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Title	Association between person-centeredness and financially driven postponement in European primary care: a cross-sectional and multi-country study
Authors	Jens Detollenaere MSc PhD, Pauline Boeckxstaens MD PhD, Sara Willems MSc PhD
Reviewer 1	Wilson Pace MD
Institution	University of Colorado, Family Medicine
General comments (author response in bold)	<p>This manuscript uses two available data bases to explore, in a secondary data analysis, the correlation of the degree of person centered care delivered by primary care physicians and their patient's decision to forego recommended medical care or testing due to financial reasons. Previous work has demonstrated that some characteristics of the primary care component of a county's health care system across European Union (EU) countries is correlated with this same outcome. This previous work also highlighted that individual physicians appeared to have a significant effect on postponement of care but this was not explored further. Finally, previous work has demonstrated the impact of person centred care on a number of aspects of medical care with perhaps a greater impact on lower social economic individuals. Thus, the background for the work is well laid out and the question appears an important one to explore. Using a unique database (QUALICOPC) collected across 31 EU countries and including data on a small number of patients from each of 7,183 general practitioners the QUALICOPC database includes a reasonable patient population of a little over 69,000 patients with between approximately 800 and 2200 patients per country. This database included exploration of person centeredness of all of these clinicians from one patient. From this data set the researchers were able to ascertain an estimate of postponed medical care as well as create an index of person centeredness for the physicians included in overall data set. The data set also included patient income level that could be compared to overall income levels in the country of residence. These outcomes were cross referenced to a database that included information on the characteristics of primary care system in each country allowing the researchers to model postponement of care at multiple levels.</p> <p>The STROBE requirements appear to have been met.</p> <p>The researchers created a new variable for person centeredness using seven questions in the QUALICOPC database turning these dichotomous questions into an ordinal scale of person centeredness. While this scale could not be validated it has very reasonable face validity and is a common analytical approach to handling multiple dichotomous questions around the same domain.</p> <p>The analytical plan is well articulated and appears appropriate. Multi-level modelling was applied and between country differences were controlled for as the data allowed.</p> <p>The analysis supported the previous work that the dimensions of primary care systems previously measured are correlated with postponement of care and extended this work to demonstrate the person centeredness of the physician was also significantly correlated with postponement of care (the greater the person centeredness of the clinician's practice style the lower the level of care postponement.) The re-testing of the system level variables was critical to the analysis but also lends strength to the physician level outcomes as it reproduces previous work using the QUALICOPC dataset. The multiple models are well described in the results section and logically extend the research questions a step at a time.</p> <p>The discussion rightly notes that the person centred variable has not been validated and notes that person centred care as delivered to a person may involve others in the care processes. The call for further research in this area is warranted and needs to be echoed in other parts of the Discussion. This will be highlighted later in this review.</p> <p>We sincerely thank the reviewer for his general enthusiasm and constructive suggestions, which helped us improve the quality of our manuscript extensively. We tried to respond to each of his comments. In this document, one can find a systematic account of our responses.</p> <p>There are several minor issues or statements in the Discussion section that could be reviewed and modified but otherwise the manuscript is well written. For instance, the final sentence in the second paragraph of the discussion appears to be speculation unless it comes from the qualitative work of Brown. This sentence either needs to be referenced or it should be reworded to indicate it is the speculation of the authors. Speculation in the Discussion section is fine but it should be noted as such.</p> <p>We understand the concern of the reviewer that this particular sentence can be misinterpreted by the reader. Therefore, we rephrased the sentence in the revised version of the manuscript (revised manuscript, page 7, from line 12 on) in order to make it clear it is a possible pathway in which the association between person-centeredness and access may be explained. <i>The association between person-centeredness and (financial) access to primary care can be attributed to the fact that GPs with a person-centred attitude design care around a person by considering their context, such as financial difficulties.</i></p> <p>The next comment that could use further explanation is the call for person centred care as a quality outcome. Just before this statement the authors note that delivering fully person centred care may be difficult in low income areas due to fewer clinicians and perhaps sicker people. Thus, should a lack of person centred care alert health system authorities to negative impacts of clinician shortages or should it be used at the individual clinician level in an attempt to impact the type of care delivered? Furthermore, moving from a population based study to a metric of individual physician care styles would require the collection of considerable data in this area. Typically at least 50 to 100 patients are required to demonstrate real differences or changes in care. This concern is further magnified by the lack of validity of the person centred index created for this analysis. Calling for the exploration of how a valid measure of person centred care could guide health care system decisions seems a more reasonable first step in the use</p>

