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Dear Lian-Sheng Ma, President and Company Editor-in-Chief:

The manuscript "Review of Key Telepsychiatry Outcomes," is resubmitted for publication in the *World Journal of Psychiatry*. I will serve as the corresponding author during the review process.

We would like to thank the Reviewers for their thoughtful feedback and useful suggestions. The opportunity to respond to this feedback has helped us produce a clearer, more concise paper that we hope will help to inform your readership of key outcomes in telepsychiatry.

It was clear to us that Reviewers 1 and 3 had favorable responses to the manuscript and recommended minimal changes if any. On the other hand, Reviewer 2 made multiple critiques of the manuscript and recommended substantial revisions. This reviewer makes a valid point about the nature of systematic reviews in this comment and in several comments listed in their critique. We agree with the reviewer's assertion that "Systematic Reviews" employ rigorous inclusion and exclusion criteria, and they also typically include formal quality appraisals. Given that the purpose of this review is to provide a holistic, "birds-eye view" of the field of telepsychiatry (as opposed to a critical examination of telepsychiatry's evidence base), we did not make substantial changes to the manuscript in order to make it a "Systematic Review." Rather, we changed the title of the manuscript to "Review of Key Telepsychiatry Outcomes" and made further changes to the manuscript in response to critiques from Reviewer 2. We present individual responses **in bold** to each of the reviewers' comments below.

#### Reviewer 1 Comments to Authors:

Systematic Review of Key Telepsychiatry Outcomes Sam Hubley et al. Given that most people with mental health problems do not receive any help, there is tremendous need for innovations in health care delivery. Telepsychiatry clearly has marked potential to address the existing mental health disparities in both developed and developing countries. It can access effectively many patients in rural areas as well as those who otherwise have limited access to care. The authors conducted a systematic review of the telepsychiatry literature, nearly 2000 studies. They identified patterns of findings related to satisfaction, reliability of clinical assessment, treatment and implementation outcomes, cost-effectiveness and legal issues. They found that, overall, patients and providers are generally satisfied with telepsychiatry services and telepsychiatry is a cost-effective approach that is comparable to face-to-face services in terms of reliability of clinical



assessments and treatment outcomes. The patient response to self-report questionnaires, qualitative interviews, and mixed-method assessment indicated that they are comfortable using this technology, appreciate the practical benefit of avoiding travel, and are less concerned than providers about potentially adverse impacts of telepsychiatry on the therapeutic alliance. In terms of care quality, the evidence reviewed suggested that telepsychiatry is comparable to face-to-face in the reliability of assessment and effective treatment of a range of behavioral and mental health disorders. Treatment outcomes appeared statistically equivalent. Furthermore the authors reviewed literature focusing on practical factors related to the implementation of telepsychiatry such as adaptability of telepsychiatry to routine care settings, cost-effectiveness, and legal issues. Telepsychiatry also appeared comparable to FTF in terms of service utilization patterns and cost-effectiveness.

I think this an important review article on one of the critical issues about the delivery of psychiatric care. Provides a practically important message about the value of telepsychiatry. Very well, clearly written. Careful, critical analysis of the literature in its full extent. Although some condensation may be possible, I would publish the manuscript in its present form, without any changes. Particularly valuable are the authors' recommendations for future studies. They recommend a to shift focus from establishing equivalent reliability between telepsychiatry and FTF assessments to identifying which types of assessments are most amenable to the telepsychiatry, which types of assessments are most difficult to administer via telepsychiatry, and which types of adaptations help improve telepsychiatry assessments.

