

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)	UK parents' attitudes towards meningococcal group B (MenB) vaccination: A qualitative analysis
AUTHORS	Jackson, Cath; Yarwood, Joanne; Saliba, Vanessa; Bedford, Helen

VERSION 1 - REVIEW

REVIEWER	Ursula Wiedermann, MD, PhD Medical University Vienna, Institute of Specific Prophylaxis and Tropical Medicine
REVIEW RETURNED	03-Jul-2016

GENERAL COMMENTS	<p>The paper by Jackson et al describes a cross-sectional interview study in parents with different socioeconomic, cultural and educational background from different geographic areas in England to explore the knowledge and attitudes about men b disease and the acceptance of the vaccination program against the disease as well as reasons for hesitation to vaccinate against men B. The study also aimed to analyse whether existing information provided by Public Health England was sufficient to reduce hesitations and reassure parents about the benefit of vaccination.</p> <p>While this is a very interesting and important study to evaluate health literacy among young parents, acceptance of the introduced men b vaccination program and whether further information is needed in the country to comply with the vaccination program, there are several points that should be further addressed to strengthen the outcome of this study and provide respective information also for other countries where implementation of the men b program has/has not yet started:</p> <ol style="list-style-type: none">1. The authors describe that 60 parents were interviewed in two different areas, namely London and Yorkshire, however most of the completed interviews were summarized only from the London area (62%).<ol style="list-style-type: none">a. Is the parent population (mainly) from London representative for the whole country and is the information given by GPs comparable in all parts of Uk?b. Compared to other surveys 60 participants seem rather a small sample size to be representative to answer the compliance/acceptance within the country towards the vaccination program and evaluate if hesitations are present. Please add how the sample size was statistically evaluated to reach the endpoints of this study.c. It is stated that parents of different socioeconomic/cultural and educational background were included in the study: however, the authors did not evaluate the views and finding of the study according to the different background of the parents. In particular with respect of health literacy, causes for hesitation to the vaccine and overall compliance to vaccination it would be very interesting to further
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	<p>evaluate the data. Currently the authors only stated “the majority” or the “minority” of parents were of certain opinions etc. Please also add what is meant with majority and minority in % of the interviewed parents.</p> <p>d. The authors state that only 1-2% of parents are active objectors to immunization – were they also present among the interviewed parents and what educational levels, social/ethnic background did they have?</p> <p>2. The authors add 6 tables which illustrate the quotes of certain interviewed parents and give literally the content of the interview as parents jargonize. In order to get an additional value out of these tables the authors should rather summarize the answers of different interviewed parents to certain questions and provide the reader with a easier readable and informative content of the tables.</p> <p>3. The authors address that vaccine hesitancy is increasing in many countries but state that they did not find evidence for this phenomenon in their study. The authors should provide some explanation why they assume that this is not a problem in England, as other countries might learn from the experiences in England.</p> <p>4. The authors state that the men b vaccination program has been successfully implemented but do not describe if the vaccine is generally co-administered with other routine vaccines or given at separate time points. This information should be added to share the UK experience also with other countries where men B vaccination is not yet implemented in the national vaccination program and hesitation with co-application with other vaccines exist due to frequent fever events and fear of side effects.</p> <p>5. In order to get a better overview of the outcome and relevance of the study, the authors should consider to give an information box/summary table with the most important findings relevant for successful implementation of men B vaccine and whether there where particular problems that need to be additionally addressed with more detailed information and education.</p>
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REVIEWER	Dr Louise Condon Swansea University Wales UK
REVIEW RETURNED	08-Dec-2016

GENERAL COMMENTS	<p>Methods- Overall these are described in sufficient detail to repeat the study. The authors refer to group interviews rather than focus groups but given the different approach taken in an individual interview and a focus group, it would be good to have a small amount of detail on how the group interviews were conducted, and to mention later if the method used had any discernible effect on the findings.</p> <p>Results- these are very clearly presented. My one caveat is that it is not clear if individuals took part in individual or group interviews. The codes used for participants are not specifically explained in the text (although it is clear that L is London and Y is York), however it would also be useful to know whether each quote was made in a group or individually. Presumably L007g was the 7th participant in group 7 in London, but is L001a the 1st participant in group 1, or was this an individual interview? These are small details and overall the paper is clear, comprehensible and transparently written up.</p>
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REVIEWER	Martel Juvet Chachou Stellenbosch University, South Africa
REVIEW RETURNED	09-Dec-2016

