Dr Smruti Patel,

Thank you for your provisional acceptance of, and comments on, our analysis piece. As requested in your email, this cover letter details the changes made in this latest version. I was unable to track changes directly onto the version you sent because the reference list had not transferred across on the referencing software. So I have copied and replied to your comments into this document, in the order in which they occur in the piece, and include tracked changes in the manuscript itself. Where several comments refer to the same paragraph, I have grouped them and responded in an integrated manner (still making sure we respond to each specific point directly).

Kind regards,
Seb Walsh (on behalf of all authors)

Word count: 2085

Regarding:
- Competing interest statement (in the style explained at http://www.bmj.com/about-bmj/resources-authors/forms-policies-and-checklists/declaration-competing-interests; click on “Research” and please see “Examples competing interest statements”)
We have amended our declaration of no COI to match the text from the BMJ website. We also attached ICJME forms.

- Contributorship statement + guarantor (http://resources.bmj.com/bmj/authors/article-submission/authorship-contributorship)
Already included

- Copyright statement/licence for publication (http://www.bmj.com/about-bmj/resources-authors/forms-policies-and-checklists/copyright-open-access-and-permission-reuse)
Already included

- Signed patient consent form(s), if the article gives enough personal information about any patient(s) (http://resources.bmj.com/bmj/authors/editorial-policies/copy_of_patient-confidentiality)
n/a

Introduction
1. In the introduction, paragraph 1, you requested a reference for *“scientists advise, ministers decide”*.
We have added this

2. Your second comment on this paragraph referred to the final line: "*Doctors have a role, even a responsibility, to act as advocates for their patients and the health of the population*". You asked us: "*Please be clear about who exactly you mean by Drs. We suggest you could summarise some of the text from Box 2 here to do this. All the examples in Box 2 are UK-based - we suggest to also include examples from other countries. Box 2 could then be deleted*."
We have simply added "All" in front of doctors to indicate that we consider this a general statement that applies to all medical doctors. We weren't clear exactly how this specifically relates to the text in box 2. Box 2 specifically considers medical training curricula, using the UK as an example, to show that training in the skills of advocacy is not currently well-recognised by these curricula. This is related to a point we set out later in the piece about the need for appropriate training for the next generation. It feels to us a distinct point to the general one about the responsibility for advocacy which we are making in the introductory paragraph of the piece. We would of course be happy to expand box 2 to include perspectives from other countries. But we limited to UK as an example (and selected training programmes only) because we wanted to keep the box relatively short. Otherwise it's difficult to do it any kind of systematic way without it becoming unwieldy, and we think it does show some empirical evidence of the point we are making so important to retain it. We have, for now, added a clause to the Box legend to state that we are using the UK as a case study. Elsewhere we have used international, or internationally-relevant examples, for example the discussion of doctors advocating about gun laws in the USA.

3. In paragraph 6 there is an edit in your version of "iprovements" to "improvements".
This is already spelled correctly in our version so not sure how that happened!

<u>What are the challenges to be aware of?</u>
4. Maybe change title to "Existing Challenges"?
We have changed to "what are the key challenges?" We felt that "existing" challenges suggests that we would then go on to lay out "new" challenges. So we have opted for "key" to be clear we aren't laying out a systematic summary but the most important points as we see them.

5. Overall the section should be made more relevant to Drs, especially the first two paragraphs on reflexivity and newsworthy communication - presently it could relate to any advocacy work.
We suggest your theoretical example of should be replaced by a concrete real-world example - perhaps from ref 15?
It was felt that 'white hat bias' is still not well explained and we wonder if this term is necessary?"
This sentence – *"Though long entrenched in social science disciplines, reflexivity and constructivism (the idea of subjective truth, e.g. that personal preferences for interventions are not based solely on scientific evidence) has not always permeated across medical research disciplines, which are historically positivist (the idea of a single objective truth e.g. that agreed scientific knowledge alone can determine the appropriate policy)"* – is very long with 2 long brackets contained within. Please simplify and make relevant to Drs as per the above comment. We suggest more discussion of Conflicts of Interest is needed in your argument - both commercial and ideological (eg in the assisted dying debate where doctors with strong religious views do not declare this when advocating against legalisation)
We have edited the opening of this section in line with the above. We have removed the very long sentence which introduces constructivism/positivism alongside reflexivity and white hat bias. On reflection, this was one concept too far for a single paragraph. The key point here is about the need to be reflexive to avoid our one's own values biasing one's interpretation and

communication of what the evidence base does and doesn't say when one is advocating. So we have removed the explanations of constructivism and positivism from this paragraph. This has made space to make the explanations of the remaining concepts, including White Hat Bias (which we retain because we do think this is a helpful term to introduce readers to), clearer and to include the point about various types of COI. Finally we modify the example to be specific to the reporting from the Cope paper regarding mis-reporting of sugar-sweetened beverage reduction RCTs. The paragraph now reads:

