PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	The feasibility, acceptability and effectiveness of an online alternative to face-to-face consultation in general practice: A mixed methods study of webGP in six Devon practices.
AUTHORS	Carter, Mary; Fletcher, Emily; Sansom, Anna; Warren, Fiona; Campbell, John

VERSION 1 – REVIEW

REVIEWER	Dr Joanne Morris Barts Health NHS Trust. UK
REVIEW RETURNED	14-Aug-2017

GENERAL COMMENTS	Overall I think this is an extensive and useful evaluation, offering some real insights. I think it would be helpful to explain a little more about what 'webGP' exactly consists of in the background. When you say e-consultation, I immediately thought of video consultations (because that is what I am familiar with). It became apparent that the patient has to complete a form on-line that is sent to the GP; this is not immediately obvious or how the GP responds (it could have been completely free text email type service). Also what does the self help section include, is that relevant to your evaluation? The data on 'volume of consultations' is well put together and reported. The small number of e-consults recorded were unlikely to make a big difference to the overall 'volume of consultations'. As you have said it is a 'proof of principal' regarding the method; it would be good to hear about that in the discussion? It has become clear that one question emerging is why there has been poor uptake (is that partly because the intervention is still fairly new?). It would have been nice to see this emerging question explored and unpacked further, as part of the patient and staff experience. I appreciate that you state that there is scope for more in-depth qualitative methods. The discussion and abstract refer to the impact of better communication and marketing to patients on uptake, is this a finding from the results? It would be good to hear more about that in the results (apologies if I have missed it).

	I would have thought the discussion would benefit from reference to other studies (although I appreciate there might not be many relevant studies), and the main conclusions would benefit from more about key elements of this study (what this study adds)? I should image that this study didn't require NHS research ethics approval (using a survey for patients that was adapted from a routine survey of GP users), but I'm not 100% sure given the information presented. Hope that is helpful.

REVIEWER	J. Nwando Olayiwola, MD, MPH, FAAFP RubiconMD University of California, San Francisco USA
REVIEW RETURNED	23-Sep-2017

GENERAL COMMENTS	This is a very timely study to consider various modalities of "Care delivery" that are non-traditional. I applaud the authors for attempting to elucidate feasibility and acceptability of electronic communication between GPs and their patients, as healthcare shifts to more consumer centric models. My two concerns about this paper are 1) patient reported time to consultation was primarily based on patient perception. Historically, patients tend to believe time to access was longer than it was, particularly if dissatisfied with their experience; and 2) the patient demographics were not diverse in terms of race/ethnicity, age and socioeconomics. The study could have been strengthened by using diverse patient populations and delineating which barriers may exist for a range of patients. In it's current form, the findings are not likely generalizable to a large segment of the British population. Future studies should address the time to consultation with time-stamping of all encounters in webGP, which would avoid perception biases from patients and GPs. Additionally, practices with more diverse patient populations should be recruited for the next phase. Would webGP be as well taken up in an older or immigrant or non-English speaking or less educated population? It is important to know. Overall, I applaud the authors for a well designed mixed-methods study and look forward to the study being in print. It will add important perspective to the literature on electronic consultations between the patient and the primary care provider/GP.

REVIEWER	Stephen Barnett University of Wollongong, Wollongong Australia
REVIEW RETURNED	02-Oct-2017

GENERAL COMMENTS	The area of research for this paper is an important one- namely the workload of GPs and the role of IT systems in reducing it, along with methods for reporting on these types of interventions. Unfortunately, I have a number of concerns about this paper. My main concerns revolve around low numbers, and the resulting validity of the data. For example 20 GPs were recruited, 61 e-consults performed. This is only 3 each on average, which is a low number to make a decision about a system. I could not see in the paper a number of consults per GP, and the GP selected for the interview did not seem to be related to the GP that did the most consults. Of the patients that did e-consults, there were only 29 responses. Although the response rate of 30% is relatively low, the total overall number (29) is so low that it makes it hard to have a meaningful discussion about the results. This is borne out in the statistics section. The whole discussion about statistics is purely descriptive statistics. Yet the numbers involved are so low that it is unclear whether any of these 'this group was great that than group' statements have any value. In terms of interviewees, there are only 5 staff interviewees. There is no comment on whether data saturation was met, and so it is hard to know if these are true themes, or a small number of non-representative opinions. Another concern, related to the low numbers, is the almost non-existent use by older people. If this system is to reduce workload, then it needs to look at where the most workload is being generated, namely the complex and the elderly. In this study there were only 2 e-consulters over 65, and only 1 survey response over 65. There is a comment in the discussion about the relevance to working people, however the 'strengths of the study' talks about the acceptability and effectiveness of the system, which seems too strong a claim based on this data. In terms of the methods, the researchers chose age-matched controls. While I can see some value in this, there is surely a greater significance in using problem matched controls. Does a 50 year old with an URTI have the same needs as a 50 year old with diabetes and multiple co-morbidities? In terms of the overall understanding of the intervention, there was also very little description of the system- by the end of the paper it was still unclear how the system functioned. Overall, it seems that the low numbers of users and the even lower numbers of survey respondents and interviewees, along with the lack of relevant statistical testing makes it very hard to assess the significance of any of these results.

