

Editorial

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Screening for disease? Beware!

I'd like to address a challenging issue, even at the considerable risk of offending others with my perspective. What I'd like to discuss is the widely prevailing myth that preventive health care with a heavy emphasis upon screening is the way to reduce our overall health care expenditures. I'm sure I've already raised a few hackles out there because the idea that proactive prevention is the way to go, rather than providing reactive treatment, is a deeply-ingrained concept for many of us.

I readily admit that many of my ideas on this topic were stolen from a newspaper column by Charles Krauthammer ("The Great 'Prevention' Myth," *The Washington Post*, August 14, 2009), a psychiatrist who has reinvented himself as a political commentator. I don't usually find myself agreeing with Krauthammer, but on this subject, his ideas are cogent and eminently rational.

At first glance, the idea that preventive care is the optimal way to spend our finite health care dollars seems to be the smartest course. Isn't it better to nip diseases in the bud and do what we can to reduce painful and expensive complications down the road? After all, as an endocrinologist, isn't it my job to treat diabetes aggressively early on to try to retard the progression of horrible vascular complications? Even here, though, a contrarian would be likely to point out that 3 major recent studies showed no benefit of tight glucose control on the rate of progression of macrovascular disease. But let's not go too far with that argument, because these same studies did indeed confirm a benefit in terms of reducing microvascular disease. In this setting, however, we're talking

about aggressive early treatment in a patient already known to have the disease in question, namely diabetes.

It's an entirely difficult calculus when we're talking about screening all patients for a disease for which they have shown no symptoms nor any other manifestations. Here, we may be in very great danger of confusing the benefit to an individual patient with the overall benefit to society. There is no question that the individual patient will benefit if he or she is screened for a particular disease and is indeed found to have an early, clinically silent case, reducing the likelihood of a major and expensive complication down the road. But if we spend a lot of money screening patients and

If we look just at this 1 patient, it seems incredibly cost-effective to have done the screening, because we spent \$500 to save \$10,000 for a net societal savings of \$9,500, forgetting about the effects of inflation that might accrue over the years. But now let's say we apply the same \$500 test to a group of 10 individuals, only 1 of whom is shown to have the disease. Now we've spent \$5,000 to save \$10,000, still somewhat of a societal bargain. But it may be somewhat more realistic to imagine that only 1 in 100 patients who undergo the \$500 screening test will actually turn out to have the disease. This time we have spent \$50,000 to save \$10,000 down the road. Yes, that 1 patient may benefit dramati-

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finding the disease in only a handful of them, we will have spent a large quantity of societal resources in a way that has only benefited a handful. Indeed, most of the money will have been wasted.

Let me borrow an example from Krauthammer's column to illustrate this point. Let's say we have a reliable screening test (think some semi-invasive procedure, such as colonoscopy) that costs \$500 to perform in each patient. If you find the disease early in a given patient, let's say that we are able to avert a nasty complication that costs \$10,000 to treat down the road.

cally, but have we really spent our health care dollars optimally?

You can see that the real determination of whether it makes sense to put health care dollars into early screening depends upon the relative cost of the screening and upon the overall prevalence of the disease among the population you plan to screen. If your screening test is very inexpensive, it may be perfectly reasonable to apply it to essentially everyone, assessing there are no major issues with false positives, which can sometimes become problematic. But if your screening test is fairly pricey, which is

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increasingly the case, it may not be a good use at all of society's finite health care dollars to spend a large amount of money screening for a disease that only a few actually have. The cost per discovered case may turn out to be unacceptably high.

It might sound cruel to ignore the tremendous benefits that a handful of "lucky" patients may experience if they undergo expensive screening and are found to have a disease which can be favorably modified by early treatment. But isn't it equally cruel, if not more cruel, to ask soci-

ety to shell out large amounts of money that will mostly be wasted in confirming that most of the patients screened do not have the disease and were at no long-term risk to start with? Screening, it appears, may not be the panacea that the well-meaning but numerically challenged would like us to believe it is. ●

Author disclosures

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