



OHBM BEST PRACTICES DEVELOPMENT PROCESS

PREAMBLE

The Organization for Human Brain Mapping (OHBM), represents the neuroscientific, neurological, methodological, and educational interests of thousands of researchers worldwide - those who utilize advanced medical imaging and electrophysiological technologies to examine brain form, function, and connectivity. This community, with its focus on the development and application of specialized methodologies for data acquisition, processing, interpretation, and visualization, depends heavily upon the collective knowledge of its experts. As OHBM gains momentum as a Society through a carefully created strategic plan, celebrates its 25th Anniversary, and looks forward to future success, it seeks to enact a formalized process to encapsulate, encode, and express “best practice” recommendations for our field. Such “best practices” have so far been mostly put forward in an ad-hoc manner. OHBM seeks to formalize this process with the aim of clarifying a consensus on what works best.

The following sections of this document describe the means by which neuroimaging-related Best Practices recommendations are defined, how they may be solicited or proposed, ratified, and communicated. Through this process for rigorously developing, documenting, and disseminating Best Practices of practice across the domains of human neuroimaging research, OHBM aims to promote science literacy, transparency, and reproducibility. Thus, the aim is that the quality of research from OHBM members is elevated to further establish a culture of neuroscientific excellence over the next 25 years and beyond.

John Darrell Van Horn, Ph.D., University of Southern California, USA
Peter Bandettini, Ph.D., National Institute of Mental Health, USA
On behalf of the OHBM Scientific Advisory Board

DEVELOPMENT OF OHBM BEST PRACTICES

Definition of Best Practices: The OHBM Council has approved a process for the development of practical research and reporting Best Practices documents in the field of neuroimaging. The goal is to provide systematic development of Best Practices using available knowledge and expert opinion on areas where high quality data is limited. This results in a recommendation of best practices to assist members with research and reporting Best Practices of practice in the field of neuroimaging. [View successful OHBM Best](#)

[Practices.](#)

Best Practices Oversight:

- The OHBM Best Practices Committee will receive, solicit, and provide appropriate Best Practices document to the OHBM Council for approval.
- The Committee will strive to obtain diversity among the identified topic experts to facilitate a thorough review of the available evidence.
- Best Practices produced through the efforts of this Committee will be based on the best current evidence, literature, and expert opinions.

Best Practices Organizational Structure:

- **Best Practices Committee Chairs:** The Chair, Chair-Elect and Past Chair will serve as leadership for the Committee. Chair-Elects will be selected by the Best Practices Committee and approved by Council. The Chairs will be responsible for delegating tasks to achieve the Committee's mission, reporting progress to the OHBM Council, and ensuring the integrity of the developed Best Practices. The Chair will organize routine conference calls for the Committee and Writing Groups, document meeting discussions, and obtain conflict of interest documentation from all members involved with the development of the Best Practices.
- **Best Practices Committee:** Committee members will be selected through an OHBM Engage solicitation with members selected by the Chairs. The Committee will consist of a multidisciplinary team of 7-9 OHBM members (excluding the Chairs), ideally with representation from research technology; data acquisition; data analysis and statistical modeling; a relevant neuroscientific/medical specialty, etc.
- **Responsibilities of the Best Practices Committee:**
 - Identify and select topics suitable for Best Practices development
 - Identify key experts to lead the development of the Best Practices in the chosen topic domain
 - Facilitate the development of the standard
 - Ensure that no conflicts of interest exist and that no commercial funding "if applicable" is restricted and has no influence over the Best Practices content
 - Review the final document
 - Coordinate approval of any final document with the OHBM Council, organize the identification of review of the document by OHBM membership if appropriate, and determine the appropriate means of distribution to Society members.
- **Writing Group:** Writing Group Chairs will be selected by the Best Practices Committee. An OHBM Engage solicitation will be sent to members to find individual interested in helping to write the standard document on the identified topic. The

Writing Group may also solicit their own members. The Best Practices Committee reserves the right to make changes to the Writing Group to ensure diversity, balance, independence, objectivity and scientific rigor.

