Review of: "qMRI-BIDS: an extension to the brain imaging data structure for quantitative magnetic resonance imaging data"

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The development of a qMRI-BIDS extension is an important contribution to open science. My criticisms are mainly minor comments on exposition. The paper is fairly dense and could be improved by some clarification.

The paper is written as though BEP001 is a proposal, but the paper says that BEP001 was merged in Feb. 2021. Scattered throughout the paper are references about what is supported by the BIDS-validator and what isn't. What is currently in BIDS, what is supported, what is in process, and what is planned for the future should be clearly stated in both the abstract and the final discussion. In fact, I don't think you should be calling it BEP001, but rather the BIDS-qMRI extension throughout the paper. Is BEP001 still a thing as Figure 2 implies with its own governance structure or is it part of BIDS?

There are some entity items that BIDS-qMRI seems to have grabbed for itself, which I think should have been left more generally available. The "part" entity is one of those. The allowed values are `mag`, `phase`, `real`, `imag`. It is clear this is meant to representation complex numbers in multiple files, but the BIDS specification says "This entity is used to indicate which component of the complex representation of the MRI signal is represented in voxel data." This seems like a narrow application when many types of future derivatives for all modalities will need to represent complex numbers.

The introduction has a lot of good information, but needs writing cleanup:

2nd paragraph: "single or multiple quantitative map…"

3rd paragraph: "such as T1 and T2* relaxation time."   (Also, T2* hasn't been defined.)

"the gamut … have become"

" know the healthy range"   (do you mean for healthy patients --- remove healthy)

Explain what you mean by multicenter standardization.

4th paragraph: "Hence, the capacity of …."   (please rewrite this sentence)

Also point iii) says the "available to a small group of researchers". The conclusion explains this --- that

information should be moved up to the introduction.

6th paragraph: "Our extension…" => "The extension"

"go a long way toward" => facilitate

I found Fig.1a-b confusing and was unsure of what it was supposed to convey. A better schematic diagram should be developed and separated from Fig. 1c-d.

The typography of Fig. 1c-d could be improved.

I did not find the Methods section very useful. I would have rather had the Methods be a discussion of the data format and organization for qMRI.