GENERAL COMMENTS	<p>General comment on the manuscripts content: This manuscript describes “Uk parents ‘attitudes to MenB vaccination: a qualitative analysis.” It is an important topic as prevention of infectious diseases through immunisation/vaccination. Immunisation/vaccination is an important public health endeavour in low, middle income countries and in developed countries as well, in this instance, the United Kingdom. Evidence on Knowledge regarding Uk children parents’ attitude towards MenB vaccination is important. It could bring positive or negative dynamics on country immunization coverage status surrounding MenB vaccination and ease the burden caused by the disease and noncompliance to the immunisation scheduled. Findings are certainly needed on children MenB vaccination parental attitudes. This manuscript makes a good attempt at trying to address this but there are areas where improvements/clarifications are necessary.</p> <p>Final Comments: Proper documentation and substantiation of the method used to arrive at study findings. The studies were conducted in high income country – to what extent are these findings applicable to low and middle income countries, as findings from your research is supported by studies conducted in Europe and Australia. Is United Kingdom the only target audience of this research? – This should be discussed in depth. Are these findings immediately implementable across continents? – This should be discussed? The limitations of the review should be discussed in more details. The implications of the small number of participants should be addressed as well.</p> <p>In-text references of literature need serious screening to produce and improve version as stated already on comments made in the introduction section. Material should be presented in a logical order: Title, Authors, affiliation, Abstract, keywords, Introduction, Methods, Discussion, strengths and limitations, implication of the work to research conclusion, references and appendices. In addition use data and tables from the study findings to improve the discussed section of the manuscript.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p><u>Peer-reviewed report</u></p> <p>Date: 9th December 2016</p> <p>Title: UK parentals’ attitudes to MenB vaccination: A qualitative analysis</p> <p>General comment on the manuscripts content: This manuscript describes “Uk parents ‘attitudes to MenB vaccination: a qualitative analysis.” It is an important topic as prevention of infectious diseases through immunisation/vaccination. Immunisation/vaccination is an</p> </div>
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important public health endeavour in low, middle income countries and in developed countries as well, in this instance, the United Kingdom. Evidence on Knowledge regarding UK children parents' attitude towards MenB vaccination is important. It could bring positive or negative dynamics on country immunization coverage status surrounding MenB vaccination and ease the burden caused by the disease and noncompliance to the immunisation scheduled. Findings are certainly needed on children MenB vaccination parental attitudes. This manuscript makes a good attempt at trying to address this but there are areas where improvements/clarifications are necessary.

Peer-reviewed by: Martel Juvet Chachou, Centre of Evidence Based Healthcare, Faculty of Medicine and Healthcare, University of Stellenbosch, South Africa.

Pages	Manuscripts headings sections where peer-reviewed Comments are needed
1	Title
1	<p>Title: UK parents' attitudes to MenB vaccination: A qualitative analysis</p> <p>Line: 2. I will suggest that authors substitute the word "to" with the word "towards" in the current manuscripts title. In addition, write the word infants or children between UK and parents'. It should then read: "UK children parents' attitudes towards MenB vaccination: A qualitative analysis"</p>
1	Keywords
1	<p>Keywords</p> <p>Line: 26 "Immunisation" is the United Kingdom version of the word in English, since I suspect, United Kingdom English is the language used to convey authors work content; the America version of the word is : "immunization" and should be removed from the keywords list.</p>
2	Abstract:

	2	<p>Objectives: Please rather state the study design and qualitative survey (Measures) in the different heading under the abstract section, so that the 2 objectives statements flow.</p> <p>Moreover restructure the objectives section; improving punctuations and propositions, use one sentence with a conjunction (and) or semicolon between the two main study objectives.</p> <p>Rephrase the study objective clearly and use your proposition properly.</p> <p>Line: 8; Public Health England (PHE) is used for the first time in this article and section , the acronym should be put in this section and referred to it later in the text: page: 3 line 6 and 8 page: 5; line: 18 and 20 and so on</p>	
	2	<p>Settings: line: 16. Relook at the setting section providing information on location, participants recruitment period, and how data was collected</p>	
	2	<p>Participants: line: 20; provide a brief clarification on how participants were recruited in the study</p>	
	2	<p>Results Line: 32, 34 and 36: Reconstruct the sentence starting with: “There were mixed.... up to ... over two visits” add s and instead write “12 months”. Be consistent with using numbers, as a guideline write numbers in letters from 0 to 9; and numbers from 10 in figure.</p>	
	3	ARTICLE SUMMARY	
	3	<p>There is not content for the article summary; “strengths and limitations of this study” should be the heading of this section, please remove “ARTICLE SUMMARY”; heading to “Strengths and limitations of this study as title”</p>	
	4-5	Introduction	
	4	<p>Line: 6 to 10; Please use semi-colon to convey properly the statements embodied within these lines, and place the reference before the semi-colon in the first statement.</p> <p>Lines: 10 and 14. Be consistent with your in text references, the punctuation come after the statement you are referencing; you should not have Written. [1] instead [1]., same applied to line: 14</p>	