- a. **This reviewer commended the manuscript for its clarity, critical analysis, and recommendations for future studies. The reviewer went on to recommend publication without any changes. We appreciate this reviewer's positive comments and made no changes to the manuscript.**

#### Reviewer 2 Comments to Authors:

The topic of this article is relevant to contemporary mental health care, and written clearly. However it has multiple aims and in trying to answer them all it unfortunately does none of them well. This is not a systematic review conducted to rigorous standards - there is no quality assessment of the evidence and therefore bias in findings and synthesis cannot be ruled out. I list some key points that would need addressing below:

1. The article is focused solely on video-conferencing, not telepsychiatry as a whole - this should be made clear in the title and in the abstract early on.
  - a. **We acknowledge the reviewer's request for more clarity on the use of the term "telepsychiatry" throughout the manuscript. While we acknowledge that the term "telepsychiatry" has been used previously to encompass service delivery modalities such as telephonic counseling and asynchronous consultations, "telepsychiatry" in its contemporary use refers to video-based conferencing. We explicitly define as such in the opening paragraph of the manuscript.**



2. The abstract is not informative from the point of view of a systematic review. at a minimum it should include the number of databases searched. the number of included articles (733) is high and not in agreement with the number reported in the main article.
  - a. **As mentioned above, we agree with the reviewer that this is not a systematic review. We modified the title accordingly. We also responded to this comment by modifying the abstract to now include information on the number of databases searched and the number of articles included.**
3. Given that there is no transparency in data quality, the authors cannot conclude there is a robust evidence base. At most they demonstrate the size of the relevant literature but not much more. Such conclusions and core tips need to be tempered.
  - a. **We disagree with the reviewer's comment that there is not a robust evidence base for telepsychiatry. While a formal quality appraisal would increase confidence in the nature and quality of the evidence that supports telepsychiatry, we report on dozens of studies that provide important evidence for the use of telepsychiatry and even delve into substantive detail on higher quality studies. We did modify the language in paragraph 1, on page 16 of the discussion to temper the strength of our conclusions. No further changes were made to the manuscript.**
4. Inclusion criteria are not well justified - why was a date limit of 2000 set and what impact might this have on the findings of the review.
  - a. **Given the broad scope of this review, a date limit of 2000 was set to make the literature search more manageable. As it stands, we reviewed nearly 2000 abstracts which is in of itself a very ambitious undertaking. Having familiarity with several studies published before 2000, it is highly unlikely that this date limit highly impacted our findings. In fact, it is most likely that including additional studies would only strengthen the overall conclusion that there is an adequate evidence base for telepsychiatry. No further changes were made to the manuscript.**
5. Evidence of treatment effect was limited to adequately powered RCTs. Power is not the only marker of quality in RCT design. what about the other objectives/ It seems no restrictions were placed on study design for these which gravely undermines the synthesis and conclusions drawn. Greater definition of the categories of interest is needed i.e. what constitutes an implementation outcome? how do legal issues differ from a non-ethical one, and which are eligible for this review?
  - a. **We disagree with the reviewer's assertion that "no restrictions...placed on study design...gravely undermines the synthesis and conclusions drawn." Aside from randomization, adequate power is a key feature of high quality RCTs. We did actually review RCTs for additional study characteristics associated with high quality (e.g., intent-to-treat analyses, blind assessment, adequate follow-up intervals) but elected to not include these data in Table 1**



**for reasons related to scope and ease of presentation. As mentioned previously, the intention of this review is not to critically evaluate the quality of efficacy and effectiveness data for telepsychiatry. Rather, the purpose of this review is to provide readers with a well-written, clearly organized “birds-eye” review of the field of telepsychiatry. No further changes were made to the manuscript.**

