

THEN & NOW

A reminder of the pace of change, and of timeless truths, from the 1937-38 DMS Bulletin:

“The railroad station known as ‘Norwich and Hanover’ . . . is seldom used as an approach to [Dartmouth]. Members of the community and visitors usually detrain at White River Junction, five miles south, where connections for all points via the Boston and Maine RR may be made. . . . Baggage may be checked through for delivery at any point in the village at a reasonable [fee].”



39

Average number of trains daily into White River Junction in 1937-38

2

Number today

4

Number of flights daily into Lebanon, N.H., Airport

Authors aim to bring clarity to health statistics

From drug companies to disease advocacy groups, everyone “is trying to grab your attention by making their disease sound as common or as dangerous as they can,” says Dr. Lisa Schwartz. But in the process, lots of messages get exaggerated. It can be tough for patients to cut through the hype and determine what—if any—accurate information remains.

So Schwartz and two other members of the DMS faculty—Drs. Steven Woloshin and Gilbert Welch—wrote a book to help people assess messages about health statistics.

Claims: For example, if an advertisement claims that a drug reduces the chance of heart attack by 50%, people should ask what their chance is of a heart attack if they don’t take the drug, and what their chance is if they do. Without those numbers, it’s impossible to know how well the drug works. For instance, the drug might reduce the chance from 20% to 10%—which would be a big deal. Or it might reduce it from 0.2% (meaning 2 in 1,000 people would have a heart attack) to 0.1% (1 in 1,000), which is still a 50% reduction but of a very small risk.

The book is the culmination of many years of research. When Schwartz and Woloshin first came to DMS in 1994, they were interested in how the presentation of risk statistics about breast cancer affected patients’ opinions about mammography. After surveying patients, “we realized [people] had no idea what we

were talking about,” Schwartz says. “They didn’t understand the numbers.” So she and Woloshin (who are married to each other) started to investigate what it was about risk and risk reduction that people didn’t understand. Plenty of studies have focused on how easily people can be confused by numbers.

Risk: For example, many people assume it’s worse to have a 1 in 20 chance of getting cancer than a 1 in 10 chance. The larger number seems to suggest a bigger threat—but 1 in 20 is a 5% risk, which is less than the 10% risk that a 1 in 10 chance represents. Many researchers have assumed that the problem is with people’s knowledge base. But “we think the problem is often with how the messages are stated,” Schwartz says. “Some ways of saying the same thing are much easier to understand than others.”

Book: The book “examines in a rational and helpful way what all the numbers mean,” explains publisher Stanley Holwitz of the University of California Press. The authors—who are all members of the VA Outcomes Group based in White River Junction,

Vt.—tested a prototype of the book with 555 people and published the results in the *Annals of Internal Medicine*. More than 90% of the subjects reported that the book was helpful.

Scores: And regardless of subjects’ educational background, the book improved their scores on a statistics quiz. With subjects of high socioeconomic status, 74% who read the book got a passing grade, compared to 56% of the people in a control group who read a government booklet on health. And with subjects of lower socioeconomic status, 44% of those who read the book passed the quiz, while 26% of the control group passed.

The book, which is expected to be out in 2008, is intended for a general audience. But the authors hope medical students will find it useful, too. It “isn’t meant to make you into a statistician or epidemiologist,” says Woloshin, but to “help people understand things that can be easily confusing but don’t have to be.”

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JOSEPH MEHLING

From the left, Welch, Schwartz (with the book), and Woloshin.