

## **HEALTHNET NEWS**

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# Can you do the math?

Reading a syringe, figuring out how many tablets to take a day, calculating portion size and allowable carbs, evaluating the risk and benefit of a procedure. Health literacy is not just about reading and writing. Health literacy has a large numeracy component too. Compared to other developed countries, the United States is not a real stand out when it comes to math, particularly when it comes to evaluating risk. What does that mean for our health? Quite a bit. Learn more about the numeracy component to health literacy in this issue of HEALTHNET.

#### Inside this issue:

Health Numeracy	1
Green Cleaning	4
Finding Similar Sites	5
Aging Powerfully	5
Kids Mental Health	6
Hepatitis C	6
Health Literacy Test	7

### Are you a Numbers Person?

Imagine that your primary care doctor advised you to lose weight. She suggested a 1500 calorie daily limit and a diet low in saturated fats and added sugars. At the grocery store a magnetic force draws you to the frozen foods aisle. Ben and Jerry's ice cream is on sale. You pick up a container of your favorite, Chunky Monkey<sup>™</sup> and scan the nutritional label. Would this treat be allowed on your diet? How much saturated fat and sugar are in one serving? How big is a serving size? How many servings are in the container? Would one serving exceed your daily limits for saturated fat and sugar?

Being able to perform math calculations like these is an essential part of managing our health. My example of reading the nutritional label for an ice cream container may seem silly. After all, what sensible weight-loss diet would allow you to eat full-fat ice cream? But this skill applies to making buying decisions for food staples like canned vegetables, cereals, and dairy products. Math skills are also needed for filling prescriptions, measuring medications, interpreting blood sugar levels, evaluating the risks of a proposed treatment or the benefit of a screening test, and for determining which health plan provides the best coverage for a price you can afford. Numeracy is considered a special form of literacy. Being competent at numbers-based tasks is called "health numeracy."

In her book *Health Literacy from A to Z: Practical Ways to Communicate Your Health Message, 2<sup>nd</sup> ed.,* Helen Osborne lists four categories of health numeracy skills developed by Golbeck et al<sup>1</sup>. They are:

- Basic skills—needed to identify numbers and interpret quantitative data.
- Computational skills needed to count, quantify, compute and manipulate numbers.
- Analytical skills needed to understand inference, estimation, proportion, percentage and other high-level concepts.
- Statistical skills needed to analyze quantitative information, for example probability and risk.

There are many patients who have adequate print literacy but cannot use math skills appropriately. Patients with chronic illnesses must be able to safely and effectively administer their treatments, monitor warning signs, adhere to schedules, follow discharge instructions, and make necessary appointments. Low numeracy places patients with complicated health conditions at risk for poor outcomes. It leads to increased usage of emergency departments, poor compliance, and hospitalization<sup>2</sup>.

According to Rothman numeracy may be a "unique explanatory factor for adverse outcomes beyond the explanations provided by overall literacy<sup>3</sup>."

Continued next page

### Health Numeracy, continued

How many Americans have problems with numbers? In 2003, The U.S. Department of Education conducted a study of health literacy rates of the general population<sup>4</sup>. Quantitative literacy was a subset of overall literacy skills, and the survey found that:

- 22% of U.S. adults have below basic quantitative skills.
- 33% have basic quantitative skills.
- 33% have intermediate quantitative skills.
- 13% have proficient quantitative skills.

Some subsets of the population demonstrated greater difficulty with numeracy: 71% of adults over age 65 scored at or below basic

quantitative skills; 89% of adults with less than or some high school education were found to have only basic or below basic quantitative skills.

In 2012, the U.S. Department of Education published results from the "Program for the International Assessment of Adult Competencies<sup>5</sup>." The study's authors measured literacy, numeracy, and problem solving skills of adults age 16-65 in developed countries around the world. In the U.S., only 9% of participants performed at the highest level of proficiency. In contrast, in the top performing country, Finland, 19% of 16 – 65 year-olds scored at the highest proficiency level.

(of which Sugars	0.4 g)	LOW	
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Healthcare technology company, iTRIAGE, commissioned an independent health literacy survey of 1,000 U.S. adults age 18 and up (http://tinyurl.com/ndjywjj). The company wanted to discover whether improved access to information through technology had improved the health literacy of U.S. adults. The survey covered four areas adults are likely to encounter as they move through the healthcare system: accessing and navigating the health care system; obtaining health information; comprehending health insurance; and understanding medications and preventive health. Among the iTRIAGE survey findings:

- 36% of adults with below basic health literacy could not accurately determine how to take a medication based on the pill bottle's instructions.
- 50% of adults with below basic health literacy did not know that out-of-network care costs more.

