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Keywords

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Know Your Chances: Understanding Health Statistics Book Discussion

Final Report

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Introduction

To make wise and informed health decisions, whether it's choosing what to eat or take a medicine, we must weigh the benefits and harms of treatments and behaviors. Our decisions can be easily swayed by what we read, hear, and view in the news or advertising. How can we know if the latest health report is valid? Or whether it is relevant to us? And, how can we judge if the benefits of a treatment or behavior outweigh the harms? Health decisions are by their nature very stressful. Then, add on to that the need to understand numbers. In a 2013 international survey of literacy and math skills, US adults ranked 21st out of 23 advanced economies. (Goodman 2013) And many people who struggle with math intentionally avoid it. (Waxman 2012)

But to make health decisions, people need to know the right questions to ask and be prepared to understand the answers - which typically include numbers. Yet most people receive little training in this type of health literacy during their formal education. To help the public understand health statistics - and how they can be exaggerated or misleading in the news or ads, Drs. Steven Woloshin, Lisa Schwartz, and H. Gilbert Welch co-authored *Know Your Chances: Understanding Health Statistics*. The book - which the University of California press has made freely available on the National Library of Medicine's Bookshelf, helps people develop healthy skepticism and learn practical skills such as how to understand messages about risk and risk reduction. The authors seek to teach "how to see through the hype in medical news, ads, and public service announcements." The goal of the book is to help promote a healthy skepticism in the public by supporting consumer decision making. The central theme of the book is that, "Good decisions are based on facts and a prism of values...Without facts, we can't make good decision...the media publications often use exaggerated messages/hype to generate fear or hope." (Woloshin, 2008)

Woloshin and Schwartz assure readers, "Don't worry: this is not a math book (only a few simple calculations are required). Instead, this is a book that will teach you what numbers to look for in health messages, and how to tell when the medical statistics don't support the message. This book will help you develop the basic skills you need to become a better consumer of health messages, and these skills will foster better communication between you and your doctor." (Woloshin, 2008)

Methods

The *Know Your Chances: Understanding Health Statistics Book Discussion Project* evolved from a webinar held by the National Network of Libraries of Medicine New England Region's (NN/LM NER) Healthy Communities--Community of Interest (COI) on March 4, 2014. The book's authors, Steven Woloshin and Lisa Schwartz, presented a webinar (available for public viewing at: <https://webmeeting.nih.gov/p3n5k2rykp0/>) Following the webinar, Margot Malachowski, NER's Healthy Communities COI Leader, shared a vision for a book discussion group project.

In June 2014, the NN/LM NER Healthy Communities, Community of Interest (COI) invited network members to apply to participate in a health statistics book discussion project. The nine libraries and organizations selected to participate were required to: host and lead a book discussion at least once; attend planning teleconferences, and provide a brief post-project report to share their experiences. Participants were asked to select an audience for a book discussion, ideally public libraries, high school students, health professions students, caregivers, teachers, support groups or patient educators. Project participants prepared to lead book discussions that would help consumers learn how to calculate risk, put risk in perspective, and develop a healthy skepticism.

Know Your Chances is a quick read and is **freely** available online on the PubMed Health bookshelf at: <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0050876/>

Know Your Chances: Understanding Health Statistics Book Discussion Project Participation		
Project Partners	Role	Responsibilities
Steven Woloshin and Lisa Schwartz <i>Professors of Medicine, Community & Family Medicine, Dartmouth Institute</i>	Authors of <i>Know Your Chances: Understanding Health Statistics</i>	Attended planning teleconferences. Provided feedback on the creation of the book discussion materials. Provided supplemental materials.
Michelle Eberle <i>NN/LM NER's Health Literacy and Community Engagement Coordinator</i>	Facilitator	Coordinated teleconferences and communications. Offered the book discussion.
Margot Malachowski <i>Baystate Health's Community Outreach Librarian</i>	Leader	Provided the vision and strategic guidance for the project. Led teleconferences. Offered the book discussion.
Cindy Olney <i>Assistant Director of the NN/LM Outreach Evaluation Resource Center</i>	Evaluation consultant	Supported development of evaluation materials.
Donna Belcinski <i>Greenwich Hospital, Connecticut</i> Maureen Dunn <i>Concord Hospital Library, New Hampshire</i> Joanne Doucette <i>MCPHS Library</i>	Participants	Developed book discussion materials. Developed evaluation activities. Offered the book discussion.

