, in favour of the GP PCP group. All other items (perception, prevention, etc.) remained comparable between the two groups. Likewise, the number of visits to different care providers (table 3) and the proportion of respondents that had spontaneously visited an ED were similar between the GP PCP and SP PCP groups (14% vs 12%, $p > 0.1$).

In table 5, the odds ratio and the 95% CI were calculated for the effect of the type of PCP on patients perceptions, adjusted for demographics, social variables, and health variables. The results confirmed the absence of any significant differences between GP PCPs and SP PCPs.

Discussion

The results of this study indicated first that nearly all older persons had a PCP, and that this PCP was a general practitioner for 88%. Such a high preponderance was unexpected because in Switzerland there is no obligation to register with a general practitioner. However, 12% had selected an SP PCP. In this circumstance, though, the specialties mentioned by respondents necessitated at least some formal training in internal medicine; only very few mentioned specialties, such as gynaecology-obstetrics or urology, for which such training is not part of requirements for board certification. The results also indicated that older

people had positive experiences in a majority of perception items. There was some lack in the reported performance of memory testing, hearing testing, and colorectal cancer screening procedures. Despite deficiencies, the majority of participants reported testing and checking in conformity with medical guidelines. Finally, we observed comparable results for GP PCP and SP PCP, even after adjustment for a range of demographic, social, and health variables.

This study also indicated that participants had less-positive opinions regarding opening hours, home visits, the prescription of expensive drugs, and doctors knowing what over-the-counter drugs participants were taking. Regarding opening hours and home visits, changes in how a new generation of doctors work and changes in the "family doctor" profile may be a possible cause. Part of that evolution may be due to the feminisation of the medical profession, with more female than male doctors reporting the desire to work part-time [22]. Responses to the question about the likelihood of expensive drugs being prescribed suggest the influence of very current discussions about health system costs and how to reduce them. The increase of health care costs is a well-documented fact [23], and it affects the Swiss population in the form of rising health insurance premiums. The doctors' reported lack of knowledge about over-the-counter drugs is also important. Because of possible drug interactions and how patients are educated about the use of over-the-counter medications [24, 25], PCPs should be particularly aware of this particular patients' medication which represent an increasing part of the pharmaceutical market [26]. Finally, the proportion of missing responses to questions with less "positive" opinions suggests either that patients did not experience this particular situation, or that they were unable to express a less-than-positive perception when talking about their doctor, because of loyalty or a certain reluctance to report negative opinions even if the survey was anonymised.

Hearing and memory impairments affect a notable part of the population, especially in old age, and may result in additional costs, disability, and social isolation [27, 28]. For these reasons, the low observed proportion of reported checks must draw the attention of PCPs. Colonoscopy was reported by 51.4% of respondents, and tests for blood in stools were reported by 31.1%, which is consistent with findings by the Centre for Disease Control and Prevention [29]. However, taking into account non-responses, the population coverage was limited to 34.6% and 21.2% for the two tests, respectively. The observation of a decreasing prevalence of mammography with age must be interpreted in light of guidelines that limit screening to patients younger than 70 years of age [21]. An age effect was also observed for prostate cancer screening, which was often reported even though this screening is actually not advised [20, 21].

Comparisons of the two groups of PCPs suggested that our hypothesis was incorrect. The only difference between them was regarding easy accessibility and home visits under the assumption that non-responses can be interpreted negatively. The consistency of this finding through all items of perception, prevention, ambulatory care utilisation, and spontaneous ED visits gives credit to the comparability of the PCP groups.

Table 1: Demographic characteristics, by type of primary care physician.

