

## Peer Review File

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### Reviewer A

The authors need to have a clear research question. I totally understand that the research question is wide in scoping reviews but the current research question is vague and very broad.

The keywords are not enough especially since you defined digital health to include electronic records and wearables.

What is the number of articles retrieved? what were the inclusion and exclusion criteria? How did you group them into themes?

The results are mixed with a literature review.

YOU have provided the checklist for a narrative review when you are conducting a scoping review.

**Thank you for your comments.**

1. **We have since clarified our wording with telemedicine being our chosen word to best describe our article.**
1. **Re worded our research question on lines 91-93**
2. **Thank you for your comment, precisely given the broadness of the term we decided to included just those terms, without focusing on specific telemedicine applications. We believe by using these broader terms we were able to grasp a better overview.**
3. **Further information on our eligibility criteria can be found on our eligibility criteria section. More specifically, articles where digital health was incorporated into the practice of any medical or surgical specialty to determine the rate and intent at which these specialties were adopting this new modality of care. Similarly, a secondary search was conducted within the same databases to analyze the major advantages and disadvantages of digital health and its implementation into the healthcare system. In terms of our exclusion criteria, where only those articles written in a language other than English.**
4. **A number of articles retrieved from our search in this case was not recorded given that this was not a systematic review, therefore we saw no benefit. Our only screening from our search was as mentioned above that they incorporated telemedicine in their practice. Furthermore, the snowball method was substantially used as described in our methodology section.**
5. **We decided to group the articles based on our own experience and our debate on what would be most important to understand on how telemedicine affects every service. We divided the categories into: Cost-efficacy, access to healthcare, privacy concerns, economic, including their disadvantages and advantages of telemedicine. We then added our final section speaking of the use of telemedicine in multiple specialties.**

### Reviewer B

Need to address more use telemedicine PMID: 36844926, improved clinic opportunities PMID: 34463116, and complementary medicine utilization PMID: 36713300.

**Thank you for your comments. We have added additional text that was of additional value to**

our text from the articles provided. Not all was included, as we felt it was already mentioned in our benefits section, and also when describing the use of telemedicine in subspecialties such as neurology and neurosurgery.

#### **Reviewer C**

Intro: The various definitions were really well done and set the article up nicely.

Methods: Clearly written. The table is helpful for visualization and understanding

Results: I found the information about specialists very interesting and I'm glad it was included. Was there much found in the realm of primary care and chronic disease management? I would have thought there may be and would be interested in the role of digital health here. Otherwise, a caveat that it is not out there might be helpful.

Discussion: Very nice

Limitations: consider mentioning limitations of disease oriented outcome studies.

**Thank you very much for your grateful comments.**

**A small paragraph was added to illustrate the use of telemedicine in primary care.**

**Thank you.**

#### **Reviewer D**

The authors aim to provide a review on the clinical appropriateness and potential sustainability of digital health during and after the covid pandemic.

#### **Major Comments:**

1. The authors do note a limitation that non-English papers were excluded, however, the majority of the literature discussed pertains to the United States population: discussion regarding US Congressional regulations, Medicare/Medicaid and other insurances. How telemedicine or digital health has been effective and its potential limitations in other countries with different health care systems is not thoroughly discussed with the exception of one sentence in the Discussion section. If the authors would like to limit their narrative to the US population, then, that should be stated in the introduction and limitations.

**Thank you for your comment, as you mention our focus was regarding US laws and policies. We have added this sentence to both the introduction and limitations.**

2. In the introduction section the authors state that in the manuscript they will use the term "digital health" and describe its broad scope. However, the rest of the manuscript, mostly details from virtual clinics (video consultations) studies are discussed. There is no real discussion or comparison of wearable digital devices, mobile health apps etc.; all of which is under their definition of digital health. Again, if the scope is to restrict to video consultations vs in-person visits, that should be stated clearly.

**Thank you for your comment, we have reworded our article now referring to telemedicine instead of digital health, as this was a term that was too broad. We have also clarified that while using the word telemedicine, we will be referring to video consultations.**

3. A single study that evaluates telehealth use patterns across surgical specialties in a single US state is discussed in detail – Page 8,9. This section can be edited to make their point without excess details such as mean and SDs, all from a single study.

**We have eliminated confusing data such as SD , however means we believe are required to emphasize the change between virtual visits and in person visits through time.**

4. Other that discussing the 2021 Patel et al study the focus on the paper appears to be mostly on surgical specialties. Consider a diagram comparing surgical specialties and changes in telemedicine care during and after the pandemic. This may be a better representation of their reviewed data (ideally comparing multiple studies).

