

PEER REVIEW HISTORY

BMJ Paediatrics Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Reducing Covid-19 risk in schools: a qualitative examination of secondary school staff and family views and concerns in the South West of England
AUTHORS	Lorenc, Ava Kesten, Joanna Kidger, Judi Langford, Rebecca Horwood, Jeremy

VERSION 1 – REVIEW

REVIEWER	Reviewer name: Dr. Kim Jose Institution and Country: Univ Tasmania, Menzies Institute for Medical Research, Australia Competing interests: None
REVIEW RETURNED	21-Dec-2020

GENERAL COMMENTS	<p>In this current situation it is important that schools and public health officials have some feedback about proposed mitigation measures and their potential impact. This a timely paper with respect to implementing COVID mitigation measures in schools. The findings are of value and I have suggested revisions below that will strengthen the paper.</p> <p>Abstract</p> <p>Final sentence describing the methods is an incomplete sentence (line 22, page 2)</p> <p>Conclusion – The final sentence indicates that this study demonstrates the ‘feasibility’ of introducing measures. This is not a feasibility study – suggest changing this wording.</p> <p>Introduction</p> <p>Line 61: Please reword sentence to so that the study design is first and then the site of the study</p> <p>This qualitative study undertaken in secondary schools aimed to</p> <p>Methods</p> <p>Setting</p> <p>Make it clear that this study was undertaken prior to schools in the UK reopening after extended closures for COVID-19 and the summer break.</p> <p>Sampling and recruitment</p> <p>How many of the 21 schools contacted agreed to participate? Did all that agreed recruit some participants?</p> <p>Recruitment information on page 4 states recruitment through schools and local community organisations. Could you provide more information about the type of community organisations? How many individuals did you recruit in this way? Table 1 only lists schools.</p> <p>How did schools send information to students? Was it sent to all families/students in the identified year groups for these schools or did schools select individual families?</p> <p>Interviews</p> <p>Could you provide a summary of the number of interviews conducted with single individuals and those classified as group interviews? Where a student or staff member chose to be interviewed with a friend or parent or colleague were both enrolled</p>
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	<p>in the study? Could a student participate and have a friend/parent present who was not enrolled in the study? Providing the interview schedule</p> <p>Could you provide the topic guides? Were these modified for the different participant groups? Did interviews last on average 45 minutes or did they all last 45 minutes?</p> <p>Of what value was the shopping voucher for participants? Did all participants receive one?</p> <p>Analysis. Can you provide more information about what you mean when you say you analysed interview transcripts collaboratively? It is unclear if all authors were involved in the analysis, if you coded all the transcripts as a group or if you each coded some transcripts and then compared and reviewed your coding.</p> <p>Results</p> <p>Participants – you categorise participants here as school staff, families, students and parents. The abstract, study aims and setting only categorise participants as students, parents and school staff. I am unsure when you indicate ‘families’ what this means – are these parent/student dyads? Could you please clarify this? How many parent/student dyads were enrolled in the study and how many individual students and parents? Currently, Table 1 does not reflect these different participant groupings nor do the number of participants in Table 1 align with the narrative about number of participants at the top of page 6. Again the table only lists schools – were no participants recruited via community organisations?</p> <p>Because I wasn’t sure what families refers to it makes interpretation of the results harder. At present it seems that the voices of parents and staff are strongly represented but the student voice less so. For example, what how did students think schools should respond to cases of COVID-19 and test and trace processes? The results would be stronger if the student voice was clearer throughout the results. It appeared that communication was a key factor that cut across all the themes – while this is discussed under facilitators this finding could be strengthened in the presentation of the results. It may help to restructure the results so that the facilitators and barriers come after the theme School management of COVID-19. Facilitators and barriers to what exactly? Could these theme headings be expanded. Was there concern from staff about whether schools were going to be adequately resourced to implement restrictions (enough hand sanitiser) and whether or not they were going to be required to enforce the restrictions and how they would do this? Some of the quotes provided suggest this might be concern for staff.</p> <p>The dot points provided about concerns relating to the test and trace system might be better captured in narrative form (top page 9).</p> <p>Review sentence starting with Most aimed ... (line 127, page 6) it could be rewritten to be clearer (and insert socially to replace social).</p> <p>Discussion</p> <p>The authors could strengthen their argument about the different types of concerns raised by staff, parents, students, people from BAME backgrounds and the need for targeted and tailored messaging/communication to address these concerns. The general statement under implications (lines 250 – 251 on page 11) do not convey this.</p> <p>Line 259, page 11 Rewrite to say ‘our findings indicate there is support for schools staying open – to say that the findings support schools staying open when schools are not yet is somewhat misleading.</p> <p>Limitations – these read like a list and incomplete sentences again. Please revise how these are presented. What impact (if any) do the authors think these limitations have had on their findings and how the results are interpreted?</p> <p>Implications – See comment above on communication. Who should be providing the consistent information? Is it the school of government or both?</p> <p>Conclusions</p> <p>See comment above on tailoring communication. Would not</p>
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	<p>adequate resourcing for the measures be another factor that was discussed that is important for implementing the mitigation measures?</p> <p>Minor edits: Line 71 page 4 insert secondary after 21 Can you provide a sentence outlining how you have chosen to represent the quotes in the tables i.e. presumably they are pseudonyms, and S refers to school etc. Insert 'who' on line 116, page 6 between or had Insert 'to' between due forgetting, line 232, page 10 Line 268/269 rewrite the sentence starting Particularly – this could be edited to more succinct than is currently written.</p>
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REVIEWER	<p>Reviewer name: Dr. Cristina Sotomayor-Castillo Institution and Country: United Kingdom of Great Britain and Northern Ireland Competing interests: None</p>
REVIEW RETURNED	25-Dec-2020