			Type of primary care physician		
	N*	**Overall (%)**	**General practitioner (%)**	**Specialist (%)**	***p*-value**
Sex					
Male	1,428	41.7	41.1	49.1	0.15
Female	1,846	58.3	58.9	50.9	
Age class					
<1934	434	41.5	40.4	46.0	0.55
1934–1938	1,339	25.3	26.1	23.6	
1939–1943	1,501	33.2	33.5	30.4	
Highest educational level					
Compulsory school	683	25.9	27.1	24.2	0.43
Apprenticeship	1,317	38.4	38.8	32.7	
High school	253	6.2	6.6	5.9	
Professional diploma	534	16.4	16.1	23.7	
University	459	11.4	11.4	13.5	
Missing	28	1.7			
Depression symptoms					
No feelings of sadness or apathy in the last 4 weeks	2,443	74.5	20.5	28.4	0.11
A feeling of sadness and/or apathy in the last 4 weeks	748	19.9	79.5	71.6	
Missing	83	5.6			
Number of diseases					
≤1	1,363	43.7	44.2	46.9	0.47
2	837	26.4	27.6	25.8	
3	585	17.1	16.4	20.0	
>3	459	10.7	11.8	7.3	
Missing	30	2.1			
* Numbers are unweighted, and percentages are weighted.					

Table 2: Patients' perceptions of their primary care physicians, by type of primary care physician (all data presented as %).

		Overall					Yes absolutely		
		Yes absolutely	Rather yes	Rather no	Not at all	Missing	General practioner	Specialist	p-value
Accessibility/avaibility	Has a reception that is easy to reach?[a]	81.7	12.0	1.8	0.4	4.1	85.7	88.9	0.36
	Gives you an appointment quickly?[a]	73.0	22.4	0.7	0.1	3.8	75.9	79.7	0.41
	Is open at a time that fits you?[a]	79.8	15.3	0.7	0.1	4.1	83.7	84.5	0.86
	Is available evenings or weekends if needed?[a]	19.1	19.8	22.6	18.8	19.7	24.4	20.2	0.44
	Is easily accessible or comes to visit you at home?[a]	29.9	22.0	17.6	13.7	16.8	36.6	27.4	0.11
Doctor-patient relationship	Will prescribe a very costly treatment if needed?[a]	17.5	30.3	23.8	7.8	20.6	21.0	29.3	0.10
	Will refer you to a specialist if needed?[a]	75.2	18.6	1.4	0.3	4.5	77.5	83.6	0.23
	You are listened to and have time to describe your problems?[b]	74.9	20.1	1.4	0.4	3.2	77.1	80.9	0.43
	Your emotional and psychological needs are taken seriously?[b]	45.0	32.3	8.9	3.8	10.0	51.2	45.7	0.37
	Your preferences regarding choice of treatment are taken into account?[b]	47.4	38.3	3.5	2.0	8.8	53.0	51.5	0.80
Information	You are informed about all of the possible treatments for your case?[b]	64.4	26.0	3.4	0.7	5.5	67.8	74.7	0.18
	You are informed about all of the useful prevention tests for your age?[b]	56.4	28.3	6.6	2.2	6.5	60.0	58.3	0.77
Continuity of care	Knows all your current treatment?[a]	82.8	11.0	0.5	0.3	5.4	87.2	91.6	0.19
	Which medication(s) other doctors have prescribed to you?[c]	54.3	17.2	5.6	12.5	10.4	39.5	34.5	0.36
	Which examination(s) have been performed on you by other doctors?[c]	54.1	16.4	5.9	11.6	12.0	61.7	69.8	0.13
	Which over-the-counter medication(s) you take?[c]	33.9	17.0	12.9	22.0	14.2	40.7	32.4	0.15
	What your living conditions are?[c]	53.7	24.4	7.1	3.2	11.6	61.4	61.9	0.93

[a] Do you think that your PCP…
[b] Do you think that in general, during a medical encounter…
[c] Do you think that in general, your doctor(s) knows precisely…

Table 3: Outcomes – visits to care providers during the past year, by type of primary care physician (all data presented as %, missing values excluded).

