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Research

Association between person-centredness and financially driven postponement of care in European primary care: a cross-sectional multicountry study

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Abstract

Background: Previous research has shown that person-centred care has beneficial effects on several health-related outcomes. We investigated the association between a general practitioner's person-centred attitude and financially driven postponement of care in European countries.

Methods: In this cross-sectional study, data were collected within the Quality and Costs of Primary Care in Europe study, which included 69 201 patients and 7183 general practitioners from 31 European countries (all 27 European Union member states, 2 candidate states [former Yugoslav Republic of Macedonia and Turkey], Norway and Switzerland). Financially driven postponement of care was measured by asking patients whether they had postponed care for financial reasons in the previous 12 months. We constructed a variable for person-centredness using a previously published conceptual framework: 1) exploring both the disease and the illness experience, 2) understanding the whole person, 3) finding common ground and 4) enhancing the patient–physician relationship. We analyzed the data using multilevel logistic regression modelling, adjusting for the strength of a country's primary care system.

Results: Having a low income was associated with higher financially driven postponement of care. General practitioners with a person-centred attitude were associated with lower rates of financially driven postponement among their patients. An increase in general practitioners' person-centredness with 1 standard deviation was associated with a decreased likelihood of postponement of care for financial reasons (odds ratio 0.923, 95% confidence interval 0.869–0.981).

Interpretation: Person-centred care by general practitioners in Europe was associated with lower financially driven postponement of care, irrespective of the strength of a country's primary care system.

Primary care systems should provide universal accessible care that meets the medical needs of patients regardless of their financial capabilities.[1] However, a considerable proportion of patients postpone care.[2] Recent data show that about 15% of European citizens postpone care for financial reasons.[3] Consequently, financially driven postponement remains one of the main reasons patients delay seeking health care.[4] The World Health Organization proposed strengthening primary care as a strategy to provide equitable access to the primary health care system.[5] However, this proposition is not as straightforward as expected.[3] In a European analysis, not all macro-level indicators of the strength of primary health care were associated with lower financially driven postponement of care.[3] In addition, a large proportion of the variance in financially driven postponement was attributed to characteristics of the general practitioner. However, the study excluded certain provider characteristics (such as organization of the practice and consultation style) from the analysis.

One provider characteristic that has been related to beneficial health outcomes is person-centredness. A person-centred provider explores illness and disease experiences, has a perspective on the whole person and finds common ground, which enhances the patient–physician relationship and extends beyond isolated disease episodes.[6–9] Person-centredness positively influences several outcomes such as objective and subjective health status, therapy adherence and patient trust, and reduces use of diagnostic testing.[6,10–13] Moreover, person-centredness positively affects equity in health care.[14] For

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example, person-centred general practitioners have a more positive impact on mental health outcomes for people of low socioeconomic status.[14] Person-centredness may, as such, be a driving force of equity. Furthermore, Brown and colleagues[7] showed that person-centredness is linked to accessibility of health care.

In this context, we hypothesize that a general practitioner's person-centred attitude may be related to a lower rate of financially driven postponement of care. We investigated the association between a general practitioner's person-centred attitude and financially driven postponement of care in Europe, adjusting for the strength of a country's primary care system.

Methods

Setting

For the purpose of this study, data were collected in 31 European countries, including all 27 European Union member states, 2 candidate states (former Yugoslav Republic of Macedonia and Turkey), Norway and Switzerland.

Table 1 provides an overview of the primary care payment systems and the mode of care provision in the 31 countries.

Data sources

This study merged data from the Quality and Costs of Primary Care in Europe (QUALICOPC) and Primary Health Care Activity Monitor for Europe (PHAMEU) databases. The QUALICOPC database provides data at both the meso and micro levels of the health care system, whereas the PHAMEU database provides data only at the macro level. Both databases are cofunded by the European Commission.

Quality and Costs of Primary Care in Europe database

The QUALICOPC database contains cross-sectional data collected among general practitioners and patients in 31 European countries.[20,21] In each included country, an average of 220 general practitioner practices (80 in small countries) were selected. Data collection took place between October 2011 and December 2013. Fieldworkers visited selected general practitioner practices and invited consecutive adult patients to complete the questionnaire until 10 surveys were collected. In addition, 1 general practitioner per practice was eligible to participate and complete a questionnaire. In total, 69 201 patients and 7183 general practitioners completed the questionnaires. Both the patient and general practitioner surveys were conducted anonymously.