GENERAL COMMENTS	<p>-This is a timely qualitative analysis of a small sample of students, families and school staff experiences during the covid pandemic. -I am missing details regarding the specific qualitative approach/design that was undertaken to analyse this data. From an academic perspective, I wonder if the methodology is a straightforward qualitative thematic analysis approach such as Braun & Clark (it appears to be, as the interpretation of the findings are presented more as a descriptive thematic analysis). -Also within the methods, clarify the expertise of the interviewer as well as the interview guidelines (themes/topics). -No use of Nvivo software to facilitate the content analysis? -What about the interviews transcription? details - Methods should explicitly list inclusion/exclusion criteria regarding participants (this information is presented briefly as part of limitations -Please review results about stigma and later discussion. There seems to be a discrepancy. -Presentation of themes is a bit confusing. - Table 1 and schools list as described in methods and early results. please review. It also needs a total column or row (it would facilitate reading it)</p>
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REVIEWER	<p>Reviewer name: Dr. Sharif Ismail Institution and Country: Immunisation and Countermeasures Division, Public Health England, London, United Kingdom of Great Britain and Northern Ireland Competing interests: None</p>
REVIEW RETURNED	31-Dec-2020

GENERAL COMMENTS	<p>Thank you for the opportunity to review this paper. This is an important piece of work as, to my knowledge, one of the first published, qualitative pieces of evidence on perceptions of risk and attitudes towards mitigation measures in schools in England across different stakeholder groups - I learnt a lot from it. I think the paper can be improved in a number of ways, with some suggestions to the authors below.</p> <p>Overarching comments: 1. Please clarify the precise time period for the study: this is central because it needs to be clear to the reader what proportion of the interviewees spoke based on first hand knowledge of measures actually having been implemented during the summer mini term. In lines 47-8 the authors describe lockdown measures but do not make clear that for the summer mini-term, years 10 and 12 (in secondary</p>
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	<p>schools) returned – albeit with varying levels of attendance – but other year groups did not. So a proportion of the interviewees would have been giving views based on what they anticipated would happen at the point when everyone returned in September, with no prior knowledge of the measures in practice. It looks like data collection was done over the summer before any schools had re-opened.</p> <p>2. Please clarify why you focused on secondary schools only. There are good reasons for doing so in terms of transmission risk and other factors – but the rationale needs clarification in the introduction as the responses from a primary school or early years audience would have been different in important ways.</p> <p>3. Please clarify the process by which the framework which guided your analysis was developed. Specifically, did this draw on existing guidance in England only, or wider literature exploring the range of non-pharmaceutical interventions that could be implemented in schools (see e.g. this ECDC summary report: https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-in-children-and-the-role-of-school-settings-in-transmission-first-update_0.pdf)? This is important to help the reader understand, for example, participant responses on test and trace systems – what kinds of approaches were they being asked to comment on? Further detail on this in the methods section or intro/background would be helpful.</p> <p>4. Some important limitations need to be made clearer – highlighted across the points below.</p> <p>Specific comments, by section:</p> <p>Abstract:</p> <p>Line 24: helpful to specify here, if you can, more detail about the type of school locations involved e.g. urban/rural; and something summative about levels of deprivation (especially since you have these data in table 1 anyway)</p> <p>Introduction:</p> <p>Lines 47-8: see above – please clarify here that some secondary school years did open for the summer mini term, including one of the years you targeted for recruitment (year 10).</p> <p>Line 60-1: see above – please clarify the focus on secondary schools and not primary schools</p> <p>Methods:</p> <p>Line 68: the SW has been an area of generally lower community transmission by comparison with the rest of England. I would suggest highlighting this somewhere (possibly in the limitations) as it may well have influenced risk-perception among participants by comparison with those living in other parts of the country. Can you give some background stats on what was happening in the SW at the time the study was conducted? The PHE weekly COVID surveillance reports carry these data: https://www.gov.uk/government/publications/national-covid-19-surveillance-reports</p> <p>Line 71: how did you identify schools with higher BAME proportions? Was a threshold used or did you select schools with the highest proportions?</p> <p>Lines 73-4: why focus on years 8 and 10? Please explain the rationale for this. If the intent was to contrast the experiences of those without lived experience of restrictions in schools (year 8) with those who potentially did have this (year 10) during the summer mini-term, then this needs to come through more clearly in the results and discussion.</p> <p>Line 87: can you explain what you mean by “a test and trace system” here? Is this as distinct from T&T as operated during this period, and if so how?</p> <p>Lines 98-9: was double coding performed? If it was not, and no other form of coding verification was performed, this should</p>
