Many patients lack the numerical skills to make good health decisions, study finds

By Sheri Hall

Patients in medical offices should be screened for how well developed their numerical skills are to weigh their medical options, reports a new Cornell study.

Americans are bombarded with information about their personal health care, from ads for medications to articles on the Internet and data from their doctors, notes Valerie Reyna, professor of human development at Cornell. Yet, she says, studies indicate that more than 93 million people across the United States do not have the numerical skills necessary to make well-informed decisions about their medical care.

Reyna is the lead author of a paper published in the November issue of Psychological Bulletin that reviews the research on so called "health numeracy," the ability to understand and use numerical information related to health behaviors and medical outcomes.

The researchers recommend that interventions be developed to help those at high risk for using inaccurate information to make health decisions, that the health care system adopt strategies to address the problem of low health numeracy and that better communications materials be developed to benefit all patients regardless of their health numeracy level.

"What amazed me is how much medical decision-making goes beyond just literacy," Reyna said. "If you're a cancer patient making decisions, a lot of the confusing information and the life-or-death information is numerical."

Misguided decisions not only can impact patients' health but also can lead patients to use health care services they don't need or to miss out on treatments that would prevent disease or further complications. Both under- and overutilization of health care services ultimately drive up costs across the system and lead to misspent health care dollars, Reyna explained.

The issue is an important one because patients' ability to comprehend numbers affects nearly every aspect of their health care, including which services they use, whether they follow recommended therapies and, ultimately, their quality of life.

Health numeracy could become a new frontier in revamping of the U.S. health care system. That's because patients now have more decision-making responsibilities than ever before, Reyna said.

"The burden is on the patient to really understand all of this information, to a degree that's never been true in history before," she said. "We're not going to go back. People are empowered now. They want to make their own decisions."

There's also more medical research being published. "You have multiple drugs for the same disease, and you have multiple surgical options," Reyna said. "As the amount of available information increases, we have more and more options. It is a terrific opportunity and a terrific burden."

Researchers need to fine-tune the instruments they use to measure numeracy, stress Reyna and her co-authors -- Wendy Nelson and Paul Han at the National Cancer Institute and Nathan Dieckmann of the
University of Oregon -- and look more carefully at how patients and doctors make decisions in clinical settings, instead of simply extrapolating more general studies on the topic.

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