Questionnaire development consisted of 4 steps. In the first step, relevant validated questionnaires were identified by means of a systematic review. Subsequently, questions from the included questionnaires were selected by a consortium that contributed to answering the main research questions of the QUALICOPC study. In the third step, the consortium evaluated the relevance, validity, suitability for comparative research and reliability of each included question. In the final step, a pilot survey was conducted with general practitioners and patients in Belgium, the Netherlands and Slovenia to test the practicality and applicability of the survey and the comprehensibility and appropriateness of the questions. More details regarding the study protocol and questionnaire development can be found in Schäfer and colleagues.[20,21]

Financially driven postponement of care was measured based on participants' responses to a question regarding whether they had postponed a visit to a general practitioner or other doctor for financial reasons in the previous 12 months.

We constructed a variable for person-centredness based on the framework of Stewart and colleagues:[9] 1) exploring both the disease and the illness experience (2 questions), 2) understanding the whole person (2 questions), 3) finding common ground (1 question) and 4) enhancing the patient–physician relationship (2 questions). For each question, participants responded whether they agreed by indicating "yes" or "no." The general practitioners of participants who answered "yes" to least 1 of the 7 questions received a score of 1. If participants answered all 7 questions with "yes," the general practitioner received the highest score (7) for person-centred care. More details on the construction of the scale are provided in Figure 1.

Primary Health Care Activity Monitor for Europe database

The PHAMEU compares the strength of 31 European primary care systems.[22–24] The development of the database consisted of 4 steps. In the first step, relevant primary care dimensions were identified through a systematic literature review. The review resulted in 7 core dimensions that shape the strength of a country's primary care system. The structure level consisted of 3 dimensions, namely, governance, economic conditions and workforce development. However, following the operationalization of Kringos,[22] the structure level was embedded as 1 continuous variable in the analyses. The process level consisted of 4 dimensions: access, continuity, coordination and comprehensiveness. In the second step, the researchers identified indicators for the 7 dimensions in selected publications within the systematic literature review. The aim of the third step was to shorten the list of indicators. Experts scored each retained indicator on its suitability for describing and comparing primary care systems using a 4-point Likert scale. Finally, the PHAMEU consortium members were asked to score primary care in their country for the remaining indicators using the best available data from several sources, such as international databases and national statistical databases. The PHAMEU database provides a rating from 1 (weaker) to 3 (stronger) for each dimension in each country. Further information regarding the development of the PHAMEU database can be found in Kringos and colleagues.[22–24]

In view of potential endogeneity, we included the following control variables: sex and age of patient and general practitioner, patient's income and location of the general practitioner practice. Patient's income was measured by asking patients "Compared with the average in your country, would you say your household income is … ?" Possible responses were "below average," "around average" and "above average." As this variable is only a control variable, we dichotomized it

Table 1 (part 1 of 2): Overview of primary care payment systems and the mode of care provision in 31 European countries