> *'Reflexivity' is the practice of examining one's own preconceptions and biases when conducting and communicating research. It is a core tenant of social science disciplines, but has not always permeated across medical research. Such biases can occur from a variety of sources, including religious or cultural beliefs (such as in debates around assisted dying or abortion), political ideology, or financial conflicts of interest. Advocates may observe a temptation to selectively focus on studies which support their desired policy change whilst ignoring nuances or contradictions in the evidence base. For example, Cope et al. [16] studied the dissemination of two randomised control trials reporting no significant effects of interventions to reduce sugar-sweetened beverage consumption on body weight. However, they identified that the press releases, and the majority of subsequent papers citing trial results, quoted only the secondary and subgroup analyses which suggested benefit [16]. This was motivated in some cases, they argue, by well-meaning desires for action on childhood obesity – this distortion or mis-representation of the evidence base out of a desire to advance the case of the greater good is defined as 'White Hat Bias' [16].*

6. Can the authors address the implicit contradiction of the responsibility of doctors to their patients' health versus to the population's health. These responsibilities are at times at odds with each other and this doesn't come across in the paper. What happens in situations when doctors want to pursue more intensive treatments for their individual patients at huge opportunity cost to other patients? Following the authors' logic, wouldn't doctors always advocate for more treatments despite cost to society (and therefore to public health)?
This feels largely like a separate issue. Advocacy as it relates to a clinician advocating for an individual patient is related, but not the same as, policy advocacy. The issue described in your comment – i.e. a patient wanting an expensive treatment – is effectively dealt with by bodies like NICE. Of course one could lobby for policy changes to this, e.g. the Cancer Drugs Fund bypassing NICE's usual processes; or some change to the types of costs they do and don't include. But this would need a full paragraph to address, so within the word count permitted we wonder if this is really something for another piece.

We had in the previous round added the comment on the doctor-patient relationship being sacrosanct and needing to protect this at all costs, including when conducting policy advocacy. This is retained.

7. We would like the authors to address and resolve some of the contradictions in their argument. An explicit contradiction occurs when the authors criticise the National Rifle Association in the US for instructing doctors to "stay in their lane". But the authors later on argue that doctors "should avoid areas in which they have little expertise."
We don't think we criticise the NRA – we simply raise this as an example of the backlash advocates may be faced with. The language is descriptive not critical.

More importantly, we did not intend this to appear as a contradiction. We would consider the distinction to be staying within ones "expertise" and ones "lane". Doctors advocating on gun policy were those in emergency departments and surgical teams dealing with those injuries. Whereas we suggest it may be less appropriate, for example, for a dermatologist with no direct link to these patients, to use their medical credentials to advocate on this issue. To

clarify this we have added to the end of the NRA example to make clear that these doctors were advocating within their area of (medical) expertise:

> "…after trauma surgeons and other doctors involved in treating gun violence injuries began advocating for tighter gun control legislation"

8. *"Beyond political heat, doctors advocating for climate change policies through protests have been arrested. High public trust in the profession, and the 'shock factor' has been offered by the protesters as part of the rationale for being visible (e.g. wearing stethoscopes and being arrested) at such protests".* We suggest you are more direct in your message here, it seems you are intimating that patients / public trust Drs and appreciate them even more for standing up, depending on the issue.
"*We are not aware of any direct evidence estimating the effects of such acts on public trust, though it may be predicted that it is likely to depend on an individual's pre-existing views on the policies in question".* – Is there perhaps some qualitative evidence for this?
As above, in this section we are mainly trying to describe the challenges advocates can face – either from themselves (biases) or from others (e.g. media backlash, arrest). We want this piece, overall, to say to doctors – many of you will feel a responsibility to engage in policy advocacy of one form or another (indeed the GMC tells you that this is good medical practice). But when doing this there are challenges, so here's ways of being trustworthy. Whilst we understand the value of examples of bringing this to life. We want to try and maintain this focus and avoid the piece becoming a detailed account of our own views on any one example – which we feel could distract from our overall message. As such, we resist your invitation here to be more direct in expressing any view on whether doctors should or shouldn't be joining such climate change demonstrations – merely stating the consequences that have befallen some who chose to do so and reflecting the lack of direct evidence for how this affects trust in the profession.