		<p>Line: 12; please use 2, 4 twelve in place of two, four and 12</p> <p>Line: 28, the word “first” is introduced and the reader is expecting to read a second and final which is not taking place, please act and improve the reading the paper is conveying to its audience.</p> <p>Line: 55; the word “In addition”, however there is no flow in sequence of ideas developed previously thought they are significant.</p> <p>Line: 35 be consistent in the way you using numbers use letter for numbers between (0 to 9) and from ten onward write number using the alphabet letters</p> <p>Line: 37: put “s” after 12 month”s”</p> <p>“We know” use here is more personal, rephrase so it sound impersonal.</p> <p>You reorganise the flow and sequences of your ideas from: page: 4, line: 28 up to page: 5, line 10; and reformulate the research problem after references [12, 13] line: 10, page: 5. Look out</p>	
	5	<p>After improving the 2 study aims as requested above ; page: 4 lines: 4, 6, 8, 10 and 12 make sure the statements are consistent with the statements made in Lines 16 18 and 20; page: 5</p> <p>Line: 6: Is NICE next to guidance referred to “National Institute for Health and care Excellence”? If that the case you should break it down in a meaningful way to the readers or explained what it means</p> <p>Final Introduction comments: You have demarcated and highlighted adequately key concepts in this cross sectional study, but there is an area of improvement spelling out sequentially or summarising the context or background of the problem the study aimed to address in the last section of the second paragraph (introduction) and the paragraph before the last. Addressed it as suggested above. Look out the way you reference your work, and your punctuation.</p>	

	5-6	Methods
	5	<p>Comments: Please provide information about the type of study carried, in this instance: Cross-sectional study</p> <p>Participants and Recruitments</p> <p>Line: 38, “we set out to recruit 60 parents”, past tense should be used here</p> <p>Past tense and passive voice usage will convey what was done, clearly to the paper readers in this section</p>
	6	<p>Data collection</p> <p>Line: 2, the study period “February and March 2015” does not provide a clear indication of the study duration we cannot clearly answer whether the study lasted days, week, weeks, Month or Months: authors can improve on that.</p> <p>Page: 6, line: 6 to 10, when you stated that: ” They presented themselves to</p> <p>participants as independent to the MenB vaccination programme and advised that any specific</p> <p>Questions about immunisation would be answered after the interviews.” What if during the course of the interview a participant feel like stopping his participation to the interview, How will you handle base on that statement you made?</p> <p>Line: 16, reads “The topic guide (see supplementary File 1)”, but the supplementary cannot be found....</p> <p>Line: 18 to 26, the statement made here should be consistent with the aim of the study, it is here, you show the readers: what are the variables you measuring and how you measuring them?</p> <p>In respect to all the forms of interviews conducted, prove to the reader how you get to the 60 participants of your study, you not clear on that aspect under data collection section.</p>
	6-7	Data Analysis
		<p>Line: 40, improve on the reference style as already advice above.</p>

		Method use to perform data analysis and retrieved patterns from the study data was well described plus the software used.
		Line: 22 to 27 , Nothing has been provided supporting any access or form of consent, permission received from London and Yorkshire children centre representatives or managers? Why not?
	18-21	Discussion
	18	Line: 8 to 12 , Please be consistent with the aim of the study pose it the same way you did in the introduction and abstract sections of the transcript.
		Acknowledgements
	21	<p>Footnotes</p> <p>Contribution</p> <p>Line: 14, authors please screen this line to find out whether “study protocol” should be used at this stage of your work, I hope you are presenting the work emanating from your data collection? You should not be referring to the protocol.</p>
		<p>Final Comments: Proper documentation and substantiation of the method used to arrive at study findings. The studies were conducted in high income country – to what extent are these findings applicable to low and middle income countries, as findings from your research is supported by studies conducted in Europe and Australia. Is United Kingdom the only target audience of this research? – This should be discussed in depth. Are these findings immediately implementable across continents? – This should be discussed? The limitations of the review should be discussed in more details. The implications of the small number of participants should be addressed as well.</p> <p>In-text references of literature need serious screening to produce and improve version as stated already on comments made in the introduction section. Material should be presented in a logical order: Title, Authors, affiliation, Abstract, keywords, Introduction, Methods, Discussion, strengths and limitations, implication of the work to research conclusion, references and appendices. In addition use data and tables from the study findings to</p>

		improve the discussed section of the manuscript.	
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REVIEWER	Robert A.C. Ruiter Dep. of Work and Social Psychology Maastricht University The Netherlands
REVIEW RETURNED	22-Dec-2016

