
Family Practice Forum

Screening Morbidity: Prevention's "Catch-22"

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Family medicine has divided the concept of prevention into three levels in which specific intervention may be applied: primary, secondary, and tertiary. Primary prevention is the prevention of disease from occurring at all. Secondary prevention interrupts the disease by slowing or stopping its course. Tertiary prevention is the management of an established disease to minimize disability.¹ Primary prevention (eg, immunization, manipulation of the environment to control animal vectors and contamination of water supply, improving nutrition, and modification of lifestyle) is unquestionably the best and most successful form of prevention. It is believed that primary prevention has been responsible for the decreased death rate and increased life span during the last 60 years.² Dramatic successes in curing tuberculosis and in treatment of cancer when diagnosed early have made secondary prevention also very desirable.

One of the ways proposed to practice primary and secondary prevention has been to encourage people to become involved in annual checkups or multiphasic screening programs. Considerable re-

cent evidence, however, has led to the conclusions that annual checkups are very costly relative to their yield, that helpful intervention may not exist even if problems are identified, and that there is no positive effect on morbidity and mortality.

The Canadian Task Force on the Periodic Health Examination was established to determine how the checkup may protect or enhance the health of the population in Canada. It has recommended the routine annual checkup be abandoned in favor of a selective approach determined by a person's age and sex, for which a specific strategy made up of a lifetime health care plan based on a set of age and sex related health protection packages would become part of the periodic health examination at defined ages and for defined population groups.³ Somewhat similarly, Breslow and Sommers developed what they called "The Lifetime Health Monitoring Program."⁴ Both of these groups developed their guidelines on the basis of clinical and epidemiological criteria to identify specific cost-effective and health-effective preventive measures. It is important, however, to note that except in a relatively few instances the evidence supporting screening in office practice is sparse, and there is continued uncertainty about the value of many procedures.⁵

The problems created by the "softness" of

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supportive data and uncertainty regarding the value of screening procedures can be illustrated with an example. Breslow and Sommers' recommendation for specific screening in the older middle-aged (40-59 years) group advises checking the cholesterol and triglyceride levels of patients every five years. Yet no therapy has been shown effective for the prevention or treatment of coronary artery disease.⁶ It seems senseless to determine abnormal levels of these substances if nothing can be done about them. Further, if the data on diet and coronary artery disease are ignored and people are advised to decrease their cholesterol intake, there is a chance of creating another problem, increased risk of mortality from various types of cancer.⁷

Screening can be harmful to patients. Screening morbidity includes the direct risk from the screening procedure itself (eg, radiation), the dangers and expense of follow-up procedures, the anxiety created by concern of possible disease, and the consequence of being identified as sick, including the likelihood of discrimination by employers and insurance companies.⁸

Physicians are also at risk of screening morbidity. For example, the American Cancer Society has made recommendations for screening asymptomatic people for cancer.⁹ Recommendations from prestigious medical bodies place a responsibility on the practitioner to incorporate those recommendations into his or her medical practice. This creates a problem, since many of the tests used for screening, such as the Hemocult test for screening cancer of the colon, lack the sensitivity and specificity to allow their use with confidence. A negative test does not rule out cancer, a positive test may be difficult to explain and may lead to other tests that can be expensive, uncomfortable, and dangerous. The physician, of course, is at risk of losing the patient's confidence or incurring his animosity.

It would seem that with all the problems involved in practicing the checkup method of primary and secondary prevention, it would be best to forget the whole thing. But that is probably impossible. A health conscious public and the health care industry will not allow escape from disease screening and annual checkups. Physicians must be prepared to take care of healthy asymptomatic people. The only answer appears to be that practitioners increase their knowledge of the usefulness,

limitations, and dangers inherent in the screening process and begin to give more responsibility to the patient for deciding which screening procedures to do. For example, the physician recommending a screening mammogram should make it clear to the patient that in asymptomatic screening the mammogram is used to look for suspicious lesions not detectable by breast examination. If a suspicious lesion is found, it should be biopsied, a surgical procedure which necessitates hospitalization. The patient should also know that for every ten patients with a normal breast examination and a mammogram suggesting the possibility of cancer, seven to nine patients will have negative biopsies.¹⁰ Giving patients information about the screening process enables them to decide which tests to undergo. It also prepares them for possible morbid consequences, which can reduce the beneficial effect of asymptomatic screening for both patient and physician.

Prevention is an important aspect of patient care. As with so much in medical practice, it is fraught with danger unless applied with prudence and understanding.

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