Right and Wrong Reasons To Be Screened

How would you feel if you found out that your 85-year-old mother (or grandmother, if you prefer) had just undergone a pelvic examination to obtain a routine Pap smear? Perhaps you'd be pleased, believing she was being provided the best possible preventive care for cervical cancer. Maybe you'd be reassured, seeing it as evidence that her doctor still cares about her. Perhaps you'd be angry, viewing it as another case of medical care run amok—testing that was far more likely to create problems than to solve them. Or you might find yourself feeling conflicted, recognizing that elements of all of the above might be true.

I suspect that your response to this thought experiment will predict your reaction to the article by Walter and colleagues in this issue: a telephone survey of the recent experiences of California women age 70 years or older. More than three quarters reported having a recent Pap smear (within 3 years) and the same proportion reported having recent mammography (within 2 years) (1). Even in the oldest group, screening was common; about 60% of women age 85 years or older reported being currently screened with each test.

As with all studies, researchers might quibble about some things. Some women (such as my wife and daughter) don't answer the phone. These women may have different health behaviors than those who do respond and might get screened at a different rate. But because the survey response rate of 64% is fairly high, screening would still be a common event for elderly women even if all nonrespondents were not getting screened. Other women may say they have been screened even though they have not. This behavior raises a thornier issue: What is being measured? Is it actual screening behavior or what women think is the "right answer"? Overreporting is a perennial concern with self-reported data, and we can never know its exact magnitude since we cannot reliably verify patients' responses (medical record review and insurance claims probably underestimate screening).

Nonetheless, readers can be confident that Walter and colleagues' basic inference is secure: A substantial proportion of elderly women undergo regular cervical and breast cancer screening. Now the tougher question: Are these women being screened for the right reason?

Ideally, the "right" reason would be that each woman had made an informed choice, or in other words, had made her own decision after being fully informed of the likely benefits and harms of screening experienced by women just like her (and perhaps, depending on your economic philosophy, after deciding that the net effect was worth paying for). While such ideal conditions for decision making may exist somewhere, I don't foresee them on our planet any time soon. Nor do they seem to exist in California, given Walter and colleagues' finding that women with the worst self-reported health status—those with the least to gain from screening and the most to lose—undergo screening at virtually the same rate as others.

These findings cause me to wonder if some of California's elderly are being screened for the wrong reason. Although screening is not a wrong decision for elderly women, I can think of several wrong reasons to be screened. One wrong reason to be screened is that you think someone else expects you to. If that's the only reason, something is wrong. The enthusiasm for screening among Americans is strong: Forty-one percent would label an 80-year-old woman in average health as "irresponsible" if she did not choose to undergo mammography (the corresponding figure for Pap smear is 35%) (2). Some of the screening reported by Walter and colleagues may well be motivated by a desire to live up to societal norms and perhaps appease family members. An older woman may also feel obliged to please her doctor and may worry that a disappointed doctor will abandon her (even though her doctor may also be unenthusiastic about screening but finds it easier to maintain established patterns than to raise complex questions).

Another wrong reason for elderly women to be screened is the expectation that screening will keep them healthy. In the big scheme of things, this belief is probably inaccurate. Let's start with the evidence that uses the most familiar measure of keeping healthy: mortality reduction. The best form of evidence about screening is a randomized trial comparing screening with usual care. No one has ever done a randomized trial of the Pap smear. For mammography, only 1 of the 8 existing randomized trials included patients older than age 70 years (and then only to age 74 years). The abstract of the classic article reporting the results is clear about the finding: "Among women aged 70 to 74 years, screening seems to have had only a marginal impact" (3). The public may have formed inaccurate beliefs about benefit on the basis of the results of 10 published analyses demonstrating that screening mammography in the elderly is "cost-effective." But none of these studies show that screening is effective in reducing breast cancer mortality for the elderly; instead, they each assume it (4).

To be sure, the absence of evidence isn't definitive proof of ineffectiveness. But screening can have, at best, only a limited effect on mortality in an older population. The contribution of breast and cervical cancer to overall mortality becomes increasingly small with age. While breast cancer is responsible for 12% of deaths among women 50 years of age, it is responsible for 3% of deaths among 75-year-olds and around 1% of deaths in women older than age 85 years (5). And cervical cancer is even less common than breast cancer, responsible for about one tenth as many deaths in the elderly. Of course, a few women among the large number screened may have their

lives extended by screening and early detection of cancer. However, an outside chance shouldn't warrant the widespread belief that screening keeps one healthy—especially if screening has downsides.

For many of the elderly, life extension is not the primary goal. For them, the words "keeping healthy" probably mean minimizing morbidity and the need for medical care. The net effect of screening on morbidity is not certain. Screening reduces morbidity for the few who are spared the experience of advanced cancer and its treatment. Screening increases morbidity, however, for the few who suffer from problems associated with overtreatment. How does screening lead to overtreatment? Because competing risks for death increase with age (6), screening-detected cancer in the elderly is more likely to be "pseudodisease"—cancer that would have never have become evident before the patient dies of other causes were it not for the test (7). But because we can never know which cases of cancer are pseudodisease, these women are treated and experience the attendant side effects. These women are not "kept healthy" by screening.

Screening certainly increases the need for medical care. About 7% of women older than age 70 years who undergo mammography will have false-positive results (8). All of them will undergo at least another imaging procedure before it is evident that the index test results are "false," and many will need a biopsy (and the period of intervening uncertainty and worry lasts weeks to months). For women older than age 65 years who undergo a screening Pap smear, the false-positive rate is lower: about 4% (9). However, 10% of elderly women receiving Pap smears appear to be undergoing not routine screening but regular surveillance—a cycle of repetitive testing that often involves colposcopy and biopsy. Since they don't have the disease being sought, none of these women are "kept healthy" by screening either.

Other reasons for screening in the elderly are more difficult to label as clearly right or clearly wrong. Although the primary intent of screening is to find and treat early-stage disease, a more common benefit occurs every time the results are negative. Some people may place high value on periodic reassurance that they are well (or at least that they don't have the cancer being sought). Furthermore, regular screening may be one way for the elderly to feel that the health care system still cares about them and to demonstrate that they have not given up on life.

But we ought to find better ways than screening to reassure the elderly that they still matter. Perhaps if we used less alarming language about cancer risk when we introduce patients to screening, they would have less need for reassurance. Perhaps if we talked about screening in the context of choice instead of obligation, patients would not feel a sense of loss when it is time to stop. And we certainly ought to be able to find better ways to help older patients feel valued and better ways for them to take an active role in keeping themselves healthy. But you know it's not easy. It can be very hard for patients and doctors to stop screening. Maybe you're just as glad that some other doctor is making decisions about your mom.

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