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	<p>probably be highlighted as a limitation. Line 99: see above – please specify how the framework for analysis was generated</p> <p>Results: Line 108: the breakdown here is helpful but it is perhaps surprising to see that no other school staff in key groups (e.g. teaching assistants, admin staff or related) were interviewed. Was there a reason for this? The perspectives of these groups may well have been different to senior and teaching staff. Line 134: “play out in practice” – again, important to be clear about the proportion of study participants who were speaking about what they anticipated would happen from September onwards, as opposed to those who had lived experience of trying to implement these measures from earlier in the year. Line 144: the cost estimate – can you say anything more about how “typical” this school was in terms of the size or nature of the setting, or the size of the bill they report? It would be useful to know if this was a real outlier, or potentially representative of the sample overall. Line 158-9: was availability of PPE in SEN settings discussed at all? Line 171ff: can you say anything more about who was talking about these interventions? Some seem very much like suggestions from teachers, others from parents/carers – it would be good to get a stronger, general sense of who was advocating for what. Line 192: it is not clear to me whether this section is concerned with reporting to schools, or to the national T&T system. Can you clarify?</p> <p>Discussion: Line 233: there is a suggestion here that expanding the school estate through e.g. portacabins would be a way to deal with social distancing – but (I may have missed it) I can find no evidence in the results section or the quotes tables to indicate a participant said this. Can you clarify? I’m not convinced that it would substantively have improved ability to maintain social distancing given the site size constraints in many schools. Line 239-42: the limitations section needs to be expanded to cover some of the points raised above, but in addition to note the geographical focus of the study – which was not, in epidemiological terms, necessarily typical of England at the time the study was conducted, and also that the epidemiological picture in July-Sept was much less severe nationally than it is now.</p> <p>Finally a speculative point: there is not much reference in the paper to evidence from other countries and how this study relates to that. Do you think your findings have potential relevance elsewhere, and if so how?</p>
REVIEWER	<p>Reviewer name: Dr. Cheng-Hsun Chiu Institution and Country: Division of Pediatric Infectious Diseases, Department of Pediatrics, Chang Gung Memorial Hospital, 5 Fu-Hsin Street, Kweishan, Taoyuan, Taiwan Competing interests: None</p>
REVIEW RETURNED	28-Dec-2020
GENERAL COMMENTS	<p>Although children were less susceptible to the COVID-19, they still played a role in disease transmission upon the school re-opened in the United States, United Kingdom, and South Korea. The pediatric cases made up 10% of all US cases in October, compared with 2% in April, indicating a progressive increase of pediatric cases along the progression of the epidemic. The dilemma between the negative impact of childhood mental health due to the lack of social group activity and the potential increased disease transmission in school is a vital issue for both pediatricians and school staff. The latter tends to deal with the issue in a more ideal way to keep mandatory education going on even amid the epidemic. The study truly reflects</p>

	the different opinions among different populations on school closure amid the epidemic. As a pediatric ID specialist, I must say that when the epidemic evolves to an explosive stage in the community, social distancing that includes school closure remains to a mandatory measure for a better control of the COVID-19 dissemination. Can authors re-iterate this point in the Discussion of the article?
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VERSION 1 – AUTHOR RESPONSE

Response to reviewers

Reviewer: 1

In this current situation it is important that schools and public health officials have some feedback about proposed mitigation measures and their potential impact. This a timely paper with respect to implementing COVID mitigation measures in schools. The findings are of value and I have suggested revisions below that will strengthen the paper.

Thank you for your positive feedback.

Abstract

Final sentence describing the methods is an incomplete sentence (line 22, page 2)

On page 2 this sentence has been amended to “Recruitment used school communication, community organisations and snowball sampling in the South West of England.”

Conclusion – The final sentence indicates that this study demonstrates the ‘feasibility’ of introducing measures. This is not a feasibility study – suggest changing this wording.

Thank you for highlighting this. We have amended “feasibility” to “acceptability” on page 2.

Introduction

Line 61: Please reword sentence to so that the study design is first and then the site of the study This qualitative study undertaken in secondary schools aimed to

Thank you. We have made this change on page 4. It now reads: This qualitative study undertaken in secondary schools aimed to rapidly explore student, parent/carers and school staff attitudes towards school Covid-19 mitigation measures, views on managing Covid-19 infections in schools and opinions about student groups who may be particularly affected by these measures.

Methods

Setting

Make it clear that this study was undertaken prior to schools in the UK reopening after extended closures for COVID-19 and the summer break.

