Screening For Cancer: Cost vs. Value

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By now, most physicians are aware that the U.S. Preventive Services Task Force (USPSTF) has advocated some paring back in the use of screening tests for prostate and breast cancers.

It's no surprise that these guidelines have generated considerable discussion and even heated controversy. And, whether by coincidence or design, the burden of keeping abreast of the debate has been increased by the concurrent publication of multiple reports of long-term studies and meta-analyses of the results of cancer screening programs, and their effect on outcomes.

For practicing physicians, it is time-consuming and confusing to keep track of this cascade of reports and the cross-currents of "expert" opinions. It doesn't help that coverage of these issues in the lay press also confuses patients, and has made it much more time-consuming to explain to patients why each one should or should not have a particular screening test.

But let's not get too nostalgic for the days when we and our patients generally assumed that if a simple screening test was available, it was always a good idea to order it. For regardless of one's opinion about the particular recommendations of the USPSTF, they have served the crucial purpose of challenging our assumptions, and forcing us to think about matters we have always taken for granted. Isn't that essential for progress?

As I noted in my editorial in the previous issue of the Journal,[1] evidence is accumulating that harms can outweigh benefits even when screening programs do detect more cancers at an early stage. Not only can this occur when a screening test is not sufficiently specific and generates too many false positives, but also when it detects early stage tumors that will never progress to clinical significance. It might seem counterintuitive that even for cancer there can be "over-diagnosis," and that not all cancers are deadly, but it is consistent with our current understanding of the biology of cancer. This principle has long been understood regarding prostate cancer, but it is also true of others, including breast cancer.

All these dilemmas prompted our Roundtable discussion in the last issue that hopefully helped readers distill the conflicting views about PSA screening for prostate cancer. In the current issue, we present another Roundtable discussion of mammography screening for breast cancer, and I commend it to you as a thorough and authoritative discussion of this complicated issue that distills the literature and clarifies the conflicting opinions in a way that should assist clinical decision-making. Once again it is moderated by Dr. Randall Oyer, Director of the Cancer Program at Lancaster General Health. The two discussants are Dr. Alan S. Peterson, Associate Director of the Lancaster General Family Practice Residency Program, and Director of Community and Environmental Medicine; and Nitin Tanna, MD, Chief of Breast Imaging for Lancaster General Health.

COST OF HEALTH CARE

One aspect of the screening debate that our Roundtable discussions don't analyze in depth is the cost—not only of the screening tests and the potentially needless tests and procedures prompted by false positive findings, but also the question of whether early detection, and better yet, prevention, actually save money.

At the outset, let's remember that when we talk about the cost of health care in the U.S. we are talking about numbers so large they are hard to conceptualize. In the United States in 2011, it is estimated that a total of $2.7 trillion was spent on health care by corporations, individuals, and federal, state and local governments. One billion is a thousand million, and one trillion is a thousand billion, or a one with 12 zeroes. A billion seconds ago Ronald Reagan was President. A trillion seconds ago agriculture had not been invented; Neanderthals were living in Europe and were just being displaced by Cro-Magnon man.

DOES PREVENTIVE MEDICINE SAVE MONEY?

Since we spend the enormous sum of $2.7 trillion on health care, it is hard to make a serious dent in the total. Parenthetically, this fact probably has a counterproductive influence on front-line decisions by physicians, for if even major policy decisions have small effects, why should one physician worry about ordering one extra test,

particularly if the patient demands it, as is often the case?

More to the point of my column, however, is the fact that contrary to popular opinion, adherence to current screening methods would not result in significant savings in health care expenditures. The journal Health Affairs in 2010 calculated that if 90% of the US population used proven preventive services, health care spending would drop by only 0.2%, or $5 billion.

In an insightful and lucid discussion of the financial paradox of preventive medicine, Sharon Begley, Senior Health & Science correspondent at Reuters, points out that preventive medicine is the right thing to do because it prevents the suffering of being ill, but it doesn't reduce healthcare spending.[2]

Begley notes that some disease-prevention programs save money, according to a 2009 analysis for the Robert Wood Johnson Foundation. Most obvious are childhood immunizations, and probably some adult immunizations (such as for pneumonia and the flu). Aspirin to prevent cardiovascular disease, and screening of pregnant women for HIV, produce net savings too.

But Begley points out that those are exceptions. She quotes several health economists who remind us that many forms of preventive care do not save money because they don't actually improve anyone's health.

These low- or no-benefit measures include annual physicals for healthy adults, which physicians should recognize do not lower the risk of serious illness or premature death. They also include some cancer screenings, including some PSA testing for prostate cancer (as we discussed in the last issue), and others which—according to some analyses—produce essentially no health benefits. (Note: the USPSTF recommendation to reduce the use of PSA tests was based on lack of medical benefit, not costs.)

Another well-recognized reason that preventive care brings so few cost savings is the large number of people who need to be screened to avert a single expensive illness. When those numbers are high enough, we do not recommend a particular test. That's the case for CT lung scans to prevent deaths from lung cancer, and —more recently— bisphosphonates to avoid hip fractures. One solution, of course, is risk-profiling, which might allow us to screen only high-risk (and presumably high-yield) individuals.

A related approach is to assess the value of what each health care dollar buys. What is the cost of one year of quality life? It has been estimated that screening for hypertension and for some cancers (such as colorectal and breast) costs less than $25,000 per year of healthy life. In contrast, angioplasty may cost $100,000 or more per healthy year of life.

Other savings can be achieved by shifting the site at which care is provided. Routine outpatient care, including home visits for selected patients, may prevent much more expensive emergency room visits by super-utilizers. At Boston Children's Hospital, Begley notes, an asthma program that sends community health workers into patients' homes to reduce the environmental triggers of asthma has saved $1.46 in healthcare costs for every $1 invested. It has reduced asthma-related hospital admissions by 80 percent and asthma-related emergency department visits by 60 percent.

Selected examples aside, however, preventive medicine does not save money. If we extend preventive services to even more people than now receive them, it *may* improve quality of life for some, and it *may* prolong the lives of a few, but it will be very expensive to do so. At some point budgetary constraints will surely force us to calculate the *value* of those services.

OTHER CONTENTS OF THIS ISSUE

In another thought-provoking article in this issue, *Dr. Jennifer Kegel* continues her exploration of the mind-body connection in her illuminating article: The Power of the Mind: Stress—the Missing Piece.

Thomas E. Beeman, Ph.D., FACHE, President & CEO of Lancaster General Health, contributes an Administration page that discusses the crucial role of physicians in the Value Management Initiative that is reducing the cost of health care in our system.

Gladys M. Frye, M.D. of Strasburg Family Medicine discusses the many advantages of breast feeding, and the initiatives to maximize its use, in her article: Breast Feeding Initiatives at Women and Babies Hospital.

And rounding out this issue, as always, *Dr. Alan Peterson,* not content with participating in the Roundtable, has contributed an unusually extensive column that not only explores the Choosing Wisely recommendations from the American Society of Clinical Oncology, The American Gastroenterological Association, and The American College of Radiology, but also adds additional Top Tips.

REFERENCES

1. Bonchek LI. On controversial screening for cancer. J Lanc Gen Hosp. 2012; 7: 98-99. http://www.jlgh.org/JLGH/media/Journal-LGH-Media-Library/Past%20Issues/Volume%207%20-%20Issue%204/7_4bonchek.pdf

2. Begley S. INSIGHT: Think preventive medicine will save money? Think again. http://news.yahoo.com/insight-think-preventive-medicine-save-money-think-again-051222908.html? NEW YORK (Reuters) – Jan. 29, 2013