In our current health care environment, we are encouraged to select high-performing providers and facilities; chose evidence-based, cost -effective treatments; collaborate with our providers; make healthy lifestyle changes; and manage our own symptoms and conditions. We are also shouldering more of the financial responsibility for our health care. Making good choices has important outcomes for our health as well as our pocketbooks. As studies have shown, not everyone has the numeracy skills needed to make good health choices.

Can librarians improve this situation? Around the country librarians are joining with community groups to make "health happen in libraries." Librarians are helping patrons sign up for health insurance. They are hosting health fairs, or inviting authors who have written health books to give programs. Librarians can join the National Network of Libraries of Medicine New England region's "Health Literacy Community of Interest." They can explore *PubMed Health* for a layperson's summary of the evidence around different medical topics. They can include subscriptions to newsletters published by the organizations like the Mayo Clinic, Harvard Medical School, or Consumer Reports in their health collections. And, librarians can subscribe to RSS feeds from public health institutions, like Harvard's T.H. Chan School of Public Health.

#### **References:**

1. Golbeck, A. L., Ahlers-Schmidt, C. R., Paschal, A. M., & Dismuke, S. E. (2005). A definition and operational framework for health numeracy. *American Journal of Preventive Medicine*, 29(4), 375–6.

2. Griffey, R. T., Melson, A. T., Lin, M. J., Carpenter, C. R., Goodman, M. S., & Kaphingst, K. A. (2014). Does numeracy correlate with measures of health literacy in the emergency department? *Academic EmergencyMedicine*. *21*(2),147–53.

3. Rothman, R. L., Montori, V. M., Cherrington, A., & Pignone, M. P. (2008). Perspective: the role of numeracy in health care. *Journal of Health Communication*, *13*(6), 583–95.

### Health Numeracy, continued

#### **References**, continued

4. (U.S. Department of Education, National Center for Education Statistics. 2003 National Assessment of Adult Literacy. <u>http://</u><u>nces.ed.gov/books/NBK82434</u>)

5. 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. <u>http://nces.ed.gov/pubsearch</u>

#### Health Numeracy Resources You Can Use:

#### Websites:

Numeracy Infusion Course for Higher Education (<u>http://serc.carleton.edu/NICHE</u>) This website offers a repository of resources and information for teachers in many disciplines who wish to add numeracy to their course instruction. Click on the "Reference Materials" tab for an extensive list of websites, articles, textbooks and more.

PubMed Health (<u>http://www.ncbi.nlm.nih.gov/pubmedhealth/</u>) specializes in reviews of clinical effectiveness research, with easy-to-read summaries for consumers. Clinical effectiveness research finds answers to the question "What works?" in medicine and health care.

#### Books:

Best J. 2001. Damned Lies and Statistics: Untangling Numbers from the Media, Politicians, and Activists. Berkeley: University of California Press.

Bracken, M. 2013. Risk, Chance and Causation: Investigating the Origins and Treatment of Disease. New Haven: Yale University Press.

Cohn, V. and Cope, L. 2001. News and Numbers: A Guide to Reporting Statistical Claims and Controversies in Health and Other Fields. Hobken, NJ: Wiley and Blackwell.

Osborne, H. 2011. *Health Literacy from A to Z, 2<sup>nd</sup> ed*. Burlington, MA: Jones and Bartlett Learning.

Ropeck D, Gray G. 2002. *Risk: A Practical Guide for Deciding What's Really Safe and What's Really Dangerous in the World Around You.* New York: Houghton Mifflin.

Woloshin, S, Schwartz, L. and Welch G. 2008. Know Your Chances. Berkeley: University of California Press.

#### Health Newsletters:

American Institute for Cancer Research Newsletter on Diet, Nutrition, and Cancer. American Institute for Cancer Research. Free. Quarterly (<u>http://www.aicr.org/</u> <u>publications/#printsub</u>)

Consumer Reports on Health (<u>http://com-sub.info/Consumer-Reports-On-Health/</u> Welcome)

Harvard Medical School newsletters: (http://www.health.harvard.edu/newsletters)

Scientific American Health after 50 (http://www.healthafter50.com/)

Mayo Clinic Health Letter (<u>http://healthletter.mayoclinic.com/</u>)

Tufts University Health and Nutrition Letter (http://www.nutritionletter.tufts.edu/)

University of California, Berkeley Wellness Letter (http://www.berkeleywellness.com/)



### Go Green When You Clean

Now that warm weather has arrived, many of us are eager to break out our cleaning supplies and get to work washing away winter's grime. Before you spray those dirty windows, stop and scan the labels on your cleaners. Are there safer, greener cleaning choices than those in your caddy?