We have now clarified the timing of the study on in the Methods on page 4: “The study was conducted during the school summer holidays immediately following school campus closures and the first week of the new academic year (between July and September 2020), with 11-16 year olds, parents and school staff recruited via secondary schools and local community organisations in the South West of England.”

Sampling and recruitment

How many of the 21 schools contacted agreed to participate? Did all that agreed recruit some participants?

We have now added to page 7 under Results and Participants that “Three of the 21 contacted schools participated by sending information to potential participants, with participants from an additional 11 schools recruited via other methods.”

Recruitment information on page 4 states recruitment through schools and local community organisations. Could you provide more information about the type of community organisations? How many individuals did you recruit in this way? Table 1 only lists schools.

We have added the following on page 4: We also advertised the study via community organisations (e.g. BAME support groups, youth groups) in areas of higher BAME groups/deprivation (newsletters, social media, and direct contact with members) and or snowball sampling (including families inviting friends to be interviewed with them or separately).

We have clarified in the results section on page 7 that we did not track where participants heard about the study: “We did not record how participants heard about the study.”

How did schools send information to students? Was it sent to all families/students in the identified year groups for these schools or did schools select individual families?

Schools were asked to send the study information to all pupils in Year 8 and Year 10 using their usual communication methods. We have given examples of “email/newsletter” on page 4 for clarity. “Participating schools sent study information to potential participants (e.g. by email/newsletter).”

Interviews

Could you provide a summary of the number of interviews conducted with single individuals and those classified as group interviews? Where a student or staff member chose to be interviewed with a friend or parent or colleague were both enrolled in the study? Could a student participate and have a friend/parent present who was not enrolled in the study?

We have clarified in the Methods (page 4) that recruitment included families inviting friends to participate either with them or separately, thus anyone taking part in an interview was ‘enrolled’ and their interview data used: “...and used snowball sampling (including families inviting friends to participate either with them or separately).” We have also added this sentence in the results section on page 7: “For family interviews 9 were one parent and one child, 6 one parent only, 3 one parent and two children, and one was two families together (friends and one parent each).”

Providing the interview schedule Could you provide the topic guides? Were these modified for the different participant groups?

We have clarified on page 5 that the topic guides were different for staff/families and have provided the topic guides as supplementary materials: “Topic guides (see Supplementary materials) were tailored for staff or families, but both covered attitudes towards UK recommendations at the time (social distancing, school hand-hygiene and infection control strategies), and acceptability of school Covid-19 testing, and were used flexibly, allowing exploration of issues raised by participants.”

Did interviews last on average 45 minutes or did they all last 45 minutes?

We have changed this to 30-60mins (please see page 4).

Of what value was the shopping voucher for participants? Did all participants receive one?

On page 5, we have added that these were offered to all participants and the value (£10 for family members, £20 for staff): “We offered participants a shopping voucher as thanks for their time (£10 for each family member; £20 for staff).”

Analysis. Can you provide more information about what you mean when you say you analysed interview transcripts collaboratively? It is unclear if all authors were involved in the analysis, if you coded all the transcripts as a group or if you each coded some transcripts and then compared and reviewed your coding.

In response to this and other reviewers’ comments, we have provided more detailed information about the analysis process on page 5: “Producing timely reports for local and national stakeholders necessitated rapid analysis (reports available at <https://arc-w.nihr.ac.uk/research/projects/the-back-to-school-study>). The framework method¹⁵ was used to analyse the data. AL used anonymised interview notes to develop an initial coding framework in Microsoft EXCEL. Codes reflecting the topic guide headings and inductive coding were combined to produce overarching themes. Data within each code were summarised. The framework was further developed using verbatim anonymised interview transcripts. Each author independently read through a subset of interviews and added new codes and quotes to the existing framework, discussing these additions as a team. Framework analysis was appropriate for the specific a priori questions and limited time frame.”

Results

Participants – you categorise participants here as school staff, families, students and parents. The abstract, study aims and setting only categorise participants as students, parents and school staff. I am unsure when you indicate ‘families’ what this means – are these parent/student dyads? Could you please clarify this? How many parent/student dyads were enrolled in the study and how many individual students and parents? Currently, Table 1 does not reflect these different participant groupings nor do the number of participants in Table 1 align with the narrative about number of participants at the top of page 6.

We have added this sentence on page 7 giving the composition of the family interviews at the start of the results: “For family interviews 9 were one parent and one child (one where child was interviewed alone so an additional researcher was present), 6 one parent only, 3 one parent and two children, and one was two families together (friends and one parent each).” We have also corrected a mistake that there were in fact 15 staff not 13, and a footnote in Table 1 to clarify the number of families.

Again the table only lists schools – were no participants recruited via community organisations?

We did not record where families heard about the study from but we did ask participants which school they or their child attended.

Because I wasn’t sure what families refers to it makes interpretation of the results harder. At present it seems that the voices of parents and staff are strongly represented but the student voice less so. For example, what how did students think schools should respond to cases of COVID-19 and test and trace processes? The results would be stronger if the student voice was clearer throughout the results.