VERSION 1 – AUTHOR RESPONSE

Comment: I think it would be helpful to explain a little more about what 'webGP' exactly consists of in the background

Response: We have added a paragraph to the Background, containing details about the webGP program

Amended text: WebGP consists of a suite of five services which are available from participating general practices' Web sites:

1. Symptom checker – gives brief information about a range of conditions
2. Self help guidance – more detailed information about symptoms/conditions
3. Signposting to other services, such as pharmacy
4. Information about the 111 telephone service
5. e-Consult – whereby the patient completes an online form which is sent to the practice/clinician. The patient receives a reply from the practice within a certain timeframe.

Comment: Also what does the self-help section include, is that relevant to your evaluation?Response: See 3 above

Comment: The small number of e-consults recorded were unlikely to make a big difference to the overall 'volume of consultations'. As you have said it is a 'proof of principal' regarding the method; it would be good to hear about that in the discussion?Response: We have added a paragraph to the end of the Discussion

Amended text: This small study has demonstrated that, by applying a range of complementary methods, it is possible to learn valuable lessons about the impact of innovative approaches to managing workload in general practice.

Comment: It has become clear that one question emerging is why there has been poor uptake (is that partly because the intervention is still fairly new?). It would have been nice to see this emerging question explored and unpacked further, as part of the patient and staff experience.Response: We believe that we have already suggested several reasons for the low uptake of webGP within the Discussion: including varied quality of communication with patients about webGP and clashes with existing practice systems.

Comment: The discussion and abstract refer to the impact of better communication and marketing to patients on uptake, is this a finding from the results? It would be good to hear more about that in the results (apologies if I have missed it).
Response: We had added to the information about the initial researcher visit to practices in the Methods.
We have added a sentence to the Practice recruitment section in the Results.
Amended text: A researcher followed up the initial email by visiting each practice to explain the evaluation and to elicit basic practice information (list size, IT system, online services, major staff/system changes within the last three years and ways in which the practice had promoted webGP).

All practices had promoted webGP via a large poster and/or television screen in the waiting room and the practice website. One practice had also added information about webGP to the bottom of prescriptions and to the telephone answerphone message.

Comment: I would have thought the discussion would benefit from reference to other studies (although I appreciate there might not be many relevant studies)

Response: There are references to other studies in the Implications for clinicians and policy makers section (p18).

We have added a reference to the Alt-Con study to the Principal findings section.

Amended text: In contrast to findings from the Alt-Con study 7, the GPs participating in the webGP evaluation did not appear to be reluctant to use this new way of consulting.

Comment: The main conclusions would benefit from more about key elements of this study (what this study adds)?

Response: We have amended the text of the Conclusions section within the Discussion

Amended text: Online consulting may provide an effective and convenient alternative for some groups of patients (such as those in employment) with non-urgent problems, who do not require face-to-face contact with the practice. It may also offer an acceptable means by which patients can consult their clinicians about sensitive topics, which may otherwise remain unarticulated.

Comment: I should imagine that this study didn't require NHS research ethics approval (using a survey for patients that was adapted from a routine survey of GP users), but I'm not 100% sure given the information presented.

Response: See 3 above

Comment: Patient reported time to consultation was primarily based on patient perception. Historically, patients tend to believe time to access was longer than it was, particularly if dissatisfied with their experience. Future studies should address the time to consultation with time-stamping of all encounters in webGP, which would avoid perception biases from patients and GPs.