	<p>of a person centred care metric.</p> <p>We understand the comment of the reviewer. In the previous version of the manuscript it was not our intention to advocate that person-centred care can be indicator for GP shortages in an area. However, even though this was not that clear in the previous manuscript, we wanted to indicate that person-centeredness might be challenging to provide in deprived areas because of the inverse care law. We rewrote this particular paragraph in the following way (revised manuscript, page 7, from line 20 on).</p> <p><i>This could be especially relevant for vulnerable patient groups. Research of Jani et al. (15) supports this result. They found that person-centred consultation by a GP improves the early outcome of depression, especially in deprived areas. In this paper, Jani et al. (15) emphasize that providing person-centred care in deprived areas, characterised by a lower number of health care providers and high morbidity rates (i.e. the inverse care law), might be challenging for health care providers, which may result in a higher workload and pressure among these providers. Patients living in deprived areas experience more barriers in accessing health care compared to their counterparts in more affluent areas. Person-centred care appears to improve the accessibility of the primary care system, but might be difficult to achieve in deprived areas due to the inverse care law. Therefore, reversing the inverse care law also remains an important policy recommendation.</i></p>
Reviewer 2	Olivier Saint-Lary MD PhD
Institution	Uniserité Versailles Saint-Quentin en Yvelines, Family practice
General comments (author response in bold)	<p>Person-centeredness care is a very important topic and research is necessary on that field. The use of two important databases is also interesting.</p> <p>We sincerely thank the reviewer for his constructive suggestions, which helped us improve the quality of our manuscript extensively. We tried to respond to each of his comments. In this document, one can find a systematic account of our responses.</p> <p>First the construction of the “person-centeredness “variable based on the QUALICOPC data is very discutable.</p> <p>The existing body of knowledge on person-centred care shows that this concept is a multifaceted construct, which is heterogeneous operationalised in the literature (Epstein et al., 2005; Hobbs, 2009; van Dulmen, 2003). This heterogeneity is probably due to the context of the studied country or health care setting, but complicates the comparability of research results extensively. In order to show this problem to the reviewer, we summarised several of the main conceptual models that describe the various dimensions of person-centred care in the table below and compare them with the conceptual model we used our manuscript. However, we want to note that this summary is not exhaustive.</p> <p>Nevertheless, according to Bertakis and Azari (2010), the instruments show generally the following dimensions: eliciting understanding and validating the patient’s perspective (“exploring both disease and illness experience” in our model), understanding the patient within her/his psychosocial context (“understanding the whole person” in our model), reaching a shared understanding with the patient (“finding common ground” in our model), and creating a partnership in which patients are empowered to participate in decision making, power, and responsibility (“enhancing the patient-physician relationship” in our model). We inform the reader of this limitation in the following paragraph of the Discussion (revised manuscript, page 7, from line 30 on).</p> <p><i>We end this article by discussing some research limitations. Although it is agreed that person-centeredness is a multifaceted construct (7), until now, no validated definition and operationalisation have been identified (12). However, according to Bertakis and Azari (7), the instruments generally show the following dimensions: eliciting understanding and validating the patient’s perspective (which refers to the dimension “exploring both disease and illness experience” in our model), understanding the patient within her/his psychosocial context (which refers to the dimension “understanding the whole person” in our model), reaching a shared understanding with the patient (which refers to the dimension “finding common ground” in our model), and creating a partnership in which patients are empowered to participate in decision making, power, and responsibility (which refers to the dimension “enhancing the patient-physician relationship” in our model), aligning our model with the existing instruments.</i></p> <p>Then the financially driven postponement is different from a country to another. For instance, in several European countries this concept doesn’t even exist. The authors should detailed this point in the introduction. The construction of this variable also seems fragile.</p> <p>Detollenaere et al (3) showed that financially driven postponement of care is actually still a problem in most European countries (on average 15% of the European citizens postponed care for financial reasons in the last year). Furthermore, also within-countries, there is a large variation in financially driven postponement rates. In their recent research Detollenaere et al. (3) demonstrated that low income patients are associated with higher financially driven</p>

postponement rates. The Expert Panel on effective ways of investing in Health (5) emphasizes that this on-going social gradient in accessibility to European primary care should function as a flashing alarm that European (primary) health care systems are failing to deliver timely care to the entire population, and therefore, should be a major concern of all European countries. We suspect that the reviewer thinks that we refer to postponement of care because the patient does not have any insurance. It is true that this is not a big problem in European health care systems that are almost all universal or near-universal. However, our question probes postponement of care for other financial reasons than insurance-related postponement (operationalised with two different answer categories).