The National Library of Medicine's "Household Products Database" (<u>http://householdproducts.nlm.nih.gov</u>) is a great place to begin your search for safer cleaners. This database allows you to research health and safety information for the ingredients in over 14,000 consumer products. Use this database to answer questions like:

- Which products contain a specific chemical?
- What are the percentages of chemical ingredients in specific brands?
- What are the acute and chronic side effects of chemical ingredients?
- What other information is available about chemicals in toxicology-related databases of the National Library of Medicine?

In addition to products that we use inside our homes, the "Household Products Database" also covers auto products, pesticides, lawn and garden products, personal products, arts and crafts supplies, pet care products, home office supplies, and materials used in home repair.

Another resource for researching household products is the U.S. Environmental Protection Agency's "Safer Choice" program (<u>http://www2.epa.gov/saferchoice/products#sector=Home</u>). Safer Choice helps consumers, businesses, and purchasers find products that perform well and are safer for human health and the environment. Every ingredient in a "Safer Choice" product has been screened by a scientific review team to ensure that they are the safest in their class of chemicals. In addition to safer ingredients, EPA's Safer Choice standards also includes requirements for: performance, packaging, pH, and volatile organic compounds (VOCs). Roughly 2000 products now carry the "Safer Choice" label.





epa.gov/saferchoice

#### Whip up your own cleaners

Would you prefer to make your own cleaning products? The Ecology Center offers recipes for making your own home cleaners.

Here is the recipe for an all-purpose spray cleaner. More recipes can be found on the Ecology Center website: <u>http://</u> <u>www.ecocenter.org/home-cleaning-</u> <u>recipes</u>

	All Purpose Spray
	1 teaspoon Borax
Y	1/4—1/2 teaspoon washing soda
	1/4 teaspoon liquid castile soap
	10 drops of essential oil (optional)
	Put Borax and washing soda in a spray bottle. Add 8 ounces hot water. Shake to dissolve. Add liquid soap and essential oils. <b>Caution</b> —Leave out washing soda if using on fiberglass—it will scratch!
	messyvegetariancook.com

### Search Tip—Finding Similar Sites

Have you ever been faced with the task of building a pathfinder on an unfamiliar topic? What is the best way to go about quickly becoming a sort of subject expert on a topic that is new to you? You could visit the Internet Public Library (www.ipl.org) or you could noodle around in Wikipedia to build your vo-cabulary and learn about some of the notables in that field. Or you could do what everyone else does when faced with this question, just Google it!

I have another suggestion: use a search engine which finds similar sites. Googling a topic may land you on a terrific website. To find more sites like that gem, try the search engine, *SimilarSitesearch.com*.

You will be rewarded with a list of links to similar sites. If your patron speaks Spanish, or another foreign language, you can easily find those sites in a language she can understand.

### **Powerful Aging ™ Program**

Do you know an older adult who has given up exercising because he or she is afraid of falling? According to experts at UConn Health's Center on Aging, exercise and physical activity are essential for concentration, balance, and a sense of well-being. Over 15 years ago, UConn Health launched its Powerful Aging™ program to study the effects of exercise on bone and muscle strength in post-menopausal women. Today the program is going strong with classes for men and women in several Hartford county locations.

Powerful Aging is designed to safely improve participant's strength, endurance, mobility and coordination. It also includes strategies to maintain enthusiasm for an active lifestyle. The program's founder, James Judge, MD, notes that the program focuses on the torso muscles. These muscles are essential to maintaining bal-

ance, standing posture and confidence in moving. Another Powerful Aging benefit is the social networks participants build by developing a shared interest in exercise.

The program currently offers classes at four locations: the UConn Health Farmington campus, the Elmwood Community Center, UConn Health Partners in West Hartford, and the Avon Senior Center. Program managers may consider expanding the program to other areas in the region that have an active older population who would benefit from it. Powerful Aging is open to men and women over age 50 who are generally in good health. It is appropriate for individuals with controlled coronary artery disease and other monitored medical conditions. For more information about fees and class schedules, contact the program office at (800) 679-7692.







### **The Mental Health of Our Children**

"Mental health disorders are the most common diseases of childhood." This startling finding is reported in the inaugural issue of the Child Mind Institute's *Children's Mental Health Report*. (<u>http://</u> www.speakupforkids.org/report.html)

According to the report, 17.1 million children suffer from a psychiatric disorder. This is almost 23 percent of all children in the United States! Half of all psychiatric illness occurs before the age of fourteen. The organization's website, *childmind.org*, informs through infographics the prevalence of childhood mental illness, effectiveness of treatment, gap between illness and care, and cost of ignoring children's mental health.