<p>Jeannine Gluck <i>ECHN Library, Connecticut</i></p> <p>Jane Kearns <i>Hartness Library, CCV/VTC, Vermont</i></p> <p>Barbara Keef <i>Windham Public Library, Maine</i></p> <p>Lauren Olewnick <i>Castleton State College Library, Vermont</i></p> <p>Margaret Perkins <i>Medway Public Library, Massachusetts</i></p> <p>Stacy Wein <i>Copley Hospital Library, Vermont</i></p>		
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The *Know Your Chances* project participants met five times via teleconference between May 1, 2014 and April 30, 2015 to discuss the process and develop materials. The participants collaborated with the authors and the NN/LM OERC to develop book discussion materials and the post survey. In a peer-to-peer exchange, project participants shared approaches to connect with community partners to host the book discussions. Over the course of the project, participants led book discussions for a variety of audiences including public library patrons, cancer patients, medical librarians, medical interpreters, seniors, and teens. Feedback from the book discussions was gathered via a post-it note sharing activity, a post-survey, and a host survey.

Results

Project participants collaborated with the NN/LM OERC (Outreach Evaluation Resource Center) to develop a post-survey for attendees after the book discussion and a survey for the host organization of the discussion. Fifty-five attendees completed the post-survey and six hosts completed the host-survey. After the completion of the project, an additional six book discussions were offered. Data for those six post-project book discussions was not captured in the post-survey results.

The *Know Your Chances* book discussions were offered for a variety of audiences and venues including the following:

- Public library book discussion group
- Hospital-based support group
- Staff meeting for health sciences librarians
- Professional development event for medical interpreters
- Lifelong learning program for seniors

Book discussion attendees and the host organizations found the book discussions beneficial. When asked, will you do anything differently after reading the book, 67% of attendees replied yes. When asked, "If yes, what will you do differently?" attendees shared that they would:

- "Teach others what I learned and continue to be a better consumer."
- "Think and question base assumption."
- "Research!"
- "Be more critical and skeptical about study results."
- "Make a point of carefully analyzing health statistics and claims - and sharing book with family and friends."
- "Ask more questions when I am given a Rx."
- "Question more when I read statistics."
- "Look for books with simplified math explanations."
- "Ask more questions about the information that is delivered."
- "I will review how to put statistics in context, this way, they will have meaning."
- "Do more research before a treatment, if it is not an emergency."
- "Contact librarian and explore some of the recommended websites for personal health questions."

At several of the book discussions, book discussion leaders asked attendees to write their take-away on a post-it note. Take-aways included:

- "Ask the question - how it relates to me?"
- "One needs to be skeptical when reflecting on health statistics that are reporting in the news, and know what questions to ask and reframe statistics in other ways."
- "To develop a healthy skepticism about advertisements for drugs and health studies."
- "In making decisions about healthcare choices, it's necessary to take all of the information and statistics and view risk/benefit as it applies to your life."
- "Confirmation of Disraeli, *There are lies, damned lies, and statistics.*"
- "Numbers are useless without understanding their full context."
- "To understand the numbers - what do the numbers mean?"
- "Take into consideration all the variables for a decision when determining statistics."

49 out of 55 attendees said that they would recommend the book to a friend. The other six attendees said they were not sure.

When asked, "Has this book changed the way you view medical stories?" 37 out of 55 attendees said "yes." Attendees who responded yes, shared:

- "Enhance the way I will look at them with another question or two."
- "Already "schooled" in critical thinking when it comes to medications and health news. Good reinforcement."
- "Improved ability to look at and evaluate health statistics."
- "I didn't think it would change significantly, but I do think I'll have better tools for interpretation."
- "Data can be changed and not be always the way it is presented."

- “I would say: to have a *healthy skepticism*”
- “Think more than just the #s.”
- “Being more critical and paying more attention to contextual data.”
- “Already a skeptic. Just have more tools now.”

