Author's response to reviews

Title: The association between demographic factors, user reported experiences and user satisfaction: results from three casualty clinics in Norway

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Author's response to reviews:

We want to thank the reviewers for thorough reviews and constructive feedback. As indicated by the reviewers we have pooled the guardian and patient sample and adjust for guardian vs. not guardian in the regression analysis. We have made adjustments in the Methods and Results following this change.

Reviewer 1:

Major compulsory revisions

1. The title talks about casualty clinics and the paper about primary care out of hours services. It is worth using consistent language and explaining to international readers what this service is and how it is used in the context of health care in Norway. This will help the reader to understand the description you give on p4.

The term casualty clinic refers to the physical clinics, while primary care out-of-hours services refer to all services offered by the clinics. We have now included the following information about the Norwegian primary care out-of-hours services system in the last paragraph of the Introduction:

“The analyses were based on a study of three casualty clinics in Norway in 2008. Norway has a two-level public health care system with a small private sector. Four Regional Health Authorities (RHA) under the Ministry of Health and Care services have responsibility for the hospital sector. The 431 municipalities are responsible for organizing primary health care including out-of-hours services (11). There were 262 out-of-hours districts in Norway in 2006 covering single or several municipalities through inter-municipality co-operatives. Emergency medical services are usually managed at GP offices during office hours, and by municipality maintained out-of-hours duties by GPs during evenings, nights and
weekends (11). Most of the out-of-hours services are located in a casualty clinic in the host municipality, but some use GPs’ surgeries. In this paper we use the term casualty clinic when referring to the physical clinics, while primary care out-of-hours services refers to all services offered by the clinics including office visits, telephone advice and home visits.”

2. The distinction made between user satisfaction and experiences and patient reported health care factors are not clear. On a number of readings I think you mean overall satisfaction v satisfaction about different aspects of care. At the moment the paper is confusing and it would help enormously if this was clarified throughout the paper. For example the last paragraph of the background is most unclear.

We agree that this is unclear and have tried to clarify throughout the paper. We now primarily use the terms “user reported experiences” and “user satisfaction” (users since both guardians and patients are included). See also point 38 below. The title is changed to:

“The association between demographic factors, user reported experiences and user satisfaction: results from three casualty clinics in Norway”.

3. There is a great deal of research on the relationship between demographic and other factors with overall satisfaction. These are covered in Crow et al which you reference. However, the key issues need to be summarised in the background for the reader. For example age is the most consistent factor related to satisfaction.

We agree and have replaced the third and fourth paragraph of the Introduction with the following paragraphs:

“A systematic review of the patient satisfaction literature showed that among socio-demographic factors, age and health status are consistently related to patient satisfaction (5); older respondents and healthier respondents generally have higher satisfaction, while the evidence related to gender, ethnicity and socio-economic status is equivocal. The importance of age and self-perceived health for patient experiences was also found in a recent US study among community health centers, but the authors also identified other important factors like education and race/ethnicity (6). The generalizability of these findings to the primary care out-of-hours field is uncertain. We found a few studies about the association between demographic factors and patient satisfaction with primary care out-of-hours services (7-10). One study found that health status and socio-economic status are significantly related to patient satisfaction, but not age and gender (8), while another found that age and ethnicity are related to patient satisfaction (10). All in all, findings are equivocal and the only pattern that emerges across these studies is that most socio-demographic factors seem to be only weakly related to patient satisfaction.

The systematic review on patient satisfaction also found consistent evidence that the most important health service factor affecting patient satisfaction is the
patient-practitioner relationship (5). Health service factors might be measured by means of patient reporting or evaluation on items and scales for patient experiences, or by other variables concerning organization and type of services. One study about the association between patient experiences and patient satisfaction relating to primary care out-of-hours services found that the doctor’s assistant’s attitude on the phone, opinion of GP’s treatment and waiting time were strongly related to overall satisfaction (7). Another study confirmed the importance of waiting time for patients’ satisfaction (10). The association between organization and service variables has been assessed in several primary care out-of-hours studies. Two studies found that patients receiving telephone advice were less satisfied than other patients (7, 10), but other studies did not find such an association (8-9).