	Overall*	General practitioner	Specialist	p-value
Primary care provider				0.84
0 times	5.8	4.3	2.9	
1–2 times	35.1	35.4	33.7	
3–4 times	30.2	30.3	33.4	
>4 times	28.9	30.0	30.0	
Specialist (other than your PCP)				0.25
0 times	29.0	29.6	20.2	
1–2 times	41.3	40.4	48.7	
3–4 times	17.7	18.0	19.4	
>4 times	12.0	12.0	11.7	
Dentist or dental hygienist				0.95
One time or more	70.3	70.4	70.0	
Physiotherapist				0.96
One time or more	27.3	26.9	27.2	
Psychotherapist				0.59
One time or more	1.2	1.3	2.0	
Pharmacist				0.54
One time or more	21.9	21.9	25.2	
Phone centre for medical advice				0.09
One time or more	3.8	3.3	6.8	

* Including participants who did not report the type of PCP.

One limit of the study was that the data was self-reported. Patients might confuse their GP PCP with a specialist because they were treated for a special disease (or, conversely, because they consulted even for banal conditions). We had no detailed data regarding the actual training of PCPs. However, the Swiss specialty boards' postgraduate requirements provided information on specialties implying formal training in internal medicine. This was the case of almost all cases in the SP PCP group and this limits our conclusions to this type of specialties. Another limit is that no information was collected about non-respondents who shared similar characteristics with respondents regarding the age, sex, and geographic categories used for weighing our data. On the other hand, the study included a large proportion of the older population of the area in which it was conducted and the participation rate was high among those who received the questionnaire, which might reduce the likelihood of selection bias. The Lc65+ study is based on a sample which initial representativity was verified and participation in 2011 exceeded 86% of the eligible. Also, for some questions the rate of non-respondents was non-negligible, with a pattern of non-responses that suggested a possible loyalty conflict for participants. A sensitivity analysis performed to take this potential bias into account confirmed the absence of differences between GP PCP and SP PCP groups, except for the question about easy accessibility or home visits. The SP PCP group was relatively small; however, regarding absolute number, this group included several hundreds of individuals and our study had sufficient power to detect significant differences between the two groups of PCPs. In addition, the consistency of the two groups' comparability with respect to all aspects of the study reduced the risk of missing an important difference due to lack of power. Finally, no correction was integrated

Table 4: Outcome – reported preventive tests, checks, and vaccinations, by type of primary care physician (all data presented as %, missing values excluded).

	Overall*	General practitioner	Specialist	p-value
Had a blood pressure check in the last 2 years	96.9	97.3	96.9	0.80
Had a cholesterol blood test in the last 5 years	97.0	97.8	96.6	0.46
Had a glycaemia test in the last 2 years	93.0	93.4	95.0	0.55
Had a visual acuity test in the last 2 years	86.4	86.7	86.2	0.91
Had an ocular tension test in the last 5 years	90.3	90.3	94.9	0.15
Had a hearing test in the last 2 years	55.6	56.0	55.9	0.99
Had a memory test in the last 5 years	32.6	33.3	28.4	0.44
Had an influenza immunisation in the last 2 years	70.1	70.9	65.5	0.34
Had at least one pneumococcus immunization**	62.6	63.2	55.6	0.28
Had test for blood in the stool in the last 2 years	31.1	31.0	26.7	0.50
Had a colonoscopy in the last 10 years	51.4	51.6	45.9	0.39
For men: Had a prostate cancer screening in the last 2 years	68.7	68.9	73.7	0.52
For women: Had a mammogram in the last 2 years	53.7	53.3	50.8	0.78
For women: Had a gynaecological control in the last year	35.8	34.9	37.5	0.76

* Including participants who did not report the type of PCP.

** Timing of the vaccination is unknown; some participants may have received an immunization during their lifetime because of being in an at-risk group (premature baby, splenectomy, etc.).

Table 5: Multivariate analysis of patients' perceptions of their primary care physicians.