When asked, “Did attending the discussion add to your understanding of the book?” 47 out of 55 attendees responded “yes,” 7 out of 55 attendees responded “not sure,” and one attendee responded “no.” Response to “If yes, how?” include:

- “It gave me more resources to use to go deeper into the topics.”
- “Why I should read it now!”
- “Great presentation and discussion! Valuable to discuss in a group; get ideas reinforced. Excellent!”
- “It helped to hear other people’s view of the book.”
- “More brains discussing the matter.”
- “Listening to the comments of other participants added to my own understanding of the book.”
- “Bringing up cases.”
- “A clearer understanding of the pros and cons and how to weigh them out for your own personal situation.”
- “The book was a lot to digest, so good to discuss. Handouts valuable and information concerning online sites and hospital librarian valuable, too.”
- “Will try to be more “assertive” in educating self and family before decision making on health care or surgeries.”

All hosts thought the book discussions benefited their organization or community. When asked how, hosts responded that the workshop:

- “Clarified information. It made the book accessible for everyone.”
- “It provided a forum for discussion of medical and health messages.”
- “The small group in attendance felt better-informed about health messages.”

All hosts agreed that the book discussions contributed to their organization’s mission. When asked, what part of the mission it supported, hosts responded that:

- “Provided opportunities for lifelong learning, improve community education.”
- “Helped people make more informed decisions about their health. Created an open conversation.”
- “Better understanding of health communication related to statistics.”

Discussion

Many book discussion attendees professed to have a healthy skepticism prior to participating in *Know Your Chances*. They seemed to understand that media reporting often exaggerates risks and were well on their way to developing a critical state of mind when dealing with the media. (Schweim, 2015) “Already ‘schooled’ in critical thinking”, stated one attendee. At the same time, they were aware that they lacked knowledge about statistics and voiced a desire to ask more questions and do more research.

The personalization of risk—what does this mean for me?—seemed to be an important component of reading and understanding the content of the book.

The *Know Your Chances* project measured the impact of the discussion as well as the book itself. Collaborative reading is a popular phenomenon among those interested in lifelong learning. Landmark programs such as Seattle Reads and One Book, One Chicago were launched over fifteen years ago to promote an appreciation for reading, to provide an opportunity to bring people together, and to build a sense of community through a common discussion. (Scheffel, 2013) In the *Know Your Chances* post-survey, most attendees reported that the book discussion added to their understanding of the book. The social aspect of book discussions, in particular the emotional satisfaction of having an opinion validated, is an important part of the group experience. (Kerka, 1996) As one attendee commented, “Valuable to discuss in a group; get ideas reinforced. Excellent!”

The host survey measured the impact on partner organizations. Despite the fact that the audiences and settings were so different, all of the hosts viewed the project as beneficial to their organizations and contributed to their organization’s mission. Book discussions in public libraries, hospitals, and lifelong learning organizations all provided an opportunity to gather in a safe, accepting, inclusive environment; to engage in discussion as a learning method; to honor personal knowledge as legitimate; and to provide a time for critical reflection. These are principles of adult education. (Kerka, 1996)

Several *Know Your Chances* project participants reported continuing to offer book discussions following the project. Stacy Wein, librarian at Copley Hospital in Vermont, presented three book discussions for public libraries in Lamoille County. Through one of the book discussions, Wein made contact with an AP math/statistics teacher at one of the local high schools. She presented the book discussion with the AP class. Wein said this was the “best group; large, dynamic and curious. Not only had they read *Know Your Chances* but two other books on the subject. They had all prepared one question each (about 20 in all). There wasn’t enough time to cover all the questions individually but, we did cover many through the discussion. Great questions and strong interest in the ethics and accountability of drug companies in marketing a product and in misleading representation of information based on studies and clinical trials.”

Maureen Dunn, librarian at Concord Hospital in New Hampshire, has offered three additional book discussions with cancer support groups since the project ended. She experimented with the approach of sharing excerpts from the book, rather than requiring the group read the book in advance. The excerpts were tailored to each group, and she followed up with a discussion of a recent related health news story from HealthDay. She “picked up a sidekick along the way!” Dunn said, “It was so great to have him at the groups, because I could kind of lead the talk around the numbers and the literature and how the media interprets them, and he led the talk around experiences with those numbers as a patient. Worked out wonderfully!!”