GENERAL COMMENTS	<p>Review BMJ Open – Meningitis B vaccination</p> <p>I read the manuscript with interest and pleasure as it is on a relevant topic with not much knowledge available yet on parents' responses and the report is well-written and complete.</p> <p>The paper provides a nice set of findings supported with illustrative quotes. The sample size is sufficiently large for a qualitative study, although I seemed to have missed information about data saturation. Was it obtained? I agree with the described data analysis procedure.</p> <p>In the title I would suggest to have a full mentioning of the work meningitis, to make it easier found.</p> <p>In the results section the authors are (rightfully) careful in providing quantifications of their findings (but see l. 16, p. 13). However, this is not the case in the abstract. I would advise to avoid qualifying quantifications as for example the use of 'a minority' (write: although concerns were also raised) or 'over half' (write 'others') . Also in the conclusion section of the abstract I do not think that the size and nature of the study justify the claim that 'the MenB vaccination programme is likely to be successful' . Might be true, but larger studies are needed for these kind of claims. Also, because, as always, these kind of studies do often not attract the 'right' people but often those that already have strong opinions on the topic of investigation (see final point p. 3, strengths and limitations of this study. Finally, the introduction of the abstract seems to suggest that participants were asked to evaluate current 'communications developed by Public Health England ...'. What it seems to be is that participants were asked for their information needs. Maybe incorporate a reference to the materials written in response to these needs?</p> <p>In the discussion, there is again some quantification when justifying why only one immunization objecting parent was included. The sample was not meant to be representative, and if one worries about this group that would be a reason to include more of them to get a good understanding of their beliefs. On p. 20, do we need the first sentence in l. 7-8? This study cannot make this claim. Same for the final sentence in lines 47-53. I am not fully sure about the claim the authors intend to make, but also not whether this claim should be made at all in this paper. Wrt the materials developed, have these also been tested on effectiveness?</p>
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VERSION 1 – AUTHOR RESPONSE

RESPONSE TO REVIEWERS FOR MENB PAPER

REVIEWER 1	RESPONSE
<p>While this is a very interesting and important study to evaluate health literacy among young parents, acceptance of the introduced men b vaccination program and whether further information is needed in the country to comply with the vaccination program, there are several points that should be further addressed to strengthen the outcome of this study and provide respective information also for other countries where implementation of the men b program has/has not yet started.</p>	<p>Thank you for these positive comments. We have carefully considered your comments, many of which have prompted us to revisit key qualitative research methods texts in order to respond.</p>
<p>1. The authors describe that 60 parents were interviewed in two different areas, namely London and Yorkshire, however most of the completed interviews were summarized only from the London area (62%).</p> <p>a. Is the parent population (mainly) from London representative for the whole country and is the information given by GPs comparable in all parts of UK?</p>	<p>We are unsure what you mean by the comment “most of the completed interviewed were summarised only from the London area”. The interview data from parents in London and York were analysed together and the quotes we present to illustrate the views of parents are well balanced across the two sites (11 York, 15 London).</p> <p>a. The concept of representativeness is from a quantitative research paradigm and we take the view of Lewis et al. (in Ritchie et al. 2014. Qualitative Research Practice) that “qualitative research cannot be generalised on a statistical basis” i.e. focusing on probability sampling (p.351). We think that the qualitative concept of “inferential generalisation” addresses your point. This asks how far the findings from a study can be inferred to other settings and populations beyond the sampled one – in this study, are the views of these parents of young children generalisable to other parents of young children? This is said to be evidenced by “the degree of congruence” (p.352) or typicality of the features between the study sample/context and the sample/context to which the findings are to be applied. In this study, we observed considerable similarity in views on immunisation, Men B vaccine and information needs across parents of different ethnicity and educational background and number of children (factors we know to impact on take up of childhood immunisation). We</p>