- b. Second, the reviewer also criticizes the approach used to organize the review into categories of interest. On page 12, we clearly define the scope of implementation outcomes we are considering and detail that there is a panoply of implementation frameworks and would be overly cumbersome to try to report all of them. In keeping with the intention of the review, we describe the rationale for why we included access, utilization, and the impact on clinical skill and workflows as our key implementation outcomes. With respect to the coupling of ethical and legal issues, we report on publications that discussed two key legal issues—licensure and confidentiality. On page 12, paragraph 4, we removed the word “ethical” from the sentence, “Several studies highlighted the ethical and legal challenges that telepsychiatry presents concerning provider licensure.” No further changes were made to the manuscript.**
6. The number of included studies is not clear and appears to be presented by different criteria—topic categories are intermingled with study design. A PRISMA flow chart would be a welcome addition to help readers navigate through the text.
  - a. We agree with the reviewer that a PRISMA flow chart would help readers navigate the manuscript. A PRISMA flow chart is now referenced in the text on page and is included as Figure 1.**
7. Why are review papers and non-data based outputs e.g. commentaries and program descriptions included?
  - a. We believed it was important to include program descriptions as a source of evidence that compliments data from RCTs. With respect to other review papers and commentaries, we only mentioned that a large proportion of reviewed publications included previous reviews and commentaries. These are not reviewed in detail. No further changes were made to the manuscript.**
8. Findings are synthesized in the absence of rigorous quality appraisal. There is no reference to sample size in relation to the satisfaction studies, or study/population content or the validity of the tools used. Similar limitations occur in the section relating to implementation and legal issues. No distinction is drawn between qualitative and quantitative research or the relative positioning of these in their ability to answer the question(s) being addressed. Risk of bias in the studies reporting treatment effects is not considered. This limits the utility of this article to no more than that of a narrative, selective review.
  - a. We agree with the reviewer’s comment that a systematic review would have focused on one particular aspect of the literature on telepsychiatry and would have provided an in-depth, critical analysis. However, as mentioned previously, the intention of this review is to**



**summarize for readers the general state of affairs of the literature on telepsychiatry. To this end, we do summarize the key outcomes in telepsychiatry and provide the level of detail that corresponds to a high-level review. We do acknowledge the possibility for risk of bias in the limitations section. We added two additional sentences on pages 18 and 19 to further clarify this shared concern.**

9. The method of synthesizing the literature and its presentation does not warrant the strength of the conclusions drawn in the first paragraph of the discussion. These need tempering to avoid misleading readers.
10. The authors distinguish between quantitative and experimental designs mid way through their discussion - the two are not mutually exclusive and so this statement needs revision.
  - a. **Per the reviewer's request, we tempered the conclusions drawn in the discussion on page 16.**
  - b. **The reviewer also indicates that we draw a distinction between qualitative and quantitative research. In the first paragraph on page 18, we state that mixed-methods designs that use both approaches are most likely to provide the most valuable data, "Quantitative designs that rely solely on participant self-report are sufficient for demonstrating minimum standards of acceptability, but to obtain a more nuanced understanding of reactions to telepsychiatry, mixed-methods and experimental designs are strongly recommended." We did not make any changes to the manuscript given we explicitly recommend their simultaneous use, thereby dispelling any notion that the two are mutually exclusive.**

Reviewer 3 Comments to Authors:

An excellent job in covering the literature. Provides an excellent resource.

1. Perhaps I missed it but it would be useful to provide a geographic picture of where the telepsych literature originates: USA? Canada? Europe? Australia/NZ? Africa/Asia? It may be beyond the scope of the article but it might be interesting if there was some discussion about telepsych/telemedicine as a function of the health care delivery system of different countries, eg, USA vs Canada vs UK vs France, Germany, etc.
  - a. **We agree with the reviewer's point that it would be interesting to discuss how study origin influences key outcomes in telepsychiatry. However, we also agree with the reviewer that this is beyond the scope of this manuscript. We believe that a high quality discussion of this topic would require a separate manuscript to fully explore how different countries, and health care delivery systems within those countries, impact the evidence-base for telepsychiatry. No further changes were made to the manuscript.**
2. Also for the discussion might be some speculation about the how the new telepsychiatry companies that are popping up all over the internet might change the practice of telepsych for practitioners and patients over the next few years.



- a. **While we share similar interests in understanding the influence of for-profit companies on the use of telepsychiatry, such speculation is beyond the scope of this review. No further changes were made to the manuscript.**

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Once again, we would like to express our sincere appreciation for the highly constructive feedback provided by the Reviewers. The manuscript is now more clear, concise, appealing to a wider audience, and overall a better contribution to the scientific literature.

Many thanks for your consideration of this manuscript.

Sincerely

Sam Hubley, Ph.D.