PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Impact of the urgent care telephone service NHS 111 pilot sites: a controlled before and after study
AUTHORS	Turner, Janette; O'Cathain, Alicia; Knowles, Emma; Nicholl, Jonathan

VERSION 1 - REVIEW

REVIEWER	Helen Snooks Professor of Health Services Research Swansea University UK I do not have any competing interests to declare
REVIEW RETURNED	18-Jul-2013

RESULTS & CONCLUSIONS	This is an important, timely, relevant and well written paper with an appropriate study design. I have a few questions for the authors which would clarify presentation of methods and findings: 1. the authors state that some of the data came from local sources - were there any differences between codes or quality of data? Are there issues of validity generally or between intervention and comparator sites? 2.I'm not sure what ambulance incidents are - are these attendances or dispatches? why is this terminology used? It is quite confusing 3. why were there 4 pilot sites and 3 control sites? how could 1 control site be used for 2 intervention sites? 4. the lack of GP same day in hours contacts is a weakness but is appropriately acknowledged 5. "Other system changes" need to be reported in the results - to match the methods, rather than suddenly popping up in the dicsussion 6. It would be useful to discuss the influence of the particular triage system being used - NHS Pathways - presumably results and conclusions are heavily dependent on the level of caution inherent in the system, especially when used by non clinical call handlers Ref here: Snooks, Helen A., et al. "Real nursing? The development of telenursing." Journal of Advanced Nursing 61.6 (2008): 631-640. 7. Presentation of results is quite confusing - both in order and content. a) I dont understand the rationale for presenting process results first (uncontrolled, by site, table 2) then outcomes (controlled with all sites combined, table 3), then uncontrolled outcomes by site (table 4). Could the authors review the order of these tables or provide a jusitification for this way of presenting the findings. figure 1 could also usefully include results by site. b) table 3 is hard to understand and to match to description of statistical analysis. I cannot understand column 2, I dont quite see how negative findings in this column can become positive effects in column 3. Could the authors review this table and either cut column 2 or provide further

	explanation - it might be simply clearer column headings would work.

REVIEWER	Dr Alison Porter Senior Research Officer College of Medicine Swansea University
REVIEW RETURNED	08-Aug-2013

RESULTS & CONCLUSIONS	I got slightly confused by the way the results are presented, and in turn how they link to the discussion. The main points which I think it would be worth clarifying are: - NHS 111 is presented as increasing the use of emergency ambulances - can the authors really say this with confidence (that there is a causal connection) or is it just an association? - there were quite major variations between sites (with some trends going in opposite directions) whose implications are not fully discussed - Table 3 shows the apparent net effect of NHS 111 in pilot sites, compared with trends in control sites. However, I think it would be useful also to show the data on activity in control sites in Table 4, alongside the data for pilot sites - In Table 4, the figures for NHS 111 activities in all pilot sites are oddly round (10,000 etc). I don't understand why - Also in Table 4, the last two rows are worth clarifying (either on the table or in the relevant section of text, which is itself confusing) - is this speculation about what might happen in the future?
GENERAL COMMENTS	This is an interesting paper on an important topic. I would suggest it needs a few minor changes to clarify certain points - and could even be expanded a little, as the text currently seems very concise. In addition to the points made above, I would suggest - including definitions of emergency and urgent care (and the distinction between them) early on - clarifying early in the paper that NHSDirect continued in the pilot areas in parallel to NHS111 (currently this is mentioned quite late on) - considering changing the emphasis on NHS111 as a signposting service, when (according to the core service principles in S1) one of its roles is meant to be offering self care advice and health information

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

1. Some data was obtained locally. A standard data specification with definitions was used across all sites to try and ensure data quality. This has been added to the text in the methods section (routine data collection) together with one issue on data quality where some data was missing. We were collecting simple service activity counts and believe this standardised strategy did not raise issues of validity as the PCTs involved routinely collect this data locally.