The Child Mind Institute's website offers an abundance of resources for parents and teachers. A guide walks parents through the steps to finding the best professionals for their child and the most appropriate treatment. There are numerous factsheets, a downloadable mental health handbook, a symptom checker, an "Ask the Expert" feature, and much more. The institute also conducts research into brain development and behavioral interventions for parents and teachers. Staff of the Child Mind Institute encourage visitors to their site to use the Institute's research to initiate important conversations about childhood mental health in your own community.

### **Screening for Hepatitis C**

According to Centers for Disease Control , "Baby Boomers" (people born between 1945—1965), have the highest likelihood of having Hepatitis C. The Hepatitis C virus is one of the most common causes of liver failure in the U.S. The website, *Med Page Today* (http:// www.medpagetoday.com/HOTTOPICSHCV/InfectiousDisease/Hepatitis-Videos/1121), offers a video featuring Hepatitis C experts, Fred Poordad, MD, Anthony Martinez, MD, and Robin Kim, MD, about screening for the virus. According to these experts, Baby Boomers are responsible for the largest number of newly diagnosed Hepatitis C cases. According to Dr. Poordad, if every baby boomer was screened for hepatitis C, doctors would diagnose 70% of **ALL CASES** of the virus. The CDC has issued guidelines encouraging people in this age group to ask their physician about testing for Hepatitis C (http://www.cdc.gov/hepatitis/hcv/guidelinesc.htm). A simple blood test identifies whether a person has antibodies to the virus, meaning that he/she was exposed to the virus. Further testing can reveal whether these patients have active Hepatitis C and require treatment. Dr. Martinez also noted that in all populations, Hepatitis C is almost always curable.

#### Here are some internet resources you can consult for more information about Hepatitis C:

- MedPage Today video: <u>http://www.medpagetoday.com/HOTTOPICSHCV/InfectiousDisease/Hepatitis-Videos/1121</u>
- MedlinePlus Summary page of links http://www.nlm.nih.gov/medlineplus/hepatitisc.html
- CDC online risk assessment for hepatitis C http://www.cdc.gov/hepatitis/RiskAssessment/
- National Institute of Digestive and Kidney Diseases "What I need to know about Hepatitis C" <u>http://www.niddk.nih.gov/health-information/health-topics/liver-disease/hepatitis-c/Pages/ez.aspx</u>
- American Liver Foundation: <u>http://hepc.liverfoundation.org/</u>
- National HCV Helpline: 877-HELP-4-HEP (877-435-7443)
- HCV Advocate <a href="http://hcvadvocate.org/community/trials.asp">http://hcvadvocate.org/community/trials.asp</a> Support groups, newsletters; links to clinical trials; recommendations for Testing, Managing, and Treating Hepatitis C. Jointly sponsored by the Infectious Disease Society of America and the American Association for the Study of Liver Diseases
- Labtestsonline—Hepatitis C screening—<u>http://labtestsonline.org/understanding/analytes/hepatitis-c/tab/test/</u>

### **Test Your Health Literacy**

This issue of HEALTHNET News put the spotlight on numeracy, a specific aspect of health literacy. Health literacy is the ability to find, understand, and use information to make sound decisions about our health and wellness. Have you ever wondered what set of questions folks are given to measure this important set of skills? Librarians who were English majors in college probably think they can ace this test.

If you are up to the challenge, here is your opportunity to test your health literacy skills. Healthcare technology company iTRIAGE has a link on their website to the test they administered to update the results of the U.S. Department of Education's 2003 study of health literacy. According to iTRIAGE, these questions are ones we would ask as we move through our healthcare journey.

Find out how you rate when it comes to being health literate. Here is your link to the iTRIAGE survey:

http://www.healthathand.com/health-quiz/

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#### How Can We Help?

HEALTHNET offers a variety of services to Connecticut libraries and the communities they support. We offer FREE, customized research on health topics for state residents. We also conduct health literacy training for library staff and the public; consult with libraries about health information resources and services; and provide article delivery service to residents and health professionals in the state.

Is your community planning a health event? If so, you can invite a HEALTH-NET librarian to be part of your event. We can provide you with brochures, bookmarks, or other resources to use at these events, to display at your reference desk or post on your community bulletin board.

Thank you to those librarians who have shared their comments about past newsletter articles. Please keep those comments and suggestions coming! Are there health topics you would like to learn more about? Email or call us. We would love to hear from you.

> Cheers! Wendy

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