The book discussion was such a positive experience for several project participants that they proceeded to host book discussions with other health-related titles. Maureen Dunn is planning to offer a book discussion of Ben Goldacre's *Bad Science*. Margot Malachowski, at Baystate Health, has offered book

discussions of *Your Medical Mind*, by Jerome Groopman and Pamela Hartzband, and *The Power of Habit* by Charles Duhigg. Malachowski finds that book discussions are a wonderful way to engage consumers in health literacy. The content of the books helps consumers organize their concerns and fears about medical conditions. The librarian is on-hand to offer quality health information resources for further inquiry. For example, a discussion about statins could lead to a demonstration of the resources in MedlinePlus.

To sustain the *Know Your Chances* project, Michelle Eberle created a NN/LM training page to publicly share resources created for the book discussion in June of 2016. The materials are available at: <https://nnlm.gov/training/knowyourchances>. The training page includes book discussion questions, a post-survey, several handouts provided by the authors, and a PowerPoint to use with larger groups to introduce the book. In June 2016, NN/LM NER applied for and received approval to award Medical Library Association CE units for future book discussions. NN/LM NER encourages librarians and others interested to use the materials to host their own book discussions.

Conclusion

The National Network of Libraries of Medicine, New England Region's *Know Your Chances: Understanding Health Statistics Book Discussion Project* provided a threefold benefit for the New England Region. Network members explored an opportunity to take on a new role at their libraries by leading a book discussion. The book discussions helped consumers make more informed decisions about their health through understanding how to interpret health statistics and have a healthy skepticism. And, host organizations reported that the book discussions supported their missions. As one host stated, the discussions supported a "[b]etter understanding of health communication related to statistics."

Results of the post-survey showed that 49 out of 55 book discussion attendees said that they would recommend the book to a friend. When asked, "Has this book changed the way you view medical stories?" 37 out of 55 participants said "yes." These results clearly indicate that the book discussion had a powerful impact, providing attendees with a greater ability to interpret health statistics reported in the media. Attendees also reported that the book discussion empowered them to communicate better with their healthcare providers and make informed decisions about their health. Course materials are publicly available to anyone interested in hosting a book discussion. The *Know Your Chances: Understanding Health Statistics Book Discussion Project* established a connection between librarians and consumers, improving the capacity to understand health statistics in the media and to make informed healthcare decisions.

The *Know Your Chances* project presented an exciting opportunity for librarians to play an important role in teaching consumers how to see through the hype of health news reporting, know what questions to ask, and learn how to understand statistics.

References

Eberle, Michelle; Malachowski, Margot. (2016) *Know Your Chances: Understanding Health Statistics Book Discussion Materials*. NN/LM Training Page. Available at to offer your own book discussions: <https://nmlm.gov/training/knowyourchances>

Goodman, M., Finnegan, R., Mohadjer, L., Krenzke, T., and Hogan, J. (2013). *Literacy, Numeracy, and Problem Solving in Technology-Rich Environments Among U.S. Adults: Results from the Program for the International Assessment of Adult Competencies 2012: First Look (NCES 2014-008)*. U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved [6/29/2016] from <http://nces.ed.gov/pubsearch>.

Kerka, S. (1996, Fall). Book Groups: Communities of Learners. *New Directions for Adult and Continuing Education*, 81-90. Retrieved July 8, 2016, from Gale Academic OneFile.

Scheffel, T., & Booth, D. (2013, June). Towards Literacy Growth and Community Participation: Lessons Learned from a Shared Book Experience in One Northern Ontario Community. *Literacy Learning, The Middle Years*, 35-40. Retrieved July 8, 2016, from Gale Academic OneFile.

SSchweim, H., & Ullmann, M. (2015). Media influence on risk competence in self-medication and self-treatment. *GMS German Medical Science*, 13, Doc10. <http://doi.org/10.3205/000214>

Waxman, Olivia. (2012, November 8). High Anxiety: How Worrying about Math Hurts Your Brain. *Time*. <http://healthland.time.com/2012/11/08/high-anxiety-how-worrying-about-math-hurts-your-brain/>

Woloshin, Steve; Schwartz, Lisa. (2014, March 4). Know Your Chances: Understanding Health Statistics. *Webinar for the NN/LM NER Healthy Communities, Community of Interest*. Available at: <https://webmeeting.nih.gov/p3n5k2rykp0/>

Woloshin, Steven; Schwartz, Lisa M; Welch, H. Gilbert. (2008). *Know Your Chances: Understanding Health Statistics*. University of California Press, Berkeley. Available on PubMedHealth at: <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0050876/>,