

1. **Title.** (Up to 75 characters)

Conveying Numbers Clearly – A Needs Assessment and Usability Evaluation

2. **Author list.**

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3. **Abstract.** (Up to 300 words).

The proliferation of public health information has empowered patients to receive more information about their health, but disparities in health numeracy hamper the establishment of a shared understanding of health data. This study focused on health communicators, professionals who design materials to convey this information to patients and the public, as the main vector through which institutional public health knowledge is disseminated. This mixed methods study seeks to understand the needs of health communicators when supporting their ability to communicate numbers clearly to patients and the public. Thirty-nine self-identified health communicators were recruited to participate in one hour Zoom interviews over a twenty-one question survey. These open and closed-ended survey questions helped answer how health communicators conceptualize the goals they would like patients and the public to accomplish when receiving health communications and provided insights into how health communicators interpret and apply prototypes of evidence-based guidance for communicating numbers clearly.

Interviews with health communicators revealed that most commonly stated goals articulated were promoting general understanding or comprehension, devising a framework, and inducing intention or action. Health communicators were observed shifting their communication strategies and numerical format presentations based on exposure to the provided guidance. Despite this response to the presentation of the guidance, health communicators did not necessarily shift their communication format based on their communication goal. Ultimately, the learnings from this evaluation will be used to optimize the delivery of the guidance to health communicators and empower them to more effectively express numerical information.

4. **Keywords/Keyphrases.** Enter up to three keywords or keyphrases in each of the following three areas of the submission: (These keywords/keyphrases will be used by the planning committee to group the presentations and posters thematically. Suggestions of keywords/keyphrases can be found at the end of this document and on the Google form survey.)

Health numeracy
Usability study
Mixed methods

Commented [AJS1]: Excellent. Now, however, I think we need a little bit of a bridge to introduce the concept of a health communicator and why they're important for us to study.

Commented [US2R1]: Added in a sentence to try to clarify why we are interested in health communicators. Please let me know if apt.

Commented [AJS3]: In a sidebar conversation, we've been considering renaming this as "classify number" or "categorized number."

Commented [AJS4]: The beginning of this sentence says "overarching" but then here you say "necessarily." It seems a little bit in tension - the sentence seems to be suggesting that it's a universal finding, but then the rest of the sentence says it only happens sometimes ...? So maybe think about how to revise this for clarity.

Commented [US5R4]: Makes a lot of sense. I tried to revise this to better contextualize why their lack of shifting communication formats is important here.

5. **Statement of significance.** (Up to 150 words)

This usability study evaluates ongoing work of the Making Numbers Meaningful project's work to develop a web application for helping to relay best practices when communicating numbers in healthcare. This work helps to better characterize health communicator frames of thinking and provides avenues for guidance improvements. Results from this needs assessment will be leveraged to build a better tool for health communicators to communicate information to patients and the public – dissuading misinformation and providing more people with increasingly effective interpretations of healthcare data.

6. **Research stage.** (Idea/Early Stage, In Process, Complete)

In Process

7. **Submission type.** Select the submission type for the abstract: Plenary, Focus, Poster, or Rapid research idea or tech talk.

Poster

8. **Presenter's full name and email address.**

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