- **Responsibilities of the Writing Group:**
 - Refine the scope of the document
 - Determine the outline
 - Make writing assignments
 - Maintain the timeline of the overall document development
 - Meet deadlines and facilitate consensus
 - Edit the full document for consistency of style and voice
 - Oversee recommended edits and revisions
 - Submit a final draft to the Best Practices Committee.

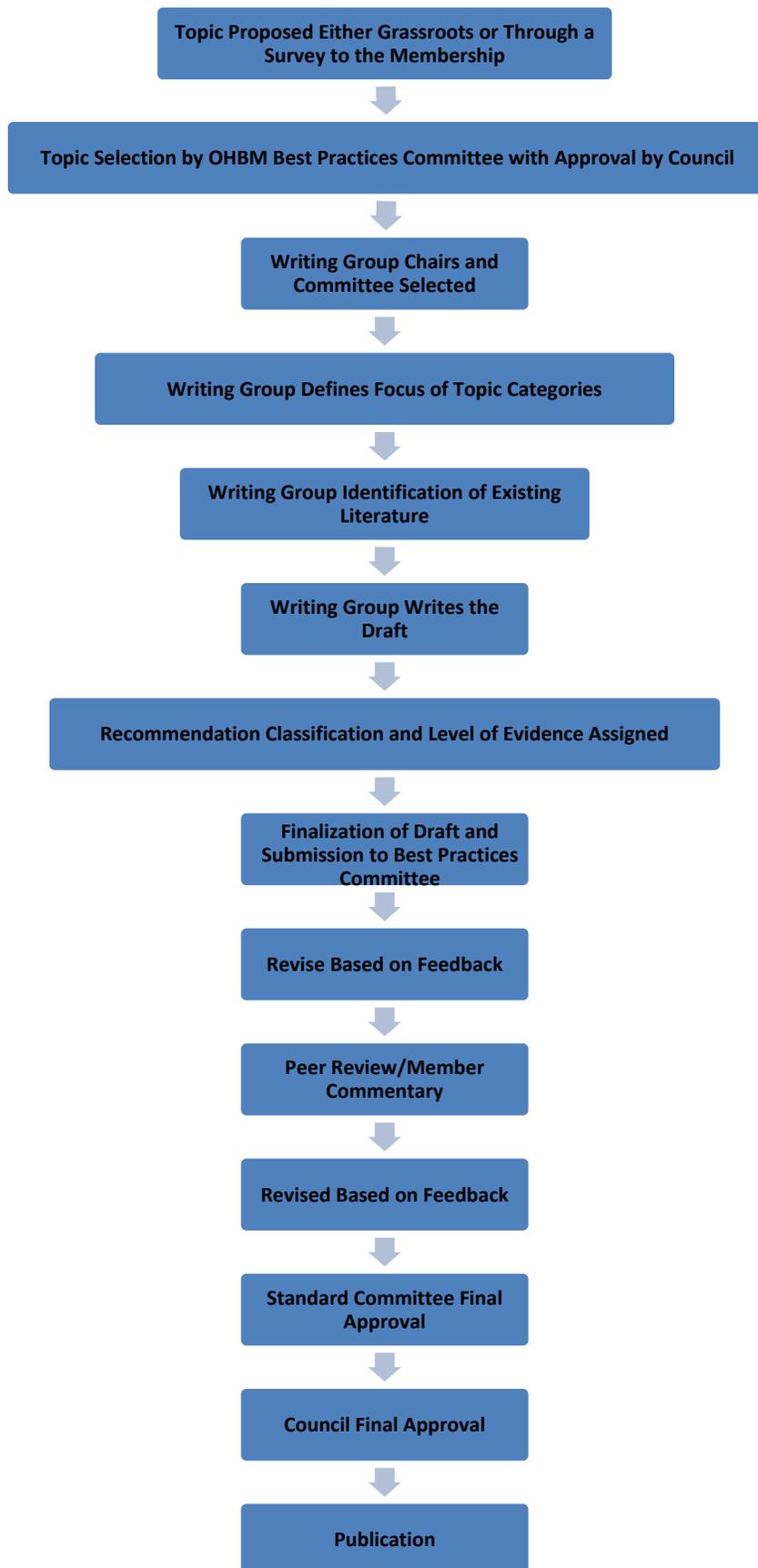
- **Conflict of Interest:** Conflict of Interest Forms must be signed by the Best Practices Committee Chairs as well as all Committee members and Writing Group members. The Executive Office will review the forms submitted by the Chairs and forward to Council any that post a relevant conflict of interest. Those forms submitted by Committee members and Writing Groups will be provided to the Chairs for review and approval.