<p>b. Compared to other surveys 60 participants seem rather a small sample size to be representative to answer the compliance/acceptance within the country towards the vaccination program and evaluate if hesitations are present. Please add how the sample size was statistically evaluated to reach the endpoints of this study.</p> <p>c. It is stated that parents of different socioeconomic/cultural and educational background were included in the study: however, the authors did not evaluate the views and finding of the study according to the different background of the parents. In particular with respect of health literacy, causes for hesitation to the vaccine and overall compliance to vaccination it would be very interesting to further evaluate the data.</p>	<p>have no reason to believe that these parents from Yorkshire and London are markedly different to other parents in the UK either in their acceptance of immunisation or their social contexts which impact on their access to immunisation services.</p> <p>The following text has now been included (p18): “We have no reason to believe that these parents from Yorkshire and London are markedly different to other parents in the UK either in their acceptance of immunisation or their social contexts which impact on their access to immunisation services.”</p> <p>Information provided by GPs can vary across the UK but this study was conducted before the introduction of the MenB vaccine and so parents will not have received information from their GP. The information that parents were asked to comment on in this study (not reported in the paper) was produced by Public Health England and was later disseminated in England and Wales.</p> <p>b. A sample of 60 participants is considered to be at the upper end of the recommended sample size for a qualitative study (see response to reviewer 3). Statistical procedures for sampling are not relevant to this type of study. We have responded to your comment on the concept of representativeness and sample size above (see 1a). We have also “toned down” our statements on the implications of our findings (see response to Reviewer 4).</p> <p>c. We explicitly looked for similarities and differences in the views of parents according to their education, ethnicity and no. of children and mention this is in several places:</p> <ul style="list-style-type: none"> ● Page 7 - “At this point similarities and differences in views across education, ethnicity and number of children were explored.” ● Page 18 – “We investigated similarities and differences in views across parents of different education, ethnicity and number of children; and only identified a small number of differing views according to the number of children a parent had”. <p>We only found two differences in views, both of which were associated with number of children rather than education or ethnicity</p> <ul style="list-style-type: none"> ● First time mothers were more likely to report seeking help immediately, often from a
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<p>Currently the authors only stated “the majority” or the “minority” of parents were of certain opinions etc. Please also add what is meant with majority and minority in % of the interviewed parents.</p> <p>d. The authors state that only 1-2% of parents are active objectors to immunization – were they also present among the interviewed parents and what educational levels, social/ethnic background did they have?</p>	<p>knowledgeable family member.</p> <ul style="list-style-type: none"> • Some parents (often with more than one child) preferred all four injections in one visit. We agree that exploring vaccine hesitancy and uptake with respect to health literacy would be interesting however that was not the aim of this study. We did not measure health literacy to enable us to compare responses across different levels of health literacy, and we did not explicitly explore the different components of health literacy with parents. <p>It is accepted practice to use terms such as minority/majority in qualitative research, they do not relate to specific proportions of the sample. Instead they are used to present the reader with a feel for the range and diversity in views within the sample. We do not think that it is appropriate to link the terms with %.</p> <p>d. It is estimated that 1-2% in the UK general population are active objectors. We had one participant (1.6%). This participant was a pregnant Asian-British mother of two children, educated to GCSE level. We have now removed reference to this as suggested by Reviewer 4.</p>
<p>2. The authors add 6 tables which illustrate the quotes of certain interviewed parents and give literally the content of the interview as parents jargonize. In order to get an additional value out of these tables the authors should rather summarize the answers of different interviewed parents to certain questions and provide the reader with a easier readable and informative content of the tables.</p>	<p>Presenting quotes in this way is standard practice for a qualitative study as such we have not made this change. We pull together (summarise) the views of parents in the text.</p>
<p>3. The authors address that vaccine hesitancy is increasing in many countries but state that they did not find evidence for this phenomenon in their study. The authors</p>	<p>Our reference to vaccine hesitancy in this paper was in relation to our study sample not in England as a whole. However, in view of the current lack of consistency over definitions of vaccine hesitancy, we have removed this from the paper as it would require considerable explanation of our interpretation of the term which is not appropriate in this paper. We now write (p21) “Based on</p>

<p>should provide some explanation why they assume that this is not a problem in England, as other countries might learn from the experiences in England.</p>	<p>parental reports of their experiences of the immunisation process, we identified elements where improvements are required.”</p>
<p>4. The authors state that the men b vaccination program has been successfully implemented but do not describe if the vaccine is generally co-administered with other routine vaccines or given at separate time points. This information should be added to share the UK experience also with other countries where men B vaccination is not yet implemented in the national vaccination program and hesitation with co-application with other vaccines exist due to frequent fever events and fear of side effects.</p>	<p>The following text has been added to the paper (page 11) with a reference to the current UK schedule. We have also included the most up to date vaccine coverage figures which suggest the vaccine has been successfully implemented. “MenB vaccine was introduced into the routine vaccine schedule in the UK in September 2015 with three doses given at 2, 4 and 12 months concomitantly with other vaccines.[37] Preliminary vaccine coverage data suggests this has successfully been integrated into the national programme with uptakes of 94.3% for one dose and 91.5% for two doses at 12 months of age.[38]”</p>
<p>5. In order to get a better overview of the outcome and relevance of the study, the authors should consider to give an information box/summary table with the most important findings relevant for successful implementation of men B vaccine and whether there were particular problems that need to be additionally addressed with more detailed information and education.</p>	<p>We have considered this suggestion and have decided not to include a summary box as we consider this goes beyond the scope of the paper. Successful implementation of any vaccine includes many common elements as we have outlined in the paper such as acceptability by parents. The specific factors relating to implementation in the UK that we explored relate to the schedule: acceptability of several vaccines being given together and the issue of parents’ views about fever arising from MenB being given concomitantly with other vaccines. As current vaccine schedules differ in other countries, issues that need addressing through research may also differ as such it would not be appropriate to be too prescriptive.</p>