Response: We acknowledge the differences between clinician and patient estimates of time in the Results (p11) and Unanswered Questions and Future Research section in the Discussion (p19).
Amended text:

Reviewer 2

Comment: The patient demographics were not diverse in terms of race/ethnicity, age and socioeconomics. The study could have been strengthened by using diverse patient populations and delineating which barriers may exist for a range of patients. In it's current form, the findings are not likely generalizable to a large segment of the British population. Additionally, practices with more diverse patient populations should be recruited for the next phase. Would webGP be as well taken up in an older or immigrant or non-English speaking or less educated population? It is important to know.

Response: We agree that the patients were not diverse in terms of race/ethnicity, but this reflects the general population in this part of the UK. According to the 2011 census 94.9% of people in Devon are from a White British ethnic background (79.8% in England). One of our aims was to demonstrate the appropriateness and feasibility of our methodological approach, which could be used in a different location to assess use in a more diverse population.

The respondents to our survey include a range of ages, employment status and responsibility for caring.

We have added a sentence to the fourth bullet point in Article Summary (Strengths and limitations of this study section).

We have added extra text in the Discussion (paragraph 2)

Amended text:

- The ethnic mix within the sampled practices and patients reflects the general population in this area.

The evaluation was limited, however, to a small group of practices participating in the webGP pilot implementation in just one CCG area, with a predominantly white British population.

Reviewer 3

Comment: My main concerns revolve around low numbers, and the resulting validity of the data.

For example 20 GPs were recruited, 61 e-consults performed. This is only 3 each on average, which is a low number to make a decision about a system. I could not see in the paper a number of consults per GP, and the GP selected for the interview did not seem to be related to the GP that did the most consults.

Response: We did not provide information about the number of e-Consults per GP, but have included the range of completed CRFs per practice, and the range of participating GPs per practice.

We have amended the text slightly in the Results (Case Report Forms completed by GPs) for greater clarity.

Amended text:

The number of GPs in each practice who completed CRFs ranged from two (who completed a total of five CRFs) to five (who completed a total of 35 CRFs).

Comment: Of the patients that did e-consults, there were only 29 responses. Although the response rate of 30% is relatively low, the total overall number (29) is so low that it makes it hard to have a meaningful discussion about the results. This is borne out in the statistics section. The whole discussion about statistics is purely descriptive statistics. Yet the numbers involved are so low that it is unclear whether any of these 'this group was great that than group' statements have any value.

Response: We recognise that our sample of patients was small. We believe that we have been sufficiently cautious in our conclusions to reflect the small numbers involved.

We have acknowledged that statistical analysis is limited to descriptive only within the Aims & Objectives (p6), Methods (Data Analysis, p7) and Discussion (Strengths and weaknesses of this study, p18).

Comment: In terms of interviewees, there are only 5 staff interviewees. There is no comment on whether data saturation was met, and so it is hard to know if these are true themes, or a small number of non-representative opinions.

Response: We conducted 10 staff interviews (Results, p15), and included both clinicians and administrative staff in our sample. We were limited by staff availability, and we did not aim for data saturation. Our interest was in common or connected themes, and the differing perceptions of webGP between staff groups.

We have added a sentence + reference to the Strengths and weaknesses of the study section.
Amended text:
In addition, we acknowledge that the small numbers of interviews does not allow us to assume that saturation of emergent themes 21 has been achieved.

Comment: Another concern, related to the low numbers, is the almost non-existent use by older people. If this system is to reduce workload, then it needs to look at where the most workload is being generated, namely the complex and the elderly. In this study there were only 2 e-consulters over 65, and only 1 survey response over 65. There is a comment in the discussion about the relevance to working people, however the 'strengths of the study' talks about the acceptability and effectiveness of the system, which seems too strong a claim based on this data.

Response: We recognise that our sample of patients was small, and included very few older people. We believe that we have been sufficiently cautious in our conclusions to reflect the small numbers involved.

Comment: In terms of the methods, the researchers chose age-matched controls. While I can see some value in this, there is surely a greater significance in using problem matched controls. Does a 50 year old with an URTI have the same needs as a 50 year old with diabetes and multiple co-morbidities?

Response: We have added a sentence to the Discussion (Unanswered questions and future research section)
Amended text: Future research should also include an assessment of the impact of online consultation options for different presenting conditions.

Comment: In terms of the overall understanding of the intervention, there was also very little description of the system- by the end of the paper it was still unclear how the system functioned.

Response: See 3 above

Comment: Overall, it seems that the low numbers of users and the even lower numbers of survey respondents and interviewees, along with the lack of relevant statistical testing makes it very hard to assess the significance of any of these results.

Response: See 14 above