Country	Primary care payment	Does primary care control access to secondary care?	Patient required or encouraged to register with a primary care physician or practice?	Predominant form of primary care provision
Austria	Fee-for-service	No need and no incentive to obtain referral	No incentive and no requirement to register	Solo practice
Belgium	Capitation/fee-for-service	Financial incentives to obtain a referral, but direct access is possible	No requirement to register, but there are financial incentives to do so	Solo practice
Bulgaria[15,16]	Capitation/fee-for-service/ other	Primary care physician referral is required	No incentive and no requirement to register	Solo practice
Cyprus[17]	Fee-for-service	No need and no incentive to obtain referral	No incentive and no requirement to register	Group practice
Czech Republic	Capitation/fee-for-service/ pay for performance	No need and no incentive to obtain referral	No incentive and no requirement to register	Solo practice
Denmark	Capitation/fee-for-service	Financial incentives to obtain a referral, but direct access is possible	No requirement to register, but there are financial incentives to do so	Solo practice
England	Capitation/fee-for-service/ pay for performance	Primary care physician referral is the usual way to access secondary care, but direct access is possible	No incentive and no requirement to register	Group practice
Estonia	Capitation/fee-for-service/ pay for performance/other	Primary care physician referral is required	Registration required	Solo practice
Finland	Global budget	Primary care physician referral is required	Registration required	Group practice
Former Yugoslav Republic of Macedonia[18]	Capitation/other	Financial incentives to obtain a referral, but direct access is possible	Registration required	Solo practice
Germany	Fee-for-service	No need and no incentive to obtain referral	No requirement to register, but there are financial incentives to do so	Solo practice
Greece	Global budget	No need and no incentive to obtain referral	No incentive and no requirement to register	Group practice
Hungary[15,16]	Capitation/pay for performance/global budget	Primary care physician referral is required	No incentive and no requirement to register	Solo practice
Iceland	Fee-for-service/global budget	No need and no incentive to obtain referral	No incentive and no requirement to register	Group practice
Ireland[17]	Capitation/fee-for-service	Primary care physician referral is required	No incentive and no requirement to register	Group practice
Italy	Capitation	Primary care physician referral is required	Registration required	Group practice
Latvia	Capitation/fee-for-service/ pay for performance/fixed payments	Financial incentives to obtain a referral, but direct access is possible	Registration required	Group practice
Lithuania	Capitation/fee-for-service/ pay for performance/global budget	Primary care physician referral is required	Registration required	Group practice
Luxembourg	Capitation/fee-for-service	No need and no incentive to obtain referral	No incentive and no requirement to register	Solo practice
Malta[15,16]	Fee-for-service	Financial incentives to obtain a referral, but direct access is possible	No incentive and no requirement to register	Solo practice
Netherlands	Capitation/fee-for-service/ pay for performance	Primary care physician referral is required	No incentive and no requirement to register	Group practice

Table 1 (part 2 of 2): Overview of primary care payment systems and the mode of care provision in 31 European countries

Country	Primary care payment	Does primary care control access to secondary care?	Patient required or encouraged to register with a primary care physician or practice?	Predominant form of primary care provision
Norway	Capitation/fee-for-service	Primary care physician referral is required	Registration required	Group practice
Poland	Capitation/fee-for-service	Primary care physician referral is required	No incentive and no requirement to register	Group practice
Portugal	Capitation/pay for performance/global budget	Primary care physician referral is required	Registration required	Group practice
Romania[15,16]	Capitation/fee-for-service	Financial incentives to obtain a referral, but direct access is possible	Registration required	Solo practice
Slovakia[15,16]	Capitation/fee-for-service/ other	Financial incentives to obtain a referral, but direct access is possible	Registration required	Solo practice
Slovenia	Capitation/fee-for-service	Primary care physician referral is required	Registration required	Group practice
Spain	Capitation/fee-for-service/ global budget	Primary care physician referral is required	Registration required	Group practice
Sweden	Capitation/fee-for-service	Primary care physician referral is required	No incentive and no requirement to register	Group practice
Switzerland	Capitation/fee-for-service	Financial incentives to obtain a referral, but direct access is possible	No requirement to register, but there are financial incentives to do so	Solo practice
Turkey	Global budget	No need and no incentive to obtain referral	Registration required	Group practice

Source: Organisation for Economic Co-operation and Development Health Systems Characteristics Survey[19] except where noted otherwise.