As requested by the reviewer, we extended the paragraph in the Introduction that emphasises the problem of financially driven postponement (revised manuscript, page 2, from line 3 on). *However, a considerable part of patients postpone primary care (2). European data shows that approximately 15.0% 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). According to the recommendation of the Expert Panel on effective ways of investing in Health (5) that this ongoing problem in accessibility to European primary care should function as a flashing alarm that European (primary) health care systems are failing to deliver timely care to the entire population, and therefore, should be a major concern of all European countries.*

The question probing financially driven postponement care was retrieved from the international validated Commonwealth Fund "Survey on Disparities in Quality of Health Care". We hope that this can convince the reviewer of the reliable construction of the variable in our manuscript.

It is not clear why the "patient centeredness" would affect "financially driven postponement. The authors should explain more clearly their hypothesis.

In the Introduction we describe that in previous research the variance of financially driven postponement is not exclusively attributable to macro-level characteristics (characteristics of the health care system). This is mentioned in the revised manuscript, on page 2, from line 11 on.

However, Detollenaere et al. (3) demonstrated that this hypothesis is not as straightforward as expected. In a European analysis, not all indicators of primary care strength at the macro level are associated with lower financially driven postponement of care. In addition, they found that a large proportion of the variance in financially driven postponement is attributed to characteristics of the GP and the practice; in other words, not only to the characteristics of strong primary care at the macro level. However, this study excluded provider characteristics (such as organisation of the practice or consultation style) from the analysis.

In addition, because previous research also showed that person-centeredness is associated with more accessible health care system. We believe that a person-centred attitude of a GP might be associated with lower financially driven postponement rates. We extended this paragraph in the Introduction in the following way (revised manuscript, page 2, from line 18 on).

One of the provider characteristics that has been related to beneficial (health) outcomes is person centeredness. 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 (7-10). Prior research revealed that person-centeredness positively influences several outcomes such as better objective and subjective health status, therapy adherence, improved patient trust, and reduced utilisation of diagnostic testing (7, 11-14). Moreover, person-centeredness positively affects equity in health care (15). For example, a GP's person-centred attitude has a more positive impact on mental health outcomes for people with a low socioeconomic status than for wealthier people (15). Person-centeredness may as such be a driving force of equity, independent of macro level characteristics. Furthermore, Brown et al (8) has shown that person-centeredness is linked to accessibility of the health care system. In this context, we hypothesise that a GP's person-centred attitude may be related to a lower rate of financially driven postponement.

Then the association between these two variable is very modest and considering the very large databases the statistical association (0,05) is not such an endpoint.

We agree with the reviewer that an important disadvantage in large databases is the statistical meaning of the p-value. The CI is affected by larger sample size (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. When the association of variables is significant under the conventional threshold in the analysis of large samples, controversy exists if it is clinically important. Therefore, as recommended by many guidelines, authors should report effect size and CI, as we did in the revised version of the manuscript.

Nevertheless, we added the following paragraph to the Discussion section, informing the reader of this phenomenon (revised manuscript, page 7, from line 14 on).

Important to note is that size of our database an important advantage, it also yields a disadvantage. The CI is affected by a larger sample size (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 (21).

The conclusion in the abstract is very strong "Person-centred GPs can mediate the negative effect of primary health care systems on financially driven postponement of care" and nearly suggests to the reader a causal link for a result that shows, at the very best, a modest statistical association.

We agree with the reviewer this wording might encompass causality. Therefore, we rewrote this interpretation in the Abstract of the revised manuscript (revised manuscript, page 1, from line 19 on) in the following way.

Person-centred GPs are associated with lower financially driven postponement of care, irrespective of the strength of a country's primary health care system.

Additional references

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van Dulmen, S. (2003). Patient-centredness. *Patient Education and Counseling*, 51(3), 195-196.