

**Interview Project:**  
**Scientific Research and the Publication Process**

Dorothy Her

Inver Hills Community College

BIO 1114-99: Critical Issues in Human Biology

Kristin Digiulio

April 25, 2023

The purpose of this project is to interview someone who is actively involved in scientific research and to learn about the publication process. While searching online for who to interview, I searched for “Hmong Health” and found a research paper done by Dr. Bruce Barrett in Eau Claire, Wisconsin called “Hmong/Medicine Interactions: Improving Cross-Cultural Health Care” (Barrett et al., 1998). This was of interest to me since I am Hmong and am pursuing a nursing degree.

Dr. Bruce Barrett is 62 years old, and he is the Vice-Chair of Research for the Department of Family Medicine and Community Health at the School of Medicine and Public Health at the University of Wisconsin, Madison. He is also a primary care family physician and professor. Barrett has always been intellectually curious since he was young. Growing up, his family had many dinner table discussions – with no limits to the topics. Although he traveled and loved studying philosophy and anthropology as an undergraduate student, he went on to medical school to gain useful skills to help others.

Barrett’s PhD is in anthropology, and for his dissertation, he spent a few years on the Atlantic Coast of Nicaragua doing field work. He also spent a year in Guatemala doing his postdoc through John Hopkins, working with the World Health Organization research institution there. During his residency, he went to Vietnam three times connecting village healthcare workers with higher level physician leaders. Barrett’s latest research includes “Mindful Climate Action: Health and Environmental Co-Benefits From Mindfulness-Based Behavioral Training” (Barrett et al., 2016) and “Meditation or Exercise for Preventing Acute Respiratory Infection (MEPARI-2): A Randomized Controlled Trial” (Barrett et al., 2018). From there, Barrett and his team started the Mindful Climate Action (MCA) program. It is an educational and behavioral health program aiming to “help people decrease their carbon footprints while enhancing their

personal health and happiness” (University of Wisconsin Madison, 2023). Barrett has a deep passion for environmental justice.

### **Interview summary**

Barrett is a practicing family doctor. He also conducts scientific research studies and mentor students in their own research at UW-Madison as well. Barrett also participates in peer reviewing in his free time. In this interview, he shared his knowledge with the steps taken before conducting the research, how to find funding, and the peer review process for a scientific publication. Then, he shared his thoughts on the biggest barriers to the publication process, ending the interview with key takeaways on the importance of education.

Barrett explained that before starting the research, the investigator must first have an interest. After this, scientific literature is reviewed to rule out ideas surrounding the interest that may have already been done. Once an understanding of the literature is completed, a specific answerable research question can be proposed. Barrett shared that this process can be challenging. He stated that even for someone with a PhD, it may take a year to go from reviewing literature to having a refined research question that can be answered. He added that the research question must also be important enough to receive funding.

### **Funding**

Barrett shared that funding is also very important. Universities do not pay their salary to do the research; therefore, bringing in grants to pay for the research is very crucial. Furthermore, it is rare that scientists do research alone. Usually there are co-investigators who may provide more expertise in certain areas of the research; for those that do not contribute as much, they are named in the acknowledgement section. There is also research staff that the lead investigator hires to collect data, manage data, and perform statistical analysis. There are specific grants that

fund research done by individuals but that is rare; he mentioned the MacArthur Genius Grants, which focuses on individuals more than the project or institution. Through this grant, awardees receive \$800,000 each. Additionally, if there is already funding for government to do research on a specific topic, there may not be any funding outside of that; therefore, there must be a need with the interest.

Funding is highly competitive, and a vast majority of research proposals do not get funded. There must be people who are willing to provide and/or find funding so that research can be supported. Barrett stated that the Robert Wood Johnson Foundation is an example of an organization that awards millions of dollars to organizations and institutions.

### **Institutional Review Board**

The Institutional Review Board (IRB) is comprised of individuals who review research studies to ensure that compliance with regulations and ethical standards will be met. Barrett shared that the IRB approval is done once funding is secured. He explained that having a staffed IRB is expensive and labor intensive, as they spend their time reading lengthy proposals. However, if there are ethical considerations, the IRB approval may be needed beforehand.

### **Peer Review**

Once the research paper is completed, it can be submitted for peer review to one journal. If approved, the investigator's research study will be published in that journal. Peer reviewing is used to evaluate the quality of research before it is published. This means that other "scientific experts in the field check research papers for validity, significance and originality, and for clarity" (Sense About Science, 2017). Barrett shared that journals can be found through various ways, such as, through the Jane website from The Biosemantics Group. It can also be found by looking at the references in the investigators research paper to see where those papers were

published. He also added that it is important to make sure that the journal is indexed, meaning that it is legitimate and a good quality journal. The PubMed can be used to find an indexed journal (National Library of Medicine, 2023). Additionally, researchers can investigate the journal's impact factor. An impact factor is used to measure the importance of a journal (Yatan, 2012).

Barrett stated that as researchers continue to read more articles, they will start to learn what journals are out there. Not all journals are "good." As taught in this course, there is a lot of misinformation and pseudoscience on the internet. He shared that some journals are set up to make money, but they do not advance science; therefore, anyone who can afford to pay them will get their paper published.