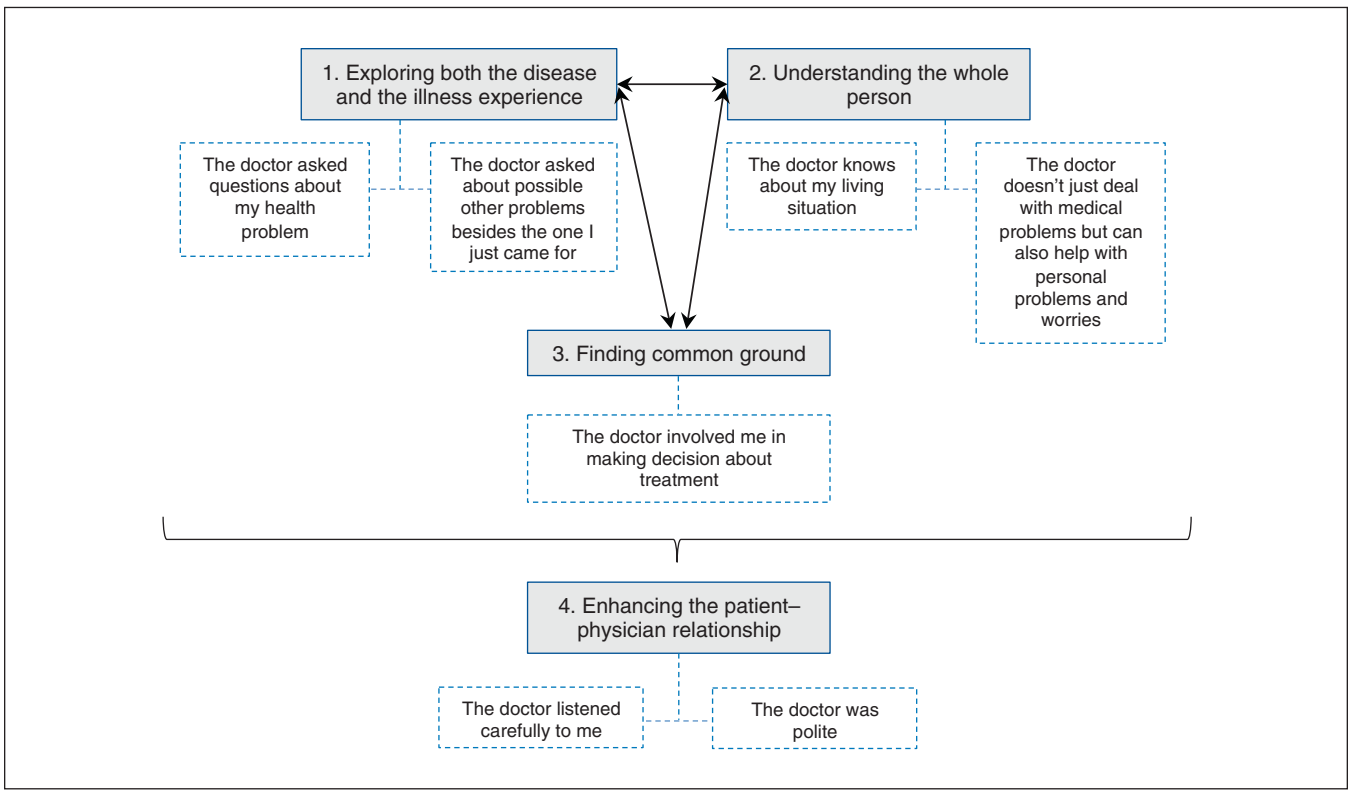

Figure 1: Conceptual framework of patient-centredness of Stewart and colleagues[9] and the operationalization in the current study.

into "low income" (below average and around average) and "high income" (above average). We determined the location of the general practitioner practice by asking general practitioners how they would characterize the place where they were currently practising. Their answer categories were dichotomized into "urban" (combining "big [inner] city," "suburbs" and "[small] town") and "rural" ("mixed urban–rural" and "rural").

Statistical analysis

Given the hierarchical structure of the data, we calculated logistic multilevel regression models using MLwiN version 2.33 (Centre for Multilevel Modelling, University of Bristol), and we used first-order predictive quasilikelihood as the non-linear estimation procedure. First, we described the basic null model (model A.0), in which we could evaluate the importance of each level independently. The null model (intercept-only model) allows calculation of the variance partition coefficient for each level. This variance partition coefficient shows the proportion of explained variance at each level and indicates whether multilevel analyses are required (if the variance partition coefficient is > 0%). In model A.1, we included the socioeconomic and demographic variables (control variables) of both patients and general practitioners. Subsequently, in models A.4.0 to A.4.1, we added to the equation the strength dimensions, which have a significant association with financially driven postponement of care (based on preliminary analyses [Appendix 1, available at www.cmajopen.ca/content/6/2/E176/suppl/DC1]). These variables were entered stepwise to prevent overpowering of the model. A step-by-step description of model construction is provided in Appendix 1.