**Thank you for your comment given the lack of standardization between studies included, as well as the difference in study methodology of those included, we feel an illustration of this would not be achievable given no standardized form of comparing. At this time we believe the current discussion is better suited.**

5. Page 8. 9 : “period 1, 2 and 3” are not defined and it is unclear what time periods the authors are referring to.

**We have added the definitions of periods 1,2,3**

6. Page 9: line 258 is unclear. A statement is made without any explanation or detail. What is the particular finding of Kane et al, and how does that pertain to neurosurgery if they “revealed that urologist are likely to use digital health”?

**Unclear wording from Kane et al study has been re-written.**

7. Page 10: line 261: Why would only Neurosurgery be well suited to digital health? Given the next line and reasoning that there are teleneurology networks throughout the US, why wouldn't other specialties benefit from this? Several specialties rely on advanced imaging for diagnosis, this is not unique to Neurosurgery and Urology ( or Neurology).

**Unclear wording from Kane et al study has been re-written.**

Overall, the authors provide a good review on the application of telemedicine of surgical specialties. There is limited discussion of non-surgical specialties and non-US health system models. These limitations should be reflected in the title, and manuscript.

**This has been established in the limitation section.**

#### **Minor Comments:**

Grammatical errors and typos including the following should be addressed.

Page 5 line 130

Page 6 line 165

Page 8 line 204

Page 9 line 255

**Thank you, we have done our best to identify errors and correct them.**

## **Reviewer E**

### **Major Comments**

1. Title: I am having difficulties in connecting the title to the content of the review. I do not see where clinical appropriateness is mentioned or discussed in the manuscript. Also, just because adoption rates are high, this does not mean that the appropriateness or usefulness of current digital health tools is high, especially in the context of a pandemic. Authors should try to align the title of their work with the research question and the content of the manuscript.

**Thank you for your comment, our title has now been edited to be more suited to our article.**

2. While I understand why the authors chose “digital health” as a general term encompassing different technologies (e.g., both mobile health and telemedicine appointments), this leads to clumsy and superficial results (example: “This implies that the use of digital health was effective in increasing the total volume of visits, even during a pandemic” – this could mean everything - an app, an AI chatbot, a remote visit – all very different things). In my opinion, this constitutes an oversimplification, making the results less usable for other researchers. An easy fix for this issue could be to check the original references again and to include some information in the manuscript regarding what kind of digital health technology was used in these instances where single studies are described in detail (such as p.8). I also noticed that throughout the discussion the term “telemedicine” is used often, which added to my confusion about the oversimplification of “digital health”.

**We have reworded our article, and stated our intention of wording with telemedicine and made clear what telemedicine stands for in our article with the hope of creating less confusion.**

3. P. 4, l.94-98: “Many of these were screened using code words” – it is not clear to me what this statement means or in which part of the screening process this happened. Also, use of the term “snowballing” should be checked. Usually, this refers to checking the references of included articles.
4. Methods/Results: I am missing a flow chart, which I would expect for any kind of review.

**Thank you for your comments, we have clarified our methods section, to better illustrate our methodology and process of selection and exclusion. A flow chart in our case is not possible to concisely perform, given that this was not done in a fashion such as a systematic review where a flow chart is able to be applied.**

5. P. 9, l. 229/230: I do not think these points can be made based on the results of the cited study, as the original authors did not study usefulness and there is no explanation of why the in-person visits could not be replaced entirely. The authors should be more careful with including their own assumptions etc in the results section. This is visible in several instances, e.g., p. 7, l. 194-197

6. P.12, l. 340-351: This research already exists and could have been introduced in the discussion.

**Personal conclusions have been deleted from results section as to the best of our abilities.**

### **Minor Comments**

1. P.3, l.66: While this is a logical argument, I believe that it was made too broadly. There surely are several countries where new legislation facilitated the spread of digital health, but not every country has adopted new legislation yet. Especially in combination with the next sentence, which already talks about post-expansion phase, more nuance should be added to this paragraph. Or this paragraph should already include the limitation the USA.

2. P.3, l. 76/77: please cite the original source for the “narrative review reporting checklist”
3. P. 10, l. 273: sentence is missing a word.
4. It could be helpful to include a visualization regarding the most important finding (which specialty adopted digital health at which rate). For example in a pie chart or table

**The narrative review checklist is derived from mhealth and being used exclusively for this journal only. Grammar check has been performed to the best of our abilities. Thank you for your comment given the lack of standardization between studies included, as well as the difference in study methodology of those included, we feel an illustration of this would not be achievable given no standardized form of comparing.**