The studies above show that the association between socio-demographic factors and patient satisfaction are equivocal within the primary care out-of-hours field. To some degree the existing evidence contradicts findings from the general patient satisfaction literature. The literature also identifies a need for more research regarding the importance of health service factors for patients’ satisfaction including factors related to patient reported experiences. Therefore, our study had two primary aims: i) to assess the association between socio-demographic factors and user reported experiences with primary care out-of-hours services; ii) to assess the association between user reported experiences and user satisfaction, controlling for socio-demographic factors.”

4. In the Methods please describe the questionnaire and how it was developed. There is a paragraph in the discussion which could be moved to the Methods section to do this.

We have moved the paragraph about questionnaire development from the Discussion to the Methods/Questionnaire and variables:

“The questionnaire used in this study has undergone a rigorous process of development and evaluation, including a literature review, qualitative interviews with patients, guardians and carers, and input from an expert group of out-of-hours staff (12-13). These activities ensured the content validity of the questionnaire. Most of the questionnaire’s core items had low levels of missing data, indicating the acceptability and relevance of the questions to patients and guardians. The psychometric tests showed that the questionnaire has satisfactory internal consistency and construct validity (13).”

5. To what extent are some of your findings related to low statistical power? These numbers are small e.g. p7.

See point 9 below.

6. The scales are described in a very general way throughout the paper e.g. “satisfied with doctors and nurses” in the abstract. But satisfied with what about the doctors and nurses? What does ‘incorrect treatment’ mean on p11? If you give more detail about the meaning of items and scales then I think it will help the
reader to engage more with the paper.

We have included the full questions in table 2 and referred to table 2 in the Methods.

7. The abstract should be rewritten to communicate the key messages. It is weak to say that more research is needed without being clear about your contribution to the literature on this topic.

We have changed the abstract to take this into account. The revised abstract is as follows, see especially results and conclusions:

“Background: User reported experiences and satisfaction are increasingly used as basis for quality indicators in the health sector. However, there is limited understanding of factors associated with user reported experiences and satisfaction with casualty clinics. Methods: A random sample of 542 patients that had contacted any of three casualty clinics from mid April to mid May 2008 was mailed a questionnaire. A reminder was sent to non-respondents after six weeks. Descriptive statistics for four user reported experiences scales and 20 single items are presented. Multivariate regression analysis was used to assess associations between background variables and user reported experiences, and between user reported experiences and user satisfaction. Results: 225 (41.5%) patients, carers and guardians returned a completed questionnaire. Users reported most positive experiences with the doctor services and the nursing services at the casualty clinics; on a scale from 0 to 100, where 100 is the best possible experience the doctor scale was 82 and the nursing scale 81. Users reported least positive experiences with the organization of the casualty clinic, with a scale score of 65. Self perceived health was associated with user satisfaction, while self perceived health and age were associated with user reported experiences with organization of the clinics. A range of user reported experience domains were related to user satisfaction, after controlling for socio-demographic variables, including experiences with doctor services at the clinics, organization of the clinics, information and self perceived incorrect treatment. Conclusions: Users report positive experiences with the three casualty clinics, with organization as the aspect with largest improvement potential. The importance of age and health status for users’ experiences and satisfaction with casualty clinics was shown, but a range of user reported experiences with the clinics were the most important predictors for user satisfaction.”

8. The discussion needs to be longer and much more thorough. Did you find what has been usually found with patient satisfaction and demographic variables? For example that age is related to satisfaction? If not why not? Can you recommend clearly what to case mix adjust for?

We have made a number of changes to the Discussion following comments from the reviewers. This includes changing and expanding the second and third paragraphs as follows:

“In general, age and self perceived health are the most consistent
socio-demographic factors related to patient satisfaction (5). However, within the primary care out-of-hours field the few identified studies revealed inconsistencies (7-10). One study found the importance of health status and socio-economic status, but not age and gender (8), another found the importance of age and ethnicity (10). The only clear finding was that most socio-demographic factors seem to be only weakly related to patient satisfaction. Our study identified self-perceived health as a significant predictor for patient satisfaction and one of four experiences scales, and age as significant associated with user experiences with organization at the clinics. This follows the general patient satisfaction literature (5), and these variables have partial empirical support in the primary care out-of-hours literature. However, the small number of studies and lack of consistent findings means that associations should be assessed in future studies. Furthermore, to use this information in case-mix adjustments further work is necessary including assessing the variation of these variables across the unit of analysis (6). Future studies in the primary care out-of-hours field might use these findings to test hypotheses about associations between health, age and patient satisfaction, but the effects of case-mix will depend on both the strength of association and the variation between the units in question.