- **Resolution of a Conflict of Interest:** Resolution of conflict means ensuring that the content of the activity is aligned with the interest of the public. OHBM shall resolve all conflicts of interest prior to the activity through one or more of the follows steps:
 - a. Request reassignment to a committee or Writing Group that will not result in a conflict
 - b. Abstain from discussions related to the conflict
 - c. Abstain from voting on a matter related to the conflict
 - d. Request reassignment to a committee that will not result in a conflict
 - e. Divestiture of the relationship

OHBM requires that all personnel involved will disclose any and all potential conflicts of interest and resolve them prior to participation.

| |
|--|
| BEST PRACTICES DEVELOPMENT SEQUENCE |
|--|

See next page for a flowchart outlining the Best Practices development sequence.



BEST PRACTICES DEVELOPMENT

Topic Identification: Topics may be proposed by OHBM members or outside professional organizations. OHBM will request member input via a SurveyMonkey for online submission of topics suggestions. The Best Practices Committee Chair or the Executive Office can be contacted directly via email for Best Practices suggestions. Contact information of the Best Practices Committee Chairs will be available on the OHBM website.

Topic Selection: The Best Practices Committee will determine which topics fill a gap and/or need within the OHBM community. The following criteria will be considered when deciding which topics to pursue:

- Need for a Standard
 - Prevalence of Problem
 - Extent of Practice Variation
 - Quality of Available Evidence as well as Current Existence of Best Practices (available on the same topic by other organizations)
 - Urgency for Creation of Best Practice Standard
- Appropriateness for Creating a Standard
 - Decision that the Standard will accelerate rather than stifle progress

Topic Development: The Writing Committee will formulate specific questions to be addressed through the planned document. Best Practices produced will be based on the best current evidence and expert opinions. The topic experts will be asked to review the available literature, confirm the level of evidence and categorize the data. They will then develop a document summarizing the data.

Typically, Best Practices documents will be divided into subsections. One Writing Group member (designated as “Section leader”) will be identified to be primarily responsible for each subsection, and will be responsible for classifying the recommendations, determining the level of evidence, and writing a first draft for their section. Discussions among the Writing Group will be coordinated by the designated Writing Group Chairs.

Literature Search: After defining the Best Practices topic, outline and scope, and identifying the Writing Group members, a comprehensive search of the published literature will be conducted. Criteria to be cited as supportive evidence: other case series, single case reports and review articles. Expert opinion can also be cited when there is no data available to support a recommendation. Unpublished data may not be used to support recommendations. The rare exception for including unpublished data in the guideline text, figures, or tables is when the data have important public health implications. The Writing Group will review such cases on an ad-hoc basis. The process of identifying the relevant literature must be meticulously documented.

The Chairs of each specific writing committee will be primarily responsible for collating sections into a draft of the Best Practices document and ensuring all Writing Group members agree with the recommendations.

Best Practices Document Review: Every standard document will undergo peer review by at least ten (10) OHBM topic experts. An OHBM Engage: Call for Reviewers will be sent to the OHBM membership soliciting topic experts representing broad representation of those that would be qualified reviewers but are not already represented by the Best Practices Committee, Writing Group or other reviewers. Two Best Practices Committee members will be identified as external guideline liaisons to oversee the review process for internal OHBM reviewers.