		Effect of specialist as primary care physician[d]		
		OR	95%CI	p-value
Accessibility/ availability	Has a reception that is easy to reach?[a]	1.34	0.70–2.58	0.38
	Gives you an appointment quickly?[a]	1.27	0.73–2.24	0.40
	Is open at a time that fits you?[a]	1.02	0.51–2.04	0.96
	Is available evenings or weekends if needed?[a]	0.89	0.46–1.71	0.72
	Is easily accessible or comes to visit you at home?[a]	0.70	0 .39–1.26	0.24
Information	Your are informed about all of the possible treatments for your case?[b]	1.43	0.84–2.44	0.19
	You are informed about all of the useful prevention tests for your age?[b]	0.94	0.57–1.56	0.81
Doctor-patient relationship	Will prescribe a very costly treatment if needed?[a]	1.48	0.85–2.60	0.17
	Will send you to a specialist if needed?[a]	1.48	0.73–3.00	0.27
	You are listened to and have time to describe your problems?[b]	1.32	0.70–2.48	0.39
	Your emotional and psychological needs are taken seriously?[b]	1.19	0.72–1.97	0.50
	Your preferences regarding choice of treatment are taken into account?[b]	0.93	0.56–1.56	0.79
Continuity of care	Knows all your current treatment?[a]	1.91	0.90–4.03	0.09
	Which medication(s) other doctors have prescribed?[c]	1.28	0.78–2.12	0.33
	Which exams have been performed on you by other doctors?[c]	1.42	0.85–2.38	0.18
	Which over-the-counter medication(s) you take?[c]	0.76	0.46–1.26	0.28
	What your living conditions are?[c]	1.11	0.66–1.89	0.69

[a] Do you think that your PCP…

[b] Do you think that, in general, during a medical encounter…

[c] Do you think that, in general, your doctor(s) knows precisely…

[d] The reference category is General Practitioner. Adjusted by sex, age class, highest educational level, number of diseases, mental health, and length of relationship with primary care physician.

for multiple analysis tests; however, this is not a concern because no significant differences emerged from our analysis.

Due to the lack of similar analyses in other regions, the extent to which our results can be generalised is unknown. Vaud is one of the largest cantons of Switzerland with urban, suburban and rural areas. Medical training and certification are regulated at the federal level. The health insurance law is federal and it has a harmonising effect on access to care throughout the country, but still healthcare organisation is largely cantonal. The medical density in Vaud is close to that observed in the country as a whole: according to the Federal Office of Statistics, the density of ambulatory care physicians was 5.1/10,000 inhabitants in Vaud in 2012, and 5.2/10,000 inhabitants in Switzerland, with a slightly lower proportion holding a general medicine title in Vaud (29.1%) than in Switzerland (34.7%). While these data do not point to major regional differences, we cannot rule out cultural influences in health seeking behaviours.

We conclude that the type of PCP appears to make no difference among the older patient population regarding perception or with respect to items like prevention tests and controls, emergency visits, or accessibility of care providers. These results do not support the hypothesis of a lower standard of primary care practice when specialised physicians are identified as PCP by the older population. This conclusion, however, is limited to medical specialties implying some postgraduate training in internal medicine and cannot be extrapolated to the whole range of medical specialties.

Funding/ potential conflict of interest: No conflict of interest was reported for this study. The Cohort is funded by the Lausanne University Hospital, the City of Lausanne, the Public Health department of the Canton of Vaud, the Loterie Romande, the Faculty of Biology and Medicine of Lausanne University, the Swiss National Science Foundation, the Foundation of Social and Preventive Medicine of Lausanne. The additional sample was funded by the Leenaards foundation and the care survey by the Public Health department of the Canton of Vaud.

Correspondence: *Matthieu Sauter, Institute of Social and Preventive Medicine (IUMSP), Lausanne University Hospital, Biopole 2, Route de la Corniche 10, CH-1010 Lausanne, Switzerland, matthieu.sauter[at]gmail.ch, brigitte.santos-eggimann[at]chuv.ch*

References

1 Hall JA, Dornan MC. What patients like about their medical care and how often they are asked – a meta-analysis of the satisfaction literature. Social science & medicine. 1988;27(9):935–9.