We are not aware of, and have not been able to identify, high-quality literature which addresses this specific question (i.e. does a doctor visibly engaging in climate change protests leading to arrest damage public trust in the profession, and what factors drive people's reactions?). This recent viewpoint article from colleagues from New Zealand in the Lancet https://doi.org/10.1016/S0140-6736(19)32985-X asks whether doctors are justified in engaging in civil disobedience in response to climate change. In it they state "attributing causality between health advocacy and public opinion or policy change is much more difficult than establishing causality between proximal risk factors and disease. Furthermore, there are few attempts to evaluate formally the effectiveness of civil disobedience in the health context." They do cite the concern that it could damage public trust, but the only reference they are able to provide is to a different viewpoint from the Journal of Ethics in 2011 which issues general warnings without referencing any significant empirical evidence.

To make clearer that we are laying out both sides of this argument, we have added a statement a and this Lancet reference to this section:

> "High public trust in the profession, and the 'shock factor' has been offered by the protesters as part of the rationale for being visible (e.g. wearing stethoscopes and being arrested) at such protests [21]. Others may argue that such acts of civil disobedience may harm public trust in the profession [Lancet ref]. We are not aware of any direct evidence estimating the effects of such acts on public trust, though it may be predicted that it is likely to depend on an individual's pre-existing views on the policies in question."

9. The last paragraph in the challenges section reads like the authors opinion. Please clearly state what your main message is and provide evidence to support it.

"*Doctors must ensure that any advocacy role they take on is kept quite distinct from the direct doctor-patient relationship and that such activity does not inappropriately affect their standing within the community".* Can the authors suggest examples of how this could be achieved, with clarity on which type of Drs.
"They should avoid areas in which they have little expertise. These considerations are particularly relevant to highly controversial issues like imposition of pandemic lockdown measures, or the ongoing conflict in the Middle East" . These last two sentences should be more nuanced.
The central argument in this last paragraph is that when you advocate you are on some kind of platform. By being a doctor you are giving that platform some (additional) credibility. And you must therefore consider whether you are inadvertently giving credibility to people who pose a threat to public health. It wasn't clear to us where a reference would be needed in this context. We have added some clarifications to the text to make it clearer what we are saying, and an example, from our own experience, to illustrate the point.

> "*In using their voice to advocate, doctors must be cognisant of their trusted and privileged role within communities, and the credibility that they add to platforms on which they choose to appear. Change movements, particularly highly controversial ones, are inclusive of many actors, with many motivations, and advocates must be aware of who they may be sharing a platform with, and in doing so, whose voices they may be amplifying. For example, two of our authorship group raised evidence-based concerns about new therapeutic agents for Alzheimer's disease [23,24], leading directly to approaches for collaboration by those with clear financial conflicts of interest, proposing alternative solutions (e.g. 'diets to beat Alzheimer's) based on very low-quality evidence.*

Regarding the need to safeguard the Dr-Pt relationship and doctor's standing in the community, we would consider this to apply to any and all doctors that have these relationships. So we have changed "doctors" to "clinicians". The recommendation for how to achieve this is predominantly laid out in recommendation 4 for being a trustworthy advocate. In our original draft we had integrated the discussions of the challenges and the mitigations. But the peer review requested the present structure with a separation between these two lenses which we do feel overall has given the piece better flow. We therefore end the sentence by signposting towards the recommendations in the closing section:

> "*…from the direct doctor-patient relationship and that such activity does not inappropriately affect their standing within the community by acting in a trustworthy manner (see recommendations below)."*

On reflection, we have decided to remove the final two sentences. The point about acting within ones expertise is stated in the recommendations section already. We move the point about this all being particularly relevant to controversial debates to the revised opening of the paragraph (see above).

<u>Recommendations for trustworthy and effective advocacy</u>
10. We suggest here you state that Drs can be effective and trustworthy advocates if xx and yy happens. Then go on to discuss your recommendations with concrete examples on how this can be achieved. If there are none in the medical profession, could you provide ones from other professions that could be applicable?"
We have removed the original intro text, instead moving the text which previously came after the recommendations up as it seems to fit the set up you describe.

We have added a concrete example to recommendation 3: "(for example presenting estimates of COVID-19 mortality rates with and without confidence intervals [26] ".
Recommendation 1 contains an example of how one might enact this advice. The recommendations are generally intended to be concise and to provide a framework for action. Many of them build upon concrete examples given earlier in the piece to illustrate

value of advocacy and challenges. As such it feels difficult to try and incorporate a concrete example for each that is broad enough to do the overarching point justice. We have been back through them to ensure they are all free of jargon and present clear guidance (if not examples per se) for action. For example, in recommendation 5 we give clear examples of the type of learning one might undertake to develop one's advocacy skills.