The majority of the user reported experiences domains had a significant association with user satisfaction, after controlling for user characteristics. The most important predictor was the experiences the users had with the doctors at the casualty clinic. This concurs with findings from the systematic review of the patient satisfaction literature (5) and shows that the most important user experience domain for user satisfaction is the relationship between the user and the caregiver. The final regression model found that more than 70% of the variation in global satisfaction was explained, which also gives strong support to the validity of the user experiences questions as an indirect measure of user satisfaction. Since ratings of general satisfaction have limited value in quality improvement processes (3-4), the approach of asking about experiences with health care providers is used as a means to identify concrete improvement areas.”

9. On reading the discussion you seem to be saying your study was too small to do what you set out to do. So why did you do it?

The part about study size is deleted from the Discussion. Naturally, we do not believe that the study was too small for our purpose.

10. Please give the full questions in table 2.

We have included the full questions in table 2.

11. Make it clear how many people are included in each analysis in Table 3. Are there 12 patients with telephone contact and this explain the large p-values?

We have included these numbers in table 3 (n for telephone contact is 148, but is reduced to 130 in the regression because of missing data at the item level).
Minor essential revisions

12. Please put the number of questionnaires sent in the abstract.
Done (see revised abstract in point 7).

13. Please state the reminder was sent after 6 weeks on p5.
Done.

14. Please explain why the reminder was sent after 6 weeks. This is a very long time in survey methodology.

We agree. We aimed to send out the reminders at two weeks but this was not possible due to practical circumstances. We have stated this in the Methods:

“The casualty clinics distributed the questionnaires by mail to the patient’s home address. We aimed to send out the reminders at two weeks, but due to practical circumstances relating to clinical administration and postal service delays reminders were sent after six weeks. The questionnaires were returned to the Norwegian Knowledge Centre for the Health Services.”

15. Please explain the scoring of items and scales more p5.

We have included information about scoring of items and scales in the Methods:

“Items relating to experiences of care have a five-point scale of Not at all, To a small extent, To some extent, To a large extent and To a very large extent. Items were transformed to scores ranging from 0 to 100 where 100 is the best possible. Items comprising scales are summed and transformed into percentage scores. Patients with missing values on more than half of the items in a scale were excluded.”

16. Please explain why the guardian sample is not combined with the patient sample – after all these are all users.

We agree and have combined the guardian sample with the patient sample.

17. Please give the denominator of the response rate on p6.
Done.

18. The use of language relating to multivariate analysis is confusing in the text e.g. p7 referring to a clinic as a ‘reference clinic’ Please describe findings more clearly.

We agree and have tried to clarify. The part about ‘reference clinic’ is excluded, see point 23 below.

19. If you compare clinics surely you need to adjust for demographic variables?
See point 8 above.
Reviewer 2:

Major compulsory revisions

20. The authors indicate that the lack of association between user characteristics and satisfaction may be due to limited sample sizes and response rates, but do not elaborate on alternative explanations why finding might differ from previous work that are of practical importance. In addition, it is counterintuitive to suggest that the user characteristics analyses are underpowered, while the “health services variables” analyses were sufficiently powered.

We agree. We have deleted the sample size part from the Discussion. Revised analysis based on suggestions from the reviewers show that self perceived health and age have significant associations with user reported experiences/global satisfaction. See point 8 above.

21. Importantly, it is unclear why clarifying the associations between user characteristics, patient experiences, and user satisfaction would be different in a casualty clinic setting vs. general practice. The authors should elaborate on the differences in the organization of general practices and casualty clinics, i.e., how the clinics are accessed, when they operate, who provides care, etc. It is also important to motivate the analyses a bit since there are MANY studies that examine the relationship between patient characteristics, experiences, and satisfaction with primary care. In what ways, SPECIFICALLY, does this study advance existing knowledge? Many studies assess case-mix adjustment effects on patient experience measures. Why do the authors suggest more studies? The paper may be more focused if the primary aim was to understand the relative importance of various patients’ experiences of care in promoting patient satisfaction with after hours/casualty care, controlling for user characteristics.