REVIEWER 2	RESPONSE
<p>Methods- Overall these are described in sufficient detail to repeat the study. The authors refer to group interviews rather than focus groups but given the different approach taken in an individual interview and a focus group, it would be good to have a small amount of detail on how the group interviews were conducted, and to mention later if the method used had any discernible effect on the findings.</p>	<p>We have added the following text to the Methods (page 6): “In the group interviews the researcher asked participants in turn to respond to the interview questions”.</p> <p>This text has been added to the discussion (p18): “As with all interview studies, there may have been some “social desirability” in participants’ accounts and responses could have been influenced by others in the group interviews. These group interviews were usually with mothers attending the same mother and baby group, or groups of friends and couples. They were typically lively discussions and we observed many frank exchanges of opinion with conflicting views emerging on several issues. This is reassuring. Moreover, the parents interviewed all had very young children, they had recent experience of the immunisation process and of making immunisation decisions. However, at the time of the study the introduction of MenB vaccine had not yet been announced and so parents’ views about the vaccine, in particular whether it would be acceptable were hypothetical.”</p>
<p>Results- these are very clearly presented. My one caveat is that it is not clear if individuals took part in individual or group interviews. The codes used for participants are not specifically explained in the text (although it is clear that L is London and Y is York), however it would also be useful to know whether each quote was made in a group or individually. Presumably L007g was the 7th participant in group 7 in London, but is L001a the 1st participant in group 1, or was this an individual interview?</p>	<p>Thank you for pointing this out. We have now added “individual interview” or “group interview” to the identifier for each quote.</p>
<p>These are small details and overall the paper is clear, comprehensible and transparently written</p>	<p>Thank you for your positive review.</p>

REVIEWER 3	RESPONSE
	Thank you for your detailed comments. We have carefully considered your comments, many of which have prompted us to revisit the journal guidance and key qualitative research methods texts in order to respond.
Title: Substitute the word “to” to “towards” Add the word infants or children after the work UK.	Done We have decided not to do this it is an unnecessary additional word. Parents, by definition, are parents of children.
Keywords: Remove US word “immunization”	We think it is important to include this US spelling as people may search on that in electronic databases.
<p>Abstract: State study design in a different heading Restructure the objectives section</p> <p>Use the acronym PHE in the abstract and refer to this subsequently.</p> <p>Relook at the setting section and provide information on location, recruitment periods and how data were collected.</p> <p>Add detail on how participants were recruited.</p> <p>Reconstruct the sentence starting with “There were mixed...”</p> <p>Present numbers correctly</p>	<p>Done The objectives are now listed rather than presented within a sentence. We have moved “prior to...” to the Design section.</p> <p>It is commonly accepted that you do not use abbreviations in the abstract and that the first mention of the word in the main text is when you present the acronym. We have checked that we have done this and ensured PHE is used consistently from then on. Thank you for alerting us to this.</p> <p>This detail has been added across the Design and Settings sections.</p> <p>Added to Participants section.</p> <p>We are unclear on what your suggestion is and would prefer to keep this sentence as it is written as we are reporting out finding that parents’ views were mixed.</p> <p>The accepted practice, as you say, is to use words for 0-9 and then numbers for 10 onwards. You mention this several times in your comments but we think perhaps you have interpreted this incorrectly and your suggestion is round the wrong way. We have now checked throughout the paper and we are sure that we do this correctly.</p>

Remove heading "article summary"	Done
Introduction: Lines 6-10 Add semi-colon	Done
Place the reference before the semi-colon – and be consistent with use of references	Thank you for pointing this out but we have checked the journal guidance which states that the reference is placed "immediately after punctuation" not before. We do this correctly throughout the paper.
Use 2,4 and twelve months	As mentioned above we are confident that two, four and 12 is the correct way to present these numbers.
Use of the terms "first" and "in addition"	We have now added "second" and replaced "in addition" with "third" to improve the flow of this section.
Be consistent in use of numbers	See above comment, we believe that we do this correctly.
Put "s" after 12 month	We have edited to read "12-month"
Rephrase "we know"	This has been removed
Reorganise the flow and sequences of ideas from page 4, line 28 up to page 5, line 10 and reformulate the research problem after references (12,13) line 10 page 5	We have reviewed this and have also asked colleagues not involved with the paper to do so. We consider this is written in a logical flow and sequence.
After improving the study aims make sure the statements are consistent with the statements in lines 16,18 and 20 page 5.	Now done.
Is NICE the National Institute for Health and Care Excellence?	Yes, now written in full.
You have demarcated and highlighted	We respond to your comment on the reformulating the introduction above.

<p>adequately key concepts in this cross-sectional study but there is an area of improvement spelling out sequentially or summarising the context or background of the problem the study aimed to address in the last section of the second paragraph (introduction) and the paragraph before the last. Address it as suggested above. Look out for the way you reference your work and your punctuation.</p>	<p>We respond to your comment on referencing above. We have added some commas and semi colons in places. Thank you for pointing this out.</p>
<p>Methods: Provide information on type of study.</p> <p>Change “we set out to recruit 60 parents” to use past tense</p> <p>Improve on detail of data collection period</p> <p>What if during the course of the interview a participant wanted to stop the interview, how will you handle this based on the statement “advised that any specific questions about immunisation would be answered after the interviews”?</p> <p>The supplementary information cannot be found.</p> <p>The statements made in lines 18 to 26 should be consistent with the aim of the study –</p>	<p>We have added (page 6): “This was a cross-sectional qualitative study”.</p> <p>It is accepted practice for qualitative studies to state the intended sample size in the methods and the final sample size in the findings. As such we prefer to keep this written as an intention.</p> <p>It is standard practice for qualitative studies to describe the time period in this way, which we accept is different to how recruitment, data collection etc. would be described for a RCT. We prefer to leave this as it is, adding “8 weeks” or something similar is not necessary.</p> <p>We have now added (page 7): “The written study information reassured parents that they could end/leave the interview at any point without offering a reason why.”</p> <p>It was provided on page 26 of the original submission.</p> <p>We present here the general areas that are explored in the interview and also provide the topic guide (page 26 of the original submission). This is accepted practice for a qualitative study –</p>