We have provided more detail on what ‘families’ were on page 7. We have added more student quotes to Table 4 to strengthen their voice. We have clarified on page 7 that student views are captured within the reporting of family views where there is agreement between parents and student participants: “students and parents (hereafter referred to as

families where there is agreement in views)". We report parent-only views on a few occasions when these differ from the young people.

It appeared that communication was a key factor that cut across all the themes – while this is discussed under facilitators this finding could be strengthened in the presentation of the results. It may help to restructure the results so that the facilitators and barriers come after the theme School management of COVID-19.

In response to this and other comments, we have added to and strengthened our comments about the importance of communication (page 12) in the Discussion. As interviews focused primarily on risk reduction measures, we feel our structure focusing on facilitators and barriers to these measures, followed by how schools would manage cases if/when they occurred, better represents our data.

Facilitators and barriers to what exactly? Could these theme headings be expanded.

The facilitators and barriers headings are subheadings under "School risk reduction measures". We have added "regarding risk reduction measures" to clarify this.

Was there concern from staff about whether schools were going to be adequately resourced to implement restrictions (enough hand sanitiser) and whether or not they were going to be required to enforce the restrictions and how they would do this? Some of the quotes provided suggest this might be concern for staff.

Yes, a few staff were concerned about resources – this is described under Barriers/Concerns (page 8) "Staff and family concerns about hand-hygiene/infection control were mostly practical, including: availability of resources (sanitiser/soap, sinks, cleaners) - one school estimated a £40k cost of hand sanitiser". We have also added more detail on this in the Discussion (page 13): "This may include additional funding and resources to ensure that staff and pupils can adhere to the current government advice)". In terms of enforcing the restrictions this was a concern for some staff, we have added the following on page 8: "A few staff were concerned about rule enforcement methods".

The dot points provided about concerns relating to the test and trace system might be better captured in narrative form (top page 9).

We used this format to comply with the journal's word count.

Review sentence starting with Most aimed ... (line 127, page 6) it could be rewritten to be clearer (and insert socially to replace social).

Thank you we have reworded this sentence (page 7 -8): "Most aimed to socially distance and some had almost no social contact outside their household during the first lockdown, some enjoying staying home".

Discussion

The authors could strengthen their argument about the different types of concerns raised by staff, parents, students, people from BAME backgrounds and the need for targeted and tailored messaging/communication to address these concerns. The general statement under implications (lines 250 – 251 on page 11) do not convey this.

On the whole there was commonality in view between participants. We have added one difference regarding stigma (page 9): "Several families, mostly BAME families, anticipated possible stigma around Covid-19 diagnosis". We have also added where our recommendations apply only to staff (page 13): "training staff to meet the emotional and mental health needs of students"; "Barriers to mitigation measure compliance may be

addressed through clear, consistent information and reminders, and engendering a sense of collective responsibility. This applies both to communication from schools to families and from government to schools - our findings demonstrate that government have provided ambiguous recommendations rather than clear instructions which has left schools having to interpret them. Clear communications is needed from government based on latest scientific evidence.” (page 12)

Line 259, page 11 Rewrite to say ‘our findings indicate there is support for schools staying open – to say that the findings support schools staying open when schools are not yet is somewhat misleading.

We have changed this to ‘returning to face-to-face teaching for all’ (page 13) – we are avoiding saying schools were shut as they were not – they were open to children of keyworkers (e.g. healthcare workers) etc and the rest of the children were taught remotely.

Limitations – these read like a list and incomplete sentences again. Please revise how these are presented.

Thank you for your feedback. We have rewritten the limitations on page 12:

“This study was conducted in a limited time frame in response to an urgent need to understand attitudes towards school Covid-19 mitigation measures and views on managing infections in schools. As a result, we took a pragmatic approach, capturing one timepoint in a rapidly changing field. Several limitations must be acknowledged. During the study, the community Covid-19 transmission rates in the research setting were relatively low; this context may have influenced participants risk perceptions. Furthermore, the sample lacks those with English as an additional language (recruitment materials were translated); those disengaged from school (recruitment was mainly via schools); and those without internet access/computers (due to Covid-19 restrictions we mainly used online recruitment). In addition, the majority of parents interviewed were mothers. Our findings have identified useful insights with important implications for schools, but should be interpreted with these limitations in mind.”

What impact (if any) do the authors think these limitations have had on their findings and how the results are interpreted?

Please see above. We now emphasise the need to interpret our findings with caution given the limitations.

Implications – See comment above on communication. Who should be providing the consistent information? Is it the school of government or both?

We have added to the third para of Implications (page 12) that this applies both to communication from schools to families and from government to schools.

“This applies both to communication from schools to families and from government to schools - our findings demonstrate that government have provided ambiguous recommendations rather than clear instructions which has left schools having to interpret them. Clear communications is needed from government based on latest scientific evidence.”