We have described the Norwegian primary care out-of-hours service in point 1 above. An important difference between out-of-hours services and GP services is user knowledge of and relation with the GPs. While users meet new and often unknown GPs at out-of-hours clinics, especially in cities, the Norwegian Regular General Practitioner Scheme means that almost all users have their own regular GP securing continuity, established relations and mutual knowledge. This difference might be expected to influence the satisfaction level (higher for regular GPs), but we are less certain about the influence on the associations in question. One of our primary aims were to assess the association between socio-demographic factors and patient satisfaction within the primary care out-of-hours field, because current literature within this field is equivocal and partly contradict findings from the general patient satisfaction literature (see point 3 and 8). The revised analysis identified self-perceived health as a significant predictor for patient satisfaction and one of four experiences scales, and age as a significant predictor for user experiences with organization of the clinics. Therefore, our main findings are in line with the general patient satisfaction literature and strengthen the generalizability of findings in the general literature to the primary care out-of-hours field. We have discussed implications of our
findings in point 8.

The associations between users' experiences and patient satisfaction, controlling for user characteristics, are included as one of two primary aims of our study (see point 3 and 8).

22. Background, 2nd paragraph: “credibility of studies” is not correct. Consider restating as “validity of performance comparisons across health care organizations”.

As a result of changes in the Introduction (see point 3) we have deleted the paragraph including this sentence.

23. The authors explain that 3 clinics were chosen based on size and organization differences, but do not explore these clinic effects analytically. It almost seems as there is an attempt to achieve generalizability here, when this is impossible with 3 clinics. The authors should consider analyzing the results by clinic (stratify) or at least include dummy indicators to parse out clinic-specific effects (dummy variables). This is likely to effect estimates of user characteristics and patients' experiences on user satisfaction.

We agree that the sample of three clinics is inadequate to represent the population of clinics in Norway. Also, the number of clinics is too small for multilevel regression. We could have analyzed the results by clinic, but the number of users per clinic is also too small. We have included a paragraph about these issues in the Discussion:

“The primary aims of this paper were to assess the associations between socio-demographic variables and user satisfaction/experiences, and between user-reported experiences and global satisfaction. Naturally, the sample of three clinics is inadequate to represent the population of clinics in Norway. Also, the number of clinics is too small for multilevel regression, making it difficult to separate individual and clinic level effects. This means that individual level effects might be overestimated, especially if the intraclass correlation coefficient (ICC) is substantial. Future studies in Norway should include a representative sample of casualty clinics, and enough clinics to allow empirical assessment of effects at different levels.”

24. Elaborate the reference period used for survey questions. For example, “In the last 12 months”, “During your last visit/encounter”? If no reference period given, why is this the case?

We have included information on the reference period in the Methods:

“The reference period used for survey questions was “during the last visit/encounter”.

25. How were scales constructed if items were missing in a scale? Any criteria for scale creation, e.g., did a respondent have to respond to a minimum # of items in the scale for the composite score to be calculated?
See point 15 above.

26. How does the survey item content differ from commonly used patient experiences surveys like the Clinician & Group CAHPS survey? Why are the different domains used in this study important for understanding casualty clinic care?

We have included a new paragraph about this in the Discussion:

“The questionnaire is developed specifically for primary care out-of-hours users and includes items of relevance for measurement of user reported experiences with out-of-hours care. It is based on a literature review, interviews with users of out-of-hours services and consultation with an expert group that was designed to ensure the content validity of the questionnaire (12-13). Compared to questionnaires such as the Clinician & Group CAHPS survey or the EUROPEP questionnaire, this questionnaire can be used with different types of contact with the out-of-ours services (telephone contact, and/or at the casualty clinic, and/or home visit from the doctor). This questionnaire is also designed for patients that have had one contact with the doctor which is in contrast to questionnaires specific to general practice care that relate to consultations with the patient’s usual general practitioner.”

27. If the guardian sample is small, why not pool with other data and adjust for guardian vs. not guardian? Throwing out these data seems extreme.

We agree and have included the guardian sample in the analysis.

28. Background variables were included in multivariate regression based on theoretical considerations and empirical evidence. This statement is vague. Please elaborate and indicate specifically what the theoretical and empirical justifications.