2 Vuori H. Patient satisfaction – does it matter? Quality assurance in health care: the official journal of the International Society for Quality Assurance in Health Care / ISQA. 1991;3(3):183–9.

3 Williams B. Patient satisfaction – a valid concept. Social science & medicine. 1994;38(4):509–16.

4 Crossing the Quality Chasm: A New Health System for the Twenty-first Century. Washington DC: Institue of Medicine; 2001.

5 DiMatteo MR. Enhancing patient adherence to medical recommendations. JAMA: the journal of the American Medical Association. 1994;271(1):79, 83.

6 Safran DG, Taira DA, Rogers WH, Kosinski M, Ware JE, Tarlov AR. Linking primary care performance to outcomes of care. J Fam Pract. 1998;47(3):213–20.

7 DiMatteo MR, Giordani PJ, Lepper HS, Croghan TW. Patient adherence and medical treatment outcomes – A meta-analysis. Medical Care. 2002;40(9):794–811.

8 Browne K, Roseman D, Shaller D, Edgman-Levitan S. Measuring Patient Experience As A Strategy For Improving Primary Care. Health Aff. 2010;29(5):921–5.

9 Forgan Morle KM. Patient satisfaction: care of the elderly. J Adv Nurs. 1984;9(1):71–6.

10 Kong MC, Camacho FT, Feldman SR, Anderson RT, Balkrishnan R. Correlates of patient satisfaction with physician visit: differences between elderly and non-elderly survey respondents. Health Qual Life Outcomes. 2007;5:62.

11 O'Leary A. Patient satisfaction as a measure of quality in the care of the elderly. Br J Nurs. 1992;1(9):470–2.

12 Owens DJ, Batchelor C. Patient satisfaction and the elderly. Social science & medicine. 1996;42(11):1483–91.

13 Callahan EJ, Bertakis KD, Azari R, Robbins JA, Helms LJ, Chang DW. The influence of patient age on primary care resident physician-patient interaction. Journal of the American Geriatrics Society. 2000 Jan;48(1):30–5.

14 Office fédéral de la statistique suisse N. Scenarios de l'évolution de la population des cantons 2010–2035 Neuchâtel 2011.

15 Office fédéral de la statistique suisse N. Enquête suisse sur la santé. In: Office fédéral de la statistique suisse N, ed. Neuchâtel: Office fédéral de la statistique suisse 2007:7.

16 Hashem A, Chi MTH, Friedman CP. Medical errors as a result of specialization. J Biomed Inform. 2003;36(1–2):61–9.

17 Santos-Eggimann B, Karmaniola A, Seematter-Bagnoud L, Spagnoli J, Bula C, Cornuz J, et al. The Lausanne cohort Lc65+: a population-based prospective study of the manifestations, determinants and outcomes of frailty. BMC geriatrics. 2008;8:20.

18 Lc65+. [Internet] [updated 2011 Nov cited 2013 May 24] Available from: www.lc65plus.ch/en/lc65_home/lc65–methodologie/lc65–echantillonnage.htm

19 FMH – ISFM. [Internet] [cited 2013 Mar 15] Available from: http://www.fmh.ch/fr/formation-isfm/formation_postgraduee/programmes_formation_postgr.html

20 USPSTF. United State Preventive Services Task Force. [internet] [cited 2013 Mar 15] Available from: http://www.uspreventiveservicestaskforce.org

21 Cornuz J, Guessous I, Rodondi N. Primary prevention and screening in adults: update 2006. Rev Med Suisse. 2006;2(50):262–73.

22 Deriaz S, Bridel Grosvernier L, Tissot JD. Being a doctor: the influence of gender on the career choices and prospects. Rev Med Suisse. 2010;6(257):1438–42.

23 Office fédéral de la statistique suisse N. Déterminants et évolution des coûts du système de santé en Suisse – Revue de la litterature et projections à l'horizon 2030. In: Office fédéral de la statistique suisse N, ed. 2007.