<p>what variables are you measuring and how are you measuring them?</p> <p>In respect to all forms of interviews conducted, prove to the reader how you get to the participants of your study, you are not clear on that.</p> <p>Line 40 -improve reference style</p> <p>Nothing has been provided supporting access or form of consent</p>	<p>“variables” are not relevant to this type of study.</p> <p>We provide detail on recruitment on pages 6 and 7. We have added (page 7) “We did not formally record how many parents were approached and then agreed/declined to be interviewed”. We recognise that for an RCT or a survey that this would not be acceptable, however for a qualitative study we are more interested in “inferential generalisation” i.e., are the views of these parents of young children generalisable to other parents of young children? Please refer to our response to comment 1a of Reviewer 1 about this.</p> <p>See comment above, we have presented this correctly</p> <p>We have now added (page 6) “Written permission was secured to conduct the study in these CCs and “after securing permission from group leaders”. We state (page 8) “parents gave written informed consent to take part.”</p>
<p>Discussion: Be consistent with the aim of the study, pose it in the same way as in the abstract and introduction</p>	<p>Reviewer 4 also suggested that we were clearer on our study objectives. They have been reworded slightly and are now consistent throughout the paper.</p>
<p>Contribution: Do not refer to protocol</p>	<p>We have changed protocol to “methods”.</p>
<p>Final Comments: Proper documentation and substantiation of the method used to arrive at study findings. The studies were conducted in high income country – to what extent are these findings applicable to low and middle income countries, as findings from your research is supported by studies conducted in Europe and Australia. Is United Kingdom the only target audience of this research? – This should be discussed in depth. Are these findings immediately</p>	<p>We have added the following text (page 21): “Our findings may be useful for other high income countries when considering the implementation of a MenB vaccine programme in highlighting potential issues that need addressing. However, in view of differences between population groups in terms of attitudes to and acceptability of specific vaccines, it would be important to explore whether other issues may apply that could influence vaccine acceptance.”</p>

implementable across continents? – This should be discussed? The limitations of the review should be discussed in more details.	
The implications of the small number of participants should be addressed as well.	The acceptable sample size for a qualitative study will depend a number of issues. For example, if participants are similar in relation to the topic being studied (e.g. parents of young children talking about immunisation) then a smaller sample is expected include all the internal diversity sought. More general guidance on an acceptable sample size for an interview study varies from 12-60 or 20-50 (Ritchie et al. 2014. Qualitative Research Practice, p117). Our sample of 60 parents is at the upper limit of these recommendations and cannot be considered to be small.
In-text references of literature need serious screening to produce and improve version as stated already on comments made in the introduction section. Material should be presented in a logical order: Title, Authors, affiliation, Abstract, keywords, Introduction, Methods, Discussion, strengths and limitations, implication of the work to research conclusion, references and appendices. In addition use data and tables from the study findings to improve the discussed section of the manuscript.	Addressed above We have revisited the guidance for this journal and made small edits where required e.g. inserted “Design” into the abstract. The paper is slightly over 4000 words and has 6 tables (instead of 5) however these recommendations are said to be flexible. There is a recommendation for structuring the discussion – we include all of the recommended sections but have chosen to present these in a slightly different order as we believe this improves the flow of the discussion. We have gone back and checked that the themes in the findings are all mentioned in the discussion section. We are confident that they are and that they are discussed against the small number of other MenB studies.

REVIEWER 4	RESPONSE
I read the manuscript with interest and pleasure as it is on a relevant topic with not much knowledge available yet on parents’ responses and the report is well-written and complete.	Thank you for this positive review.
The paper provides a nice set of findings supported with illustrative quotes. The	Thank you. We write on page 7 “Whilst the sample size was pre-specified data saturation occurred in that no new relevant knowledge emerged in the final few interviews.”