Done in the first paragraph of Methods/Analysis:

“Age and health have been found to be consistently related to patient satisfaction (5) and were included in the regression. We also included other background variables with some empirical evidence of an association with patient satisfaction, including education (6), gender (14-15), extent of urgency (15) and marital status (16). Length of stay has been found to be associated with inpatient satisfaction (17), and in our study we used the number of times in contact with the out-of-hours clinic the last two years as an equivalent to this in the outpatient setting. We pooled the guardian and patient sample and included a respondent variable in the regression.”

29. In the results section, it is unclear what the “reference clinic” is.

The clinic level is removed from the article, see point 23 above.

Discussion
30. How do results compare to general practice satisfaction levels in Norway? Why might differences be present? What does this suggest for the measurements of organizational performance/performance comparisons?

Unfortunately, we lack comparable and national representative data on this issue in Norway. The EUROPEP has been used in large scale surveys in Norway, but question formulations and response scale differ from the current questionnaire. In addition, the primary care out-of-hours study only included three clinics and these cannot represent all out-of-hours clinics regarding satisfaction levels. This point has been taken up in the Discussion:

“The consideration of any differences found through the comparison of user experiences and satisfaction of out-of-hours care with those for general practice care more generally might inform quality improvement initiatives. The EUROPEP questionnaire has been used in large scale surveys of general practice in Norway (18). However, the differences in the content of items, including items scaling, and scales composition rules out any comparison. Moreover, the study findings relate to three clinics and hence are not representative of all out-of-hours clinics.”

31. If patients’ experiences are an indirect measure of patient satisfaction, why not just measure satisfaction? The authors allude to this in the introduction, but tying this into the discussion will make this more coherent for readers.

Done. See point 8 above.

32. Many studies have assessed patient demographic factors and patients’ experiences. Why are more studies needed specific to casualty clinics?

See point 3 above.

33. Discussion about limited variability on measures and ability to assess change over time and between clinics is confusing. Clinic-level reliability is the more important issue for clinic comparisons and the current study did not examine this issue. The authors should refrain from overreaching here.

We agree and have deleted this part of the Discussion.

34. If the differences between the three clinics were substantial, why wasn’t this accounted for analytically? Clinic effects were never examined in the study, so this discussion comes out of nowhere.

See point 23 above, this is now deleted.

35. The response rate discussion also strays too far from the main point of the study (to assess predictors of satisfaction with casualty clinic care). Simply state the limitation and the direction of potential bias.

We have shortened this part of the Discussion:

“Low response rates are a common problem in patient experience surveys in
general (5), and also in the primary care out-of-hours field (7, 19-22). The response rate in our study was 41.5% which is similar to other surveys in this field (7). A low response rate may cause non-response bias if non-respondents differ systematically from respondents (5). Some studies have found differences on socio-demographic variables between respondents and non-respondents (5, 20-22), but a Dutch study on patient satisfaction with out-of-hours primary care found that overall satisfaction did not differ much between respondents and non-respondents (7). This corresponds to findings in studies conducted by the Norwegian Knowledge Centre for the Health Services that shows small differences between respondents and non-respondents in user experiences surveys (23-26). Therefore, we expect small effects related to non-response in our study.

36. Conduct a more thorough literature review of patient experience studies using Clinician & Group CAHPS data. Many recent important studies that include analyses of patient characteristics and patients’ experiences are available and are not cited.

We mainly refer to a large systematic review of the patient satisfaction literature (reference 5), but have also included a new and relevant CAHPS related study in the Introduction (Johnson ML, Rodriguez HP, Solorio MR. Case-mix adjustment and the comparison of community health center performance on patient experience measures. Health Serv Res. 2010; 45: 670-90). The development of the questionnaire was also based on a systematic review of the literature relating to user experiences and satisfaction with out-of-hours care (reference 12).

Minor Essential Revisions

37. The authors should use consistent terminology throughout. For example, it is unclear whether casualty clinics are the same thing as urgent care centres or after hours care centres (in the US).

See point 1 above.

38. The term “health services aspect” is vague. Is this equivalent to patient-reported experiences of care?

Yes, “health services aspect” is equivalent to “patient reported experiences”. See point 2 above.