Conclusions

See comment above on tailoring communication. Would not adequate resourcing for the measures be another factor that was discussed that is important for implementing the mitigation measures?

We have added to the final paragraph of Implications (page 13) more detail about funding/resources needed, and to the conclusion:

“This may include additional funding and resources to ensure that staff and pupils can adhere to the current government advice, and access to home learning resources for the most vulnerable.”

Minor edits:

Line 71 page 4 insert secondary after 21

Thank you, we have made this revision.

Can you provide a sentence outlining how you have chosen to represent the quotes in the tables i.e. presumably they are pseudonyms, and S refers to school etc.

Yes. We have added the following to the tables “Table 2: Quotes on concern about risk of Covid-19 (using pseudonyms and S: School)”.

Insert ‘who’ on line 116, page 6 between or had.

Thank you, we have made this revision.

Insert ‘to’ between due forgetting, line 232, page 10 Line 268/269 rewrite the sentence starting Particularly – this could be edited to more succinct than is currently written.

Thank you, we have made this revision.

Reviewer: 2

-This is a timely qualitative analysis of a small sample of students, families and school staff experiences during the covid pandemic.

-I am missing details regarding the specific qualitative approach/design that was undertaken to analyse this data. From an academic perspective, I wonder if the methodology is a straightforward qualitative thematic analysis approach such as Braun & Clark (it appears to be, as the interpretation of the findings are presented more as a descriptive thematic analysis).

To facilitate rapid reporting, we followed the framework method (a type of thematic analysis) described by Gale et al. 2013. We have provided more detail about the analysis under the Analysis section on page 5:

The framework method was used to analyse the data. AL used anonymised interview notes to develop an initial coding framework in Microsoft EXCEL. Codes reflecting the topic guide headings and inductive coding were combined to produce overarching themes. Data within each code were summarised. The framework was further developed using verbatim anonymised interview transcripts. Each author independently read through a subset of interviews and added new codes and quotes to the existing framework, discussing these additions as a team. Framework analysis was appropriate for the specific a priori questions and limited time frame.

-Also within the methods, clarify the expertise of the interviewer as well as the interview guidelines (themes/topics).

We have provided the topic guide as a supplementary file and added to Methods (page 4) that the interviewer was “an experienced qualitative researcher.”

-No use of Nvivo software to facilitate the content analysis?

No, we used Excel to facilitate rapid analysis and as a useful way to structure the analysis.

-What about the interviews transcription? Details

We have added 'verbatim' to page 5.

- Methods should explicitly list inclusion/exclusion criteria regarding participants (this information is presented briefly as part of limitations

Thank you, we have added the following to page 4: "We included staff (teachers, senior leaders/headteachers, SENCOs, or those with a role in infection control) or students (aged 11-16) and their parents/carers, who attended Bristol secondary state school."

-Please review results about stigma and later discussion. There seems to be a discrepancy.

We were a little unsure about this comment but took it to mean that the Discussion doesn't mention family concerns about stigma and have added that families anticipated possible stigma to the first paragraph of the Discussion (page 11).

-Presentation of themes is a bit confusing.

In response to reviewer 1 we have clarified the theme names/section titles, which we hope helps with this.

- Table 1 and schools list as described in methods and early results. please review. It also needs a total column or row (it would facilitate reading it)

We have amended the table to include totals and added the following to page 7 in the Results: "Three of the 21 contacted schools participated by sending information to potential participants, with participants from an additional 11 schools recruited via other methods."

We also corrected our mistake in the text that there were 15 not 13 staff participants.

Reviewer: 3

Although children were less susceptible to the COVID-19, they still played a role in disease transmission upon the school re-opened in the United States, United Kingdom, and South Korea. The pediatric cases made up 10% of all US cases in October, compared with 2% in April, indicating a progressive increase of pediatric cases along the progression of the epidemic. The dilemma between the negative impact of childhood mental health due to the lack of social group activity and the potential increased disease transmission in school is a vital issue for both pediatricians and school staff. The latter tends to deal with the issue in a more ideal way to keep mandatory education going on even amid the epidemic. The study truly reflects the different opinions among different populations on school closure amid the epidemic. As a pediatric ID specialist, I must say that when the epidemic evolves to an explosive stage in the community, social distancing that includes school closure remains to a mandatory measure for a better control of the COVID-19 dissemination. Can authors re-iterate this point in the Discussion of the article?

Thank you for the kind comments. We have added "Even with the implementation of such measures, as demonstrated in the UK in early 2021, stopping face-to-face teaching may be a necessary last resort to reduce covid-19 transmission" to the second paragraph of Implications (page 12).

Reviewer: 4

Thank you for the opportunity to review this paper. This is an important piece of work as, to my knowledge, one of the first published, qualitative pieces of evidence on perceptions of risk and attitudes towards mitigation measures in schools in England across different stakeholder groups - I learnt a lot from it. I think the paper can be improved in a number of ways, with some suggestions to the authors below.

Thank you, so glad you found it useful.