Ethics approval

Ethics approval was acquired in accordance with the legal requirements of each country. A detailed overview of the committees in each country is available on request or can be consulted in Schäfer.[25]

Results

Figure 2 displays the mean score for person-centred care for each country. Cyprus had the lowest score, and Switzerland, the highest. The mean overall score for person-centred care was 5.48.

The bivariate analyses revealed significant associations between financially driven postponement of care and person-centredness and all the dimensions of strength of the primary care system (Table 2).

Table 3 summarizes the results of the multilevel regression analyses, all controlled for patient and general practitioner characteristics. In model A.0, the variance values at the general practitioner practice and country levels were 0.978 and 0.738, respectively. Regarding the variance partition coefficient for each level, 19.54% of the variance in financially driven postponement of care could be explained by general practitioner characteristics, and 14.75% could be explained at the country level. We estimated the residual variance at the patient level as 3.29 (= $\pi 2/3$) using the latent variable method[26] because, in logistic multilevel analysis, the individual-level residual variance is expressed on a different scale (probability) from the higher residual variances.[27] In model A.1, only the control variables were put into the statistical model. At the individual patient level, only income was significantly associated with financially driven postponement of

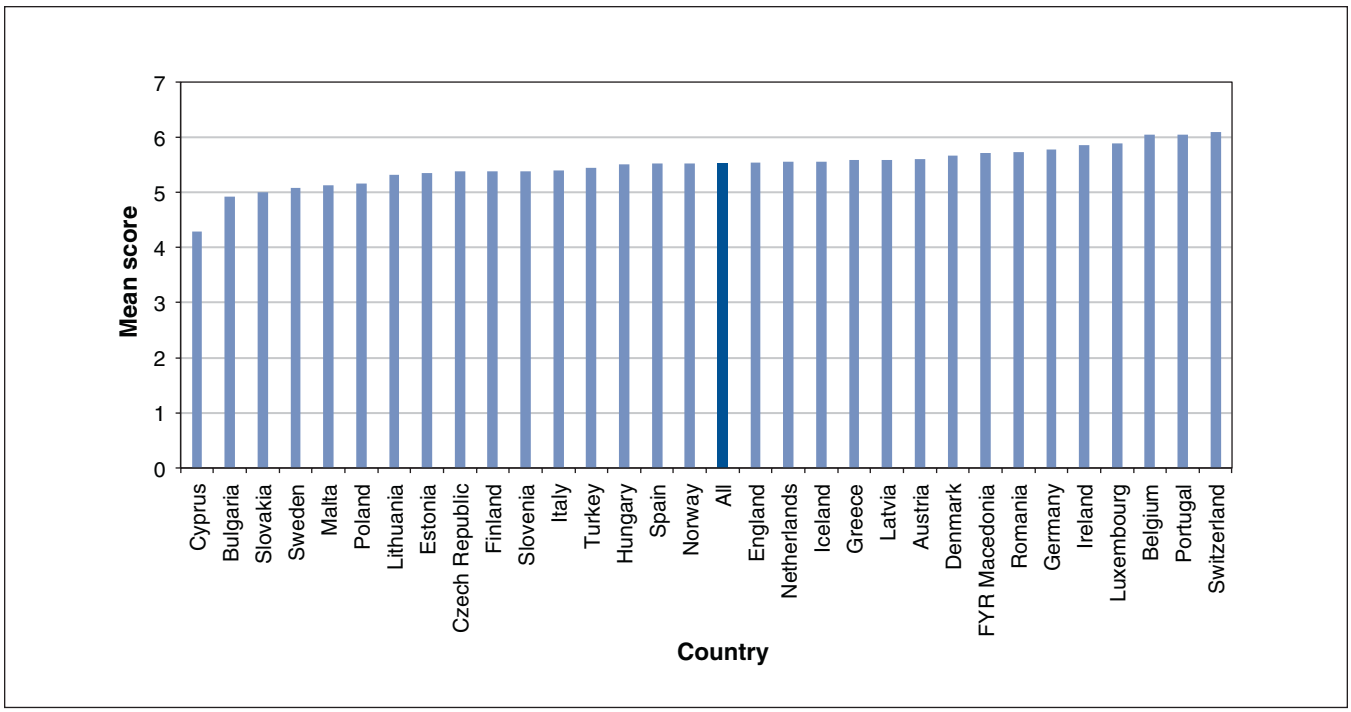

Figure 2: Mean score for person-centred care. Note: FYR = former Yugoslav Republic.

