Short read: Improving risk literacy

The Harding Center for Risk Literacy, established in 2009, is a unit of the Max Planck Institute for Human Development in Berlin. The centre aims to help people in understanding and assessing risks and to facilitate better risk-related decisions.

Mirjam Jenny, PhD, the centre's Head Research Scientist, notes that developing risk literacy could greatly benefit healthcare. "Our primary focus has been on healthcare where transparent risk communication can support patients to make informed decisions about their own health," she told HealthManagement.org. The Harding Center also offers special training for physicians who need to know how to interpret and communicate risks to their patients.

One of the most important principles of risk communication is that numbers need to be made transparent. For example, changes in risk should be communicated using absolute risks and base rates instead of relative risks. What communicators need to do is understand why some numerical formats are more transparent than others and make more conscious efforts to choose transparent formats, according to Jenny.

"There are many more non-transparent formats that are often used but that would have more transparent counterparts," Jenny says, noting that experts are often not aware of these differences and can themselves be misled by non-transparent formats.

In addition to its work on risk perception and risk communication, the Harding Center develops decision tools that help people make better decisions. These tools help, for example, emergency physicians to make good decisions quickly.

Fact boxes for comparing the benefits and harms of treatments

Fact boxes communicate the best available evidence about a specific topic in an easily-understandable manner. The most important benefits and harms of screenings, diagnostic and therapeutic interventions, or treatments are contrasted with each other in a tabular format thus allowing even people with no medical or statistical background to make informed decisions.

"Some of our own fact boxes contain graphical representations of the benefits and harms, so-called icon arrays, in addition to tables. The resulting mix of text, tables, and icon arrays make the most important numbers accessible to both patients and physicians," Jenny explains.

Fast-and-frugal decision trees help with triage

Patients who present to the emergency department with nonspecific complaints are difficult to accurately triage, risk stratify, and diagnose, thus their treatment is often delayed. To investigate whether key medical outcomes can be predicted in these patients, the Harding Center researchers tested an array of statistical and machine learning models in a large group of patients. Collaborating with the University Hospital in Basel, Switzerland, and surrounding hospitals, the researchers found that their models could indeed accurately predict patient outcomes.

"Building on these findings, we are currently investigating whether we can build readily applicable clinical decision support tools such as fast-and-

frugal decision trees that physicians can use for patients with nonspecific symptoms," Jenny says. "Electronic health records could facilitate the use of such tools."

Fast-and-frugal decision trees resemble hierarchically ordered checklists. On the basis of a few key questions to be answered with yes or no, they quickly lead to a recommendation. Each question tackles, for instance, an observed symptom. Decision trees can be used by patients to decide whether they should seek medical help, and also by medical professionals in their first consultation with a patient to rule out particular illnesses or to take the next corresponding steps.

Source: HealthManagement.org
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