Overarching comments:

1. Please clarify the precise time period for the study: this is central because it needs to be clear to the reader what proportion of the interviewees spoke based on first hand knowledge of measures actually having been implemented during the summer mini term. In lines 47-8 the authors describe lockdown measures but do not make clear that for the summer mini-term, years 10 and 12 (in secondary schools) returned – albeit with varying levels of attendance – but other year groups did not. So a proportion of the interviewees would have been giving views based on what they anticipated would happen at the point when everyone returned in September, with no prior knowledge of the measures in practice. It looks like data collection was done over the summer before any schools had re-opened.

Thank you, we have added more detail to introduction (page 3) and Methods (page 4).

“Prior to the summer holidays some year groups, including year 10, returned to school for face-to-face teaching.”

“The study was conducted during the school summer holidays immediately following school campus closures and the first week of the new academic year (between July and September 2020), with 11-16 year olds, parents and school staff recruited via secondary schools and local community organisations in the South West of England.”

2. Please clarify why you focused on secondary schools only. There are good reasons for doing so in terms of transmission risk and other factors – but the rationale needs clarification in the introduction as the responses from a primary school or early years audience would have been different in important ways.

Good point, we have added a sentence to the end of the Introduction (last paragraph, page 3-4) that transmission risk is especially high in teenagers. We were keen to get students’ views directly and to understand the impact on those in exam years. We also had to make a pragmatic decision on what was achievable in the limited timeframe and resources.

“This is especially important in secondary schools as the risk of transmission in teenagers is higher than young children primary-aged, and Covid-19 measures particularly impact exam years, and secondary school students are more concerned than primary about Covid-19¹⁴.”

3. Please clarify the process by which the framework which guided your analysis was developed. Specifically, did this draw on existing guidance in England only, or wider literature exploring the range of non-pharmaceutical interventions that could be implemented in schools (see e.g. this ECDC summary report: https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-in-children-and-the-role-of-school-settings-in-transmission-first-update_0.pdf)? This is important to help the reader understand, for example, participant responses on test and trace systems – what kinds of approaches were they being asked to comment on? Further detail on this in the methods section or intro/background would be helpful.

Our analysis framework very closely followed our topic guide, which was based on current UK schools guidance at the time (focusing on social distancing, hand hygiene and latterly face masks), as well as schools testing (this was included partly to inform the design of a separate planned study the team were involved in, but was relevant given the increasing importance of testing in infection control). We have now included the topic guide as a supplementary file so hope this provides clarification

page 5 in Methods: “Topic guides ... covered attitudes towards UK recommendations at the time (social distancing, school hand-hygiene and infection control strategies)”

4. Some important limitations need to be made clearer – highlighted across the points below.

Specific comments, by section:

Abstract:

Line 24: helpful to specify here, if you can, more detail about the type of school locations involved e.g. urban/rural; and something summative about levels of deprivation (especially since you have these data in table 1 anyway)

I’m afraid we do not have enough word count to add much detail, but have added “from 14 diverse schools” to the abstract.

Introduction:

Lines 47-8: see above – please clarify here that some secondary school years did open for the summer mini term, including one of the years you targeted for recruitment (year 10).

We have added the following to page 3 of the Introduction: “Prior to the summer holidays some year groups, including year 10, returned to school for face-to-face teaching”.

Line 60-1: see above – please clarify the focus on secondary schools and not primary schools

We have added the following to the last paragraph of the Introduction (page 4): “This is especially important in secondary schools as the risk of transmission in teenagers is higher than young children primary-aged, and Covid-19 measures particularly impact exam years, and secondary students are more concerned than primary about Covid-19”.

Methods:

Line 68: the SW has been an area of generally lower community transmission by comparison with the rest of England. I would suggest highlighting this somewhere (possibly in the limitations) as it may well have influenced risk-perception among participants by comparison with those living in other parts of the country. Can you give some background stats on what was happening in the SW at the time the study was conducted? The PHE weekly COVID surveillance reports carry these data: <https://www.gov.uk/government/publications/national-covid-19-surveillance-reports>

We have added this to the limitations (page 12). “During the study, the community Covid-19 transmission rates in the research setting were relatively low; this context may have influenced participants risk perceptions.”

Line 71: how did you identify schools with higher BAME proportions? Was a threshold used or did you select schools with the highest proportions?

We have added ‘relatively’ higher here. We used school-level data on BAME % at school and have added this to page 4 of the Methods under the heading Sampling and recruitment: “Because lower socioeconomic and Black, Asian and Minority Ethnic (BAME) populations are disproportionately affected by Covid-19, we contacted 21 secondary

schools with relatively higher levels of these populations (based on school-level data from local Public Health departments) to ensure we captured their specific concerns.”

Lines 73-4: why focus on years 8 and 10? Please explain the rationale for this. If the intent was to contrast the experiences of those without lived experience of restrictions in schools (year 8) with those who potentially did have this (year 10) during the summer mini-term, then this needs to come through more clearly in the results and discussion.