2. Ambulance incidents is the term used in the ambulance service KA34 performance measure returns which was the source of this data. Incidents is used rather than responses or dispatches as multiple responses can be sent to a single incident but for reporting only one incident is recorded. We

believe this is the correct terminology as there is a standard definition and it is this data we have reported. We have changed the wording in the methods section (routine data collection) to reflect the standard definition and have also included this definition in table 3 so it is clear what item is being measured.
3. We have used "sites" by convention but these sites are geographical areas or systems. It was important to get as close a match of system characteristics as possible and this was achieved in only 3 potential control "sites". A 4th site would have either been in another part of the country or would not have been demographically compatible. To maintain the robustness of the comparison we elected to use 3 areas. The main analysis on impact reported here combined data as the aim was to compare all NHS 111 sites as a single service with a single comparator. We have added additional explanation in the methods section (design)
5. A brief description of other system changes has been added at the beginning of the results section "impact on emergency and urgent care services"
6. This is an important point and an additional short discussion has bee added to the discussion section (implications)
7. The comments on order have been helpful. The first set of process results describe the services in operation and set the scene. The second set of results present the impact on emergency and urgent care services as found during the evaluation period. The third set of results are setting out implications for the future. We recognise we may not have made this clear. We have added a description of the last set of results to the end of the analysis section in methods. Hopefully this will make the presentation clearer as the results are now reported in the same order as described in the anlysis section. The summary of results has been changed to reflect this order as has the implications to improve flow. We have removed column 2 from table 3 and re-labbelled the column headings. We have also defined "pilot only model" and "pilot v control model" in the relevent methods section (analysis) so that it is clear which analysis step is reported in table 3.

Reviewer 2

The flow has been addressed as above.
We are confident that our analysis is careful and robust and that the effect we detected is real - however to some extent it is up to the reader to decide if our methods are robust and therefore the findings meaningful. We have added some supporting information to the relevant section in the discussion (item 1 under implications)
We are a bit confused about the comment on variations between sites and trends going in opposite directions - we have only presented comparative results on trends for the combined analysis in table 3. Is this referring to the activity in individual pilot sites presented in table 4?. If so - the purpose of this table was to illustrate overall changes in contacts across the system in sites where there was also a 111 service and what the implications of this are for a future national service. Clearly there is no equivalent in the control sites. As stated - this is uncontrolled data and we do not believe adding the raw activity data for control sites to this table would be helpful. Trends and changes will be due to numerous factors including seasonal variations and other system changes - the elements we carefully accounted for in the controlled analysis - and therefore any reader looking at these data could easily make erroneous judgements about the meaning of changes in trends as they are uncontrolled for other factors. To justify this we have added the section to the methods as outlined above, changed the text in the reporting of the results relevant to table 4 to better reflect this intention and added a sentence to the summary of results at the beginning of the discussion. If an editorial decision is made that this data should be presented we would provide it, perhaps as a supplementary table as it will be big, but we strongly believe presenting raw activity figures for the individual pilot and control sites in a format where it can be compared without any ability to consider confounders could be very misleading.
In table 4 the figures for NHS 111 activities are round because they are estimates. Over the course of the first year calls to NHS 111 grew as the local population became aware of it, additional out of hours

services were routed in etc. We did not therefore use the monthly average for the year as this would be an underestimate. Instead we used an estimate based on the activity in the last 2 months data as this will be a more accurate reflection of a more mature service. We have labelled this item in table 4 as Estimated NHS 111 to reflect this and have clarified the last 2 rows in the table and in the corresponding text at the end of the results section.
A definition of urgent care has been added to the first paragraph in the introduction
A statement that NHS Direct continued to perate at the same time has been added to the methods section (at the end of design)
We believe that the emphasis of NHS 111 primarily as a signposting service is correct - the population it is aimed at is much broader than NHS Direct and included people requesting out of hours care not advice. It is true that one of the options available is information and advice and this can be offered but this is not the main emphasis just one of a range of possible solutions. We have added some text to the description of the service in the introduction (para2) to make it clear that information and advice are still provided as part of the service.

VERSION 2 – REVIEW

REVIEWER	Snooks, Helen Swansea University, Medicine
REVIEW RETURNED	19-Sep-2013

GENERAL COMMENTS	Revised paper addressed all major concerns and is suitable for publication