Their tasks are to:

1. Select OHBM member reviewers,
2. Collate comments received from reviewers including votes for/against endorsement; and
3. Create a written response to the Writing Committee Chairs for the specific guideline that will be shared with the authors for discussion of revisions. All reviewer names are kept confidential.

The Best Practices draft may undergo review by other organizations in anticipation of endorsement. Requests for external endorsement are submitted by the Best Practices Committee Chairs to the desired organization. OHBM works with one liaison for each external organization to identify reviewers and follow up with responses. All responses are reviewed by the Best Practices Committee Chairs who will then forward the information to the Writing Group for dissemination to authors and consideration of possible revisions.

Once all revisions have been made, a final document is presented to the Best Practices Committee Chairs. The Best Practices Committee Chairs will review and approve the final document and then forward the final document to the OHBM Council for review and approval.

Authorship: Authorship of any document will be shared among the experts participating in Best Practices development. Chairs will be listed first and all other Writing Group members will then be listed in alphabetical order. All authors must submit an OHBM Disclosure and Confidentiality Agreement.

Length of Document: The goal is to keep the Best Practices as brief and concise as possible.

Timeline of Completing Best Practices Statements: Timelines will be developed for each individual topic. The Best Practices Committee will oversee progress of the respective topic groups in an effort to maintain adherence to the planned timeline. If timelines are not being met, the Best Practices Committee will work with the Writing Group chairs to determine the source and alleviate barriers.

The general goal is to accomplish the steps from topic proposal to posting the finalized standard on the OHBM website within a two-year time frame. The following deadlines should be kept in mind:

- o Month 1:
 - Topic proposed
 - Topic selection by OHBM Best Practices Committee
 - Writing Group selection
 - Conflict of interest with input from the Best Practices Committee
 - Chairs as needed
- o Month 2-4:
 - Definition established/agreed upon
 - Identification of literature
- o Month 5-7
 - Assignments negotiated
 - Initial Categorization/grading of literature
- o Month 8-12
 - Topic specific review of literature
 - Assignments reviewed for ongoing appropriate division of work
 - Writing of draft
- o Month 13-14
 - Recommendation classification and level of evidence assigned
 - Meeting to finalize draft
- o Month 15-18
 - Revise based on feedback
 - Peer review
 - Member commentary
 - Approval process
- o Month 19-24
 - Publication
 - Post on OHBM website
 - Presentation of Best Practices at Annual Meeting or via webinar

BEST PRACTICES PUBLICATION

Best Practices produced by OHBM are to be published in OHBM's Journal – Aperture. Publication in other peer-reviewed journals is also encouraged. This allows the standard to gain more visibility as well as promotes OHBM as an authority on Best Practices.

Best Practices will be available to the community via publication on the OHBM website. OHBM has the ability to distribute freely any Best Practices that are published in any format or publication.

BEST PRACTICES UPDATE PROCESS

The Best Practices Committee is responsible for assuring that existing OHBM Best Practices documents are not out of date and keep up with new practice and evidence. Every year, the Best Practices Committee will review existing Best Practices to determine which ones are in need of updating.

If a standard is deemed to be in need of updating, they will contact the initial Writing Group Chairs to solicit their involvement.

The Writing Group Chairs will identify 5-7 individuals (preferably those from the original Writing Group) to review the document, identify areas where changes are needed and update the document.

A draft of the revised document will be presented to the Best Practices Committee for review and comments.

Once approved, changes to the document will be summarized and presented for peer review or member commentary.

The Writing Group will revise the document and present a final draft to the Best Practices Committee for review and approval.

If approved, the document will be forwarded to Council for their review and approval. If not approved, the document will return to the Writing Group until such time as the final draft is approved by both the Best Practices Committee and Council.

Updated will be provided through OHBM's social media, online education and during the Annual Meeting.