This was mentioned on page 4 in the sampling and recruitment section in the Methods (in brackets after the age groups). There was commonality in views between year groups/those who had attended school during lockdown.

Line 87: can you explain what you mean by “a test and trace system” here? Is this as distinct from T&T as operated during this period, and if so how?

Sorry for any confusion, we have changed this to ‘school testing’ throughout.

Lines 98-9: was double coding performed? If it was not, and no other form of coding verification was performed, this should probably be highlighted as a limitation.

We have provided greater clarity about the analysis process under the Analysis section on page 5. The lead author coded the interview notes to create the framework, before all co-authors worked with the transcripts to further develop the framework and add to the coding/theme development. Therefore, two researchers reviewed the data from each interview. We did not perform double coding to verify the codes, but the team regularly discussed the coding to consider alternative interpretations and any queries/discrepancies as the analysis progressed enhancing the trustworthiness of the analysis. We do not believe this needs to be reported as a limitation.

Line 99: see above – please specify how the framework for analysis was generated

As above – we have provided more detail on the framework method used.

Results:

Line 108: the breakdown here is helpful but it is perhaps surprising to see that no other school staff in key groups (e.g. teaching assistants, admin staff or related) were interviewed. Was there a reason for this? The perspectives of these groups may well have been different to senior and teaching staff.

Given the limited resources and time for this project, we made a pragmatic decision to recruit teachers, SENCOs, senior team members and anyone involved in infection control.

Line 134: “play out in practice” – again, important to be clear about the proportion of study participants who were speaking about what they anticipated would happen from September onwards, as opposed to those who had lived experience of trying to implement these measures from earlier in the year.

We have added more detail of how many participants had attended school during lockdown (page 7, ‘Participants’ section in Results). “All year 10 students had attended school for a few days and all staff participants had been working during lockdown (some of whom had worked within the school environment).”

Line 144: the cost estimate – can you say anything more about how “typical” this school was in terms of the size or nature of the setting, or the size of the bill they report? It would be useful to know if this was a real outlier, or potentially representative of the sample overall.

Sorry we have no more information on this.

Line 158-9: was availability of PPE in SEN settings discussed at all?

Yes, in fact one SENCO had done a survey of SENCOs who were concerned about the lack of PPE provision. We have added “SEN staff being unable to work physically closely with students (and lack of PPE for this)” (page 8).

Line 171ff: can you say anything more about who was talking about these interventions? Some seem very much like suggestions from teachers, others from parents/carers – it would be good to get a stronger, general sense of who was advocating for what.

These were all staff suggestions, we have added “staff”.

Line 192: it is not clear to me whether this section is concerned with reporting to schools, or to the national T&T system. Can you clarify?

To school – we have clarified by amending the section heading to “Reporting symptoms to school” (page 9 and table 4).

Discussion:

Line 233: there is a suggestion here that expanding the school estate through e.g. portacabins would be a way to deal with social distancing – but (I may have missed it) I can find no evidence in the results section or the quotes tables to indicate a participant said this. Can you clarify? I’m not convinced that it would substantively have improved ability to maintain social distancing given the site size constraints in many schools.

The data reported that social distancing is ‘impossible’ due to crowded school sites, so we (and those we reference) are suggesting extra teachers and hiring extra rooms. We added to the discussion on page 11 to say:

“In addition to previously noted feasibility concerns over risk reduction measures^{24 25}, we identified issues of year-group ‘bubble’ crossover and non-compliance due to forgetting and wanting to be ‘normal’/socialise and social distancing being impossible due to crowded school sites. The barriers we identified support calls for funding to help implement risk reduction measures (including hand sanitizer, extra cleaning, free masks for all pupils and hiring extra teachers and teaching rooms so smaller class can to enable social distancing).^{17 26}”

Line 239-42: the limitations section needs to be expanded to cover some of the points raised above, but in addition to note the geographical focus of the study – which was not, in epidemiological terms, necessarily typical of England at the time the study was conducted, and also that the epidemiological picture in July-Sept was much less severe nationally than it is now.

We have added both these points to the limitations section on page 12.

Finally a speculative point: there is not much reference in the paper to evidence from other countries and how this study relates to that. Do you think your findings have potential relevance elsewhere, and if so how?

It is outside the scope of this rapid study and the journal’s word limit to draw comparisons with the international context in detail. However, we recognise school closures and risk mitigation measures are relevant to other countries. We now acknowledge the international context in the first line of the introduction: “To reduce the spread of Covid-19, a UK ‘lockdown’ was announced on 23rd March 2020 and school campuses, as in most countries worldwide¹, were closed to all but vulnerable or priority students.” We also now cite publications from UNESCO and the World Health Organisation in the discussion which support many of our findings, highlighting the international relevance of this study.

Editor in Chief

Comments to the Author:

Title add "in the South West of England"

Done

Abstract Methods add "in South West England"

Done

We have also had to cut down the word count for the Abstract.