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Are Some Screening Tests Doing More Harm Than Good?

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As family physicians, we often face difficult decisions about ordering tests for the early diagnosis or prevention of disease in healthy-appearing persons. It is hard to convince many patients to think about prevention, and those who come in for health maintenance visits often expect to undergo tests that they have heard about from advertising on the Internet, radio, or television, or in popular magazines. For example, a colleague recently saw a healthy, asymptomatic woman who scheduled an appointment to receive the results of an ultrasound examination that had been ordered by another physician to screen for abdominal aortic aneurysm (AAA). The results were normal, but because the test was not indicated by generally accepted standards, our colleague was perplexed at what reassurance to provide the patient, if any.

Although the U.S. Preventive Services Task Force (USPSTF) recommends against performing AAA screening in asymptomatic women of any age,¹ the existence of these and other evidence-based guidelines have not prevented direct-to-consumer marketing of costly screening tests of uncertain value.² There is a striking contrast between widespread public enthusiasm for technology (e.g., whole-body computed tomography [CT], coronary calcium scans) and the paucity of evidence that performing these tests improves outcomes for patients.^{3,4}

“Big-ticket” tests are easy targets for those seeking to reduce waste in health care. But what about the seemingly innocuous practice of performing routine tests such as a complete blood count (CBC) or urinalysis? Both are far less expensive than CT scans and can often be performed in the office at the time of the visit. More than one third of family physicians in the United States think that CBC and urinalysis should be offered routinely at health maintenance examinations,⁵ and these tests are ordered for 25 to 37 percent of patients who present for such visits.⁶

Many physicians have anecdotal recollections about detecting a serious disease with routine CBC or urinalysis. In theory, CBC can be thought of as a screening test for occult anemia, infection, and thrombocytopenia. Similarly, urinalysis might detect bladder cancer, infection, renal dysfunction, or diabetes. However, these tests would be useful only if they were “value added”—that is, if they provided additional diagnostic information that would not otherwise be obtained during a history and physical examination. In fact, large prospective studies performed in the early 1990s concluded that these tests rarely identify clinically significant problems when performed routinely in general outpatient populations.⁷⁻⁹

Although the majority of abnormal screening test results are false positives, their presence usually mandates confirmatory testing that causes additional inconvenience to physicians and patients. Confirmatory tests may be invasive and put patients at risk of physical harm. For example, if an unnecessary abdominal ultrasound scan in a healthy woman had detected an incidental but ultimately innocuous adrenal tumor, a needle biopsy may have been recommended.

Communicating with patients about test results consumes much of our time in the office. The time it takes to explain the results of unnecessary tests could be better spent discussing tests of proven value, such as screening for colorectal cancer. A typical U.S. physician provides slightly more than one half of effective clinical preventive services for any given patient¹⁰; time constraints are a major reason for not offering recommended tests.¹¹

Unnecessary tests also cost money, and because these tests are performed so often, the costs rapidly add up. A recent analysis estimated that routine CBCs and

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urinalyses cost the U.S. health care system as much as \$80 million each year.⁶ Because insurance companies increasingly base coverage decisions on objective evidence of benefit, many plans will not cover laboratory tests performed in the absence of a specific indication. For patients who do not have health insurance, the costs of these tests always come out of pocket. If these patients cannot afford to pay for follow-up testing for abnormal results, we are then challenged to locate resources to assist them (costing us still more time).

Like unproven big-ticket screening tests, screening CBCs and urinalyses waste time and money, interfere with providing worthwhile tests, and may end up doing more harm than good. Rather than referring patients for expensive scans or offering routine laboratory testing of dubious benefit, physicians should follow evidence-based screening recommendations. These recommendations are easily accessible at the point of care. The USPSTF recently developed a free Web-based and personal digital assistant tool, the Electronic Preventive Services Selector, to assist physicians with prevention decisions (<http://epss.ahrq.gov/PDA/index.jsp>). This tool is updated regularly as new evidence becomes available.

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