Table 2: Bivariate associations between financially driven postponement of care and person-centredness and strength dimensions of the primary care system

Dimension	Postponement of general practitioner visit owing to financial reasons; mean score ± SD		
	No *n* = 7589	Yes *n* = 799	*t* (95% CI)
Person-centredness*	5.389 ± 1.435 *n* = 7164	5.180 ± 1.570 *n* = 742	3.530 (0.094–0.330)
Structure†	2.248 ± 0.132	2.195 ± 0.105	13.326 (0.046–0.061)
Access†	2.261 ± 0.133	2.194 ± 0.138	13.031 (0.057–0.077)
Continuity†	2.359 ± 0.053	2.355 ± 0.047	2.294 (0.001–0.008)
Coordination†	1.727 ± 0.213	1.647 ± 0.189	11.231 (0.067–0.094)
Comprehensiveness†	2.370 ± 0.162	2.323 ± 0.175	7.201 (0.031–0.056)

Note: CI = confidence interval, SD = standard deviation.
*Range 1–7.
†Range 1–3.

care. The estimate for the effect of low income on financially driven postponement was 2.065 (95% confidence interval [CI] 1.731–118.140). In other words, low-income patients were more likely than their middle- and high-income counterparts to postpone care for financial reasons. Model A.1 showed no other significant predictors at the patient and general practitioner levels for financially driven postponement of care.

Considering variables measuring primary care strength at the country level, the structure variable and the access and comprehensiveness dimensions were significantly inversely associated with financially driven postponement of care. From models A.4.0 to A.4.2, we introduced the person-centred scale to the analyses, controlling for the strength dimensions that were significantly associated with financially driven postponement (Appendix 1). These models revealed that the person-centred scale was significantly related to postponement of care for financial reasons. Model A.4.0 indicated that, when a general practitioner scores 1 standard deviation higher on the person-centred scale, her/his patients report 0.923 (95% CI 0.869–0.981) less postponement of care for financial reasons.

Interpretation

We found a significant association between person-centred care and rates of financially driven postponement of primary care in Europe. An increase in the general practitioner's person-centredness with 1 standard deviation was associated with a decreased likelihood of postponing care for financial reasons, with an OR of 0.923. Our findings are in line with qualitative research of Brown and colleagues,[7] who identified a link between person-centred care and accessibility of primary care in Canada. The association between person-centredness and access to primary care can be attributed to the fact that general practitioners with a person-centred attitude design care around patients by considering their context, such as financial difficulties.

Evidence shows that deprived patient groups are at risk for postponing care.[2,3,26,28–31] We found that a general practitioner can provide equitable access by having a person-centred consultation style. This could be especially relevant for vulnerable groups. Jani and colleagues[14] reported that person-centred consultation by a general practitioner improves the outcome in patients with depression, especially in deprived areas (characterized by a lower number of health care providers and high morbidity rates). They emphasized that providing person-centred care in deprived areas might be challenging for providers, which may result in a greater workload and increased pressure. Patients living in deprived areas experience more barriers in accessing health care.[31,32] Person-centred care appears to improve the accessibility of primary care, but it might be difficult to achieve in deprived areas owing to the inverse care law (the principle that the availability of good medical or social care tends to vary inversely with the need of the population served). Therefore, reversing the inverse care law also remains an important policy recommendation.

Limitations

Our research has limitations. First, although the size of our database is an advantage, it also yields a disadvantage. The CI is affected by a larger sample (as sample size increases, the width of the CI decreases). Therefore, a larger sample leads to a smaller *p* value and a higher likelihood of rejecting the null hypothesis.[33] Second, although it is agreed that person-centredness is a multifaceted construct,[6] no validated definition and operationalization have yet been identified.[11] However, instruments for measuring person-centredness generally show the following dimensions: eliciting understanding and validating the patient's perspective (referring to "exploring both disease and illness experience" in our model), understanding the patient within her/his psychosocial context (referring to "understanding the whole person" in our model), reaching a shared understanding with the patient (referring to "finding