24 Naim ROH, Escher M. Self medication with analgesics: what are the risks? Rev Med Suisse. 2010;6(255):1338–41.

25 Orriols L, Gaillard J, Lapeyre-Mestre M, Roussin A. Evaluation of Abuse and Dependence on Drugs Used for Self-Medication A Pharmacoepidemiological Pilot Study Based on Community Pharmacies in France. Drug Saf. 2009;32(10):859–73.

26 AESGP. European medication market data. [Internet] [cited 2013 May 27] Available from: http://www.aesgp.eu/facts-figures/market-data/#pharma

27 Shield B. Evaluation of the social and economic costs of hearing impairment; 2006.

28 Kraft E, Marti M, Werner S, Sommer H. Cost of dementia in Switzerland. Swiss Med Wkly. 2010;140.

29 Joseph DA, King JB, Miller JW, Richardson LC, Centers for Disease C, Prevention. Prevalence of colorectal cancer screening among adults

– Behavioral Risk Factor Surveillance System, United States, 2010. MMWR Morbidity and mortality weekly report. 2012;61(Suppl):51–6.

APPENDIX

Variables definition

– Questions about patients' perception were organised into 17 items in 4 categories: Accessibility/Availability, Information, the Patient-Doctor Relationship, and Continuity of Care. Each item was assessed using a Likert scale of 4 grades: Yes, absolutely; Rather Yes; Rather No; or Not at all. Although the items were gathered into categories, no score was given and each item was analysed separately.

– Ambulatory care and emergency department (ED) visits were defined as any consultation reported in the past year, except for ambulatory care visits to a PCP and specialists (other than PCP), which were defined as count variables.

– Prevention achievement was measured by the number of years since each participant's last vaccination, test, or screening. Categorical responses (<1 years, 1–2 years, etc.) were dichotomised in consideration of the guidelines advised by the United States Preventive Services Task Force (USPSTF) or other associations [20], as well as an article written by Swiss physicians [21]. Because no guidelines could be found regarding gynaecological control, the division was made arbitrarily between <1 year and >1 year.

– Length of patient-doctor relationship with PCP was measured as a categorical variable (<1 years, 1–2 years, etc.). Other adjustment variables (sex, age class, number of chronic diseases, highest educational level, depression symptoms) were extracted from the Lc65+ data and from the questionnaire on Health and Quality of Life that was completed in autumn 2011 for the additional sample.

Figures (large format)

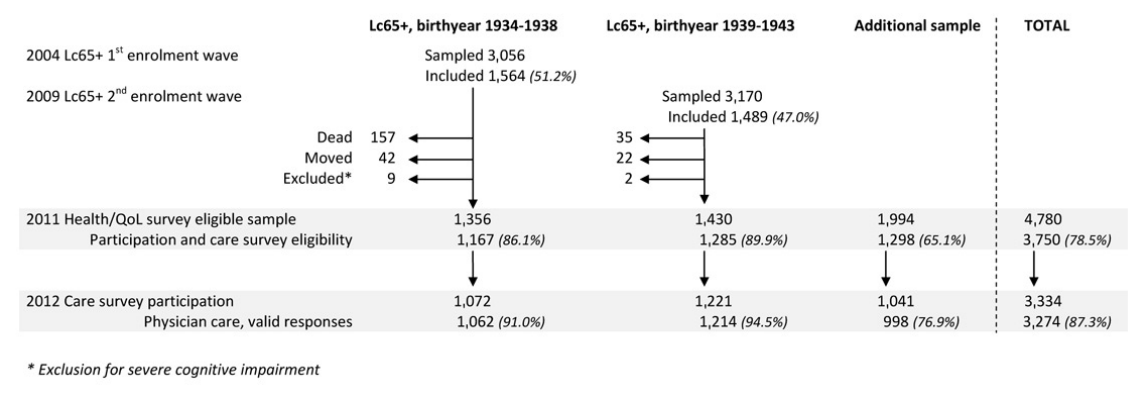

Figure 1

Care survey flow chart.