Additionally, research papers are rarely ever accepted for publication the first time. Usually, the journal will ask for a revision to be resubmitted. However, if the paper is not approved, the investigator should have another journal in mind. Barrett also shared that there has been an increase in cost to publish in a journal. This cost is usually added to the funding budget, which could be in the thousands of dollars.

### **Barriers**

Furthermore, Barrett shared his thoughts on the biggest barrier right now in the publication process, which is finding good peer reviewers. He acknowledged that people are busy and do not get paid to review research papers. Universities value faculty making contributions to scholarly journals, yet it is not a part of their job description since it does not benefit the university. He shared that there could be more support from universities to do so. Additionally, the process is very complex and takes a lot of management and organization. Barrett shared that many journals collect names of published authors and will often ask them to

peer review papers in their field of study. Barrett is on that list and receives so many papers that he only chooses the ones that most interest him; he peer-reviews about 4 to 6 papers every year. He also added that, with the right credentials, anyone could ask to be a peer reviewer for a journal as well.

### **Education is Key**

Barrett shared that “education is key.” He believes that students should not be afraid to learn and to ask questions about where information comes from. Furthermore, individuals should not trust scientists just because they are scientists; there is readily accessible false information out there, resulting in many people believing in pseudoscience. Learning gives individuals the power to distinguish between facts and lies.

### **Analysis of the Interview**

There was a lot that was learned from this interview with Barrett. There were key takeaway points, things that were surprising, as well as a greater appreciation for scientists. The biggest takeaway was that education is key because the more an individual learns, the more power they have in decision-making and in being a good contributor to society. In this course, pseudoscience was a huge topic that was covered, which really helped in better identifying false information. This interview with Barrett is directly connected to this course. He talked about the importance of knowing how to identify credible sources versus false information, which directly ties to why peer reviewing of scientific research papers is so important.

There were a few things learned that were surprising. For example, it was shocking to find out that peer reviewers were not paid. Scholarly papers could be in the hundreds of pages, making it time-consuming to review. It was hard to believe that educators, like Barrett, could find time to teach university students, practice medicine, conduct and lead their own research

study, as well as mentoring other students in their own research. Not to mention, participating in peer reviewing that they willingly do in the name of science.

Additionally, it was surprising to learn that funding could be in the millions of dollars. That is a lot of money, which goes to show how much work it takes to conduct scientific research. It was also surprising to learn that universities do not often fund huge research studies, even though it is a part of a professor's job description to have continuous research done.

Lastly, it was surprising to learn that Barrett had to be a practicing doctor to serve as the Vice-Chair of Research for the Department of Family Medicine and Community Health at UW-Madison. He shared that for other departments such as Pharmacy and Nursing, this does not apply. With that said, I have such a greater appreciation and respect for scientists after conducting this interview with Barrett. It was hard to believe that he could make time to accomplish all that he had done and to continue to complete his daily tasks and responsibilities.

I made a comment to Barrett, "You must not get enough sleep." He replied, "Actually I do. I sleep at 10 pm every night and exercise every day." Dedication and commitment are so important, which is something I unexpectedly learned that will help me further my education and in life. Barrett's dedication and commitment to education and to being a contributing citizen was very inspiring. I believe it is the key foundation in being successful. It is not very often that I meet someone who has accomplished as much as he has.

Overall, this was a great experience, and I really enjoyed the interview. Being able to speak to someone who is actively involved in scientific research and the publication process helped to have a deeper understanding of why credible scientific research is so important.

### References

- Barrett, B., Grabow, M., Middlecamp, C., Mooney, M., Checovich, M., Converse, A., Gillespie, B., & Yates, J. (2016). Mindful climate action: Health and environmental co-benefits from mindfulness-based behavioral training. *National Library of Medicine*, 8(10): 1040. doi: 10.3390/su8101040
- Barrett, B., Hayney, M., Muller, D., Rakel, D., Brown, R., Zgierska, A., Barlow, S., Hayer, S., Barnet, J., Torres, E., Coe, C. (2018). Meditation or exercise for preventing acute respiratory infection (mepari-2): A randomized controlled trial. *National Library of Medicine*, 13(6). doi:10.1371/journal.pone.0197778
- Barrett, B., Shadick, K., Schilling, R., Spencer, L., del Rosario, S., Moua, K., Vang, M. (1998). Hmong/medicine interactions: Improving cross-cultural health care. *Europe PMC*, 30(3):179-184 PMID: 9532439
- National Library of Medicine. (2023). *PubMed*. <https://pubmed.ncbi.nlm.nih.gov/>
- Pal Singh Balhara, Yatan. (2012). Indexed journal: What does it mean. *National Library of Medicine*, 29(2): 193. doi: 10.4103/0970-2113.95345
- Sense About Science. (2017). *I don't know what to believe*. <https://senseaboutscience.org/wp-content/uploads/2016/11/I-dont-know-what-to-believe.pdf>
- University of Wisconsin Madison. (2023). *Mindful Action Climate*. <https://www.fammed.wisc.edu/mca/>