Table 3: Multilevel logistic regression model (short)*†

	Model; OR (95% CI)‡				
Variable	A.0	A.1.0	A.4.0	A.4.1	A.4.2
Patient sex (reference: male)					
Female	–	0.896 (0.752–5.185)	0.909 (0.758–1.091)	0.908 (0.757–1.090)	0.91 (0.759–1.092)
Patient age (demeaned)	–	0.999 (0.993–7.078)	1.001 (0.995–1.006)	1.001 (0.995–1.007)	1.001 (0.995–1.007)
Income (reference: middle and high income)					
Low income	–	2.065 (1.731–118.140)	2.048 (1.707–2.458)	2.059 (1.716–2.470)	2.042 (1.702–2.450)
General practitioner sex (reference: male)					
Female	–	1.05 (0.857–8.227)	1.041 (0.844–1.284)	1.054 (0.855–1.300)	1.031 (0.836–1.272)
General practitioner age (demeaned)	–	0.999 (0.989–7.078)	1.001 (0.991–1.011)	1.001 (0.991–1.011)	1.001 (0.991–1.011)
Location of general practitioner practice (reference: urban)					
Rural	–	0.921 (0.713–5.605)	0.858 (0.655–1.125)	0.858 (0.655–1.125)	0.857 (0.653–1.126)
Person-centred care	–	–	0.923 (0.869–0.981)	0.921 (0.867–0.979)	0.924 (0.870–0.982)
Structure	–	–	0.031 (0.004–0.234)	–	–
Process					
Access	–	–	–	0.01 (0.001– 0.084)	–
Comprehensiveness	–	–	–	–	0.151 (0.020–1.112)
Intercept, variance ± SD	–2.682 ± 0.166	–2.972 ± 0.194	5.201 ± 2.303	7.723 ± 2.406	1.937 ± 2.42
Variance ± SD country	0.738 ± 0.215	0.787 ± 0.232	0.571 ± 0.177	0.474 ± 0.152	0.723 ± 0.217
Variance ± SD general practitioner	0.978 ± 0.141	1.023 ± 0.151	1.069 ± 0.159	1.07 ± 0.16	1.07 ± 0.159
Variance partition coefficient country, %	14.75	–	–	–	–
Variance partition coefficient general practitioner, %	19.54	–	–	–	–

Note: CI = confidence interval, OR = odds ratio, SD = standard deviation.
*The full model is provided in Appendix 1, available at www.cmajopen.ca/content/6/2/E176/suppl/DC1.
†Controlled for patient and general practitioner characteristics.
‡Except where noted otherwise.

common ground" in our model) and creating a partnership in which patients are empowered to participate in decision-making, power and responsibility (referring to "enhancing the patient–physician relationship" in our model).[6] In addition, during our literature search, we noticed that the concepts patient-centred care and person-centred care are used as synonyms. Starfield[8] argued that these concepts have different nuances; therefore, they cannot be used synonymously. Patient-centred care is disease-episode–oriented, concerned with the evolution of a patient's disease, and focuses on managing the disease. Person-centred care considers disease episodes as inherently linked to oscillating health during the person's life, focuses on the experience (and its evolution) of the person's health problems and diseases, and approaches diseases as interrelated phenomena.[8] The third limitation of this study is that, because of data restrictions, we measured only the general practitioner's person-centredness. Other health care professionals can play a major role in providing person-centred health care. Nurses are the professionals most trusted by both patients and other health care professionals.[34,35] As trust is one prerequisite to achieving person-centred care, we believe that nurses can also exercise this role.[36] Future research addressing the effect of nurses' person-centred attitudes on accessibility of care is warranted. A further limitation is that, although we controlled for several confounders, other, unmeasured confounding factors may have influenced our results. Last, given the cross-sectional nature of the data, results show associations and cannot be interpreted in a causal way.

Conclusion

We have shown that a significant amount of the variance in accessibility of primary care in Europe is attributable to general practitioner (practice) characteristics. Our results illustrate that a general practitioner's person-centredness is associated with lower finanicially driven postponement of care. This finding adds to the person-centredness discourse within health care and emphasizes its beneficial effects. Future research should examine the benefits of a person-centred attitude in other health care professional groups and integrate longitudinal data collection from which causality can be inferred.

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