<p>sample size is sufficiently large for a qualitative study, although I seemed to have missed information about data saturation. Was it obtained? I agree with the described data analysis procedure.</p>	
<p>In the title I would suggest to have a full mentioning of the word meningitis, to make it easier found.</p>	<p>The vaccine MenB protects against group B meningococcal disease which causes both meningitis and septicaemia, we have added 'meningococcal group B' to the title to make it clearer.</p>
<p>In the results section the authors are (rightfully) careful in providing quantifications of their findings (but see l. 16, p. 13). However, this is not the case in the abstract. I would advise to avoid qualifying quantifications as for example the use of 'a minority' (write: although concerns were also raised) or 'over half' (write 'others').</p>	<p>We have made your suggested changes to the wording in the abstract.</p>
<p>Also in the conclusion section of the abstract I do not think that the size and nature of the study justify the claim that 'the MenB vaccination programme is likely to be successful' . Might be true, but larger studies are needed for these kind of claims. Also, because, as always, these kind of studies do often not attract the 'right' people but often those that already have strong opinions on the topic of investigation (see final point p. 3, strengths and limitations of this study.</p>	<p>We agree that on of the basis of these findings alone we cannot conclude that MenB will be successful. However, in light of successful introduction of other vaccines (Hib, MenC, PCV) to prevent bacterial meningitis and septicaemia and the positive view of the parents in this study, it seems likely that the programme will be a success. We have now added into the abstract: "successful introduction of other vaccines to prevent bacterial meningitis and septicaemia"</p>
<p>Finally, the introduction of the abstract seems to suggest that participants were asked to evaluate current 'communications developed by Public Health England ...'. What it seems to be is that participants were asked for their information needs. Maybe</p>	<p>Participants were asked to evaluate current communications developed by Public Health England however we do not report those findings in this paper (see page 8 where we write "Views collected on the draft leaflets are not presented here as these were fed back directly to PHE."). On reflection, this is potentially confusing for a reader. We have made the following changes:</p> <ul style="list-style-type: none"> • Abstract now reads" (2) seek views on their information needs prior to the introduction of serogroup B meningococcal (MenB) vaccine (Bexsero®) into the UK childhood immunisation

<p>incorporate a reference to the materials written in response to these needs?</p>	<p>schedule.”</p> <ul style="list-style-type: none"> • Deleting the aforementioned sentence from page 8 and now writing on page 5 “We also sought views on their information needs which included commenting on the content of communications developed by Public Health England (PHE). These comments are not presented here as they were fed back directly to PHE. • First sentence of the discussion now reads: This study explored parents’ knowledge of and attitudes to MenB disease and of MenB vaccine, and parents’ information needs....”
<p>In the discussion, there is again some quantification when justifying why only one immunization objecting parent was included. The sample was not meant to be representative, and if one worries about this group that would be a reason to include more of them to get a good understanding of their beliefs.</p> <p>On p. 20, do we need the first sentence in l. 7-8? This study cannot make this claim. Same for the final sentence in lines 47-53. I am not fully sure about the claim the authors intend to make, but also not whether this claim should be made at all in this paper.</p> <p>Were the materials developed, have these also been tested on effectiveness?</p>	<p>We have now removed “Nationally, an estimated 1-2% of parents are active objectors to immunisation[22] which is consistent with the inclusion of one parent in this study”.</p> <p>We have deleted the statement on page 20. We have inserted the following text on page 21: “In view of the successful implementation of other vaccines to prevent meningitis and septicaemia (Hib, MenC, PCV) [35] and on the basis that parents’ perceptions of the severity of a disease is an important determinant of vaccine uptake [19] the prospects for the successful introduction of MenB vaccine seem good”.</p> <p>Our study findings and parents’ comments on the materials (not reported in this paper) were fed back to PHE and some changes were made to the leaflets before they were distributed nationally when MenB was introduced into the childhood immunisation programme. We do not know if the final resources were evaluated.</p>

VERSION 2 – REVIEW

REVIEWER	Wiedermann Ursula Medical University Vienna, Austria
REVIEW RETURNED	26-Feb-2017

GENERAL COMMENTS	The authors have addressed and answered all questions raised by the reviewers and accordingly revised in the manuscript. Therefore my recommendation is "acceptance of the manuscript".
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REVIEWER	Martel JUvet Chachou University of Stellenbosch, South Africa
REVIEW RETURNED	14-Feb-2017

GENERAL COMMENTS	General comment on the updated manuscripts content: It is important to thank authors for their responses to reviewers' comments on the document titled: "UK parents' attitudes towards meningococcal group B (MenB) Vaccination: A qualitative analysis" revised manuscript version. After reading carefully the revised version, it is important to acknowledge that authors had strengthened the new manuscript quality with great responses against reviewer's comments. This version content is now more comprehensive, readable and flowing. This revised manuscript version on my side meets the acceptable academic requirements to be placed in the public domain for information sharing and contribution in the immunization/vaccination field, as it is now technically correct and competent for publication. Authors had clearly and succinctly counter any comments made in the previous manuscript version.
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VERSION 2 – AUTHOR RESPONSE

We have sought advice from an English language teacher with 25 years' experience to help us improve the quality of the English in the manuscript. Based on her advice we have shortened many paragraphs, split some sentences into two, added commas to separate clauses and reworded some sentences to improve readability. We have also used bullet points or added a colon where we are presenting longer lists of responses. We are confident that the manuscript has been improved.

We now use 2 identifiers for participants - ethnicity and immunisation status of their children. We have retained the group/individual interview detail as that was requested by a reviewer.