1

Introduction

Medical screening tests are familiar to nearly everyone, thanks to magazine and newspaper articles, programs on radio and television, and the literature in doctors' waiting rooms. All these sources report the advice of medical experts about who should get the tests and when—tests for high blood pressure, for high cholesterol, for diabetes, for breast cancer, colorectal cancer, and other cancers, for osteoporosis, for glaucoma. The list goes on and on. Not many people in the United States get through life these days without knowing about, and being subjected to, several of these tests, usually more than once.

The point of each test is to detect the condition before it produces symptoms. A common theme runs through the articles, programs, and waiting-room brochures: catch it early, treat it early, and live longer. If the condition is not fatal, the promise of longer life is replaced with the promise of pain and disability prevented by early detection. The test is usually quick, easy, painless or almost so, and, of course, worthwhile because of the ill health—not to mention the disruption and expense—avoided by acting before the disease becomes serious. And if the test turns out to be negative, the reassurance is worth the minor inconvenience.

That common theme, played out in its many variations, is simple, direct, and misleading. The straightforward recommendations about screening tests and the information that usually accompanies them are pseudo-truths. They convey rules of thumb developed by experts and leave out the complexities and tradeoffs, the mixture of solid information and educated guesses, that have gone into their development. Like the pseudo-elements of the physical sciences that bear a deceptively close resemblance to the real thing, the pseudo-truths about screening tests are not what they appear to be.

The term *pseudo-truth* would be unfair if the complexities and tradeoffs were not important or if the choices made by the experts were those the doctors and patients who use the tests—and the employers and taxpayers who pay for them—would make themselves with the same information. But that is often not the case. This book examines the complexities and tradeoffs involved in screening for three conditions—cervical cancer, prostate cancer, and high cholesterol—to show that the experts' recommendations are far simpler and more solid-looking than the evidence behind them. The recommendations are built on major decisions about what is worthwhile, for whom, and when. Sometimes the fuller truth bears only a superficial resemblance to the confident exhortations.

The pseudo-truths matter because they affect so many people and so much of medicine. Screening tests are pervasive. They constitute, or lead to procedures that constitute, a large part of medical practice. When the U.S. Preventive Services Task Force developed guidelines for clinicians, forty-seven of the sixty groups of preventive services the task force reviewed were composed of screening tests, with several tests—the major ones used to screen for a particular condition—included in each group.[1] Many of the tests are recommended for a large part or all of the adult population. Some are recom-

mended for children as well. The growth in screening tests has been enormous in recent years. Familiar examples make the point: screening for high blood pressure became recommended practice only about twenty years ago, screening for high blood cholesterol less than a decade ago, and new tests are developed every year.

It is important to think about policy toward this large and growing aggregation of services. The experts' recommendations do not offer many choices, but the fuller truth does, and those choices should be made well because they involve the lives and resources of millions of people. Patients, clinicians, and payers need to recognize the extent to which the guidelines gloss over or ignore considerations of potentially great importance to them. For patients, the questions have to do with whether a screening test is the best way to spend time, emotional energy, and money to preserve or improve personal health. For doctors and their professional associations, the questions center on the most productive way to spend the ten or fifteen minutes allotted to each patient's appointment and, of course, the impact of the answers on their professional lives. For payers, the issues have to do with how best to spend employers' or taxpayers' money to improve health—or even whether the money would be better spent in alterative ways. Policymakers whose responsibilities extend beyond screening or medical care know that these alternatives are not abstract ideas; they involve real people with genuine needs and concerns who can be vigorous in the advocacy of those needs and concerns.

The screening tests discussed in this book were chosen with the advice of an expert group convened by the Milbank Memorial Fund. In four day-long meetings, these experts and their invited guests offered a wide range of ideas and information that helped shape this book. The tests discussed in the

following chapters were chosen not only because they are important in their own right but also because they provide good examples of problems and issues that apply to screening tests more generally.

Chapter 2, on cervical cancer, serves as a textbook example of effective screening. Since the effectiveness of the Pap smear is well established, it is possible to focus on the surprisingly complex choices that remain, particularly the large personal and resource costs involved in such decisions as how often to have the test. The complexities arise from the nature of cervical cancer, the costs of screening and follow-up, and the fact that all tests are wrong some of the time—they miss some cases of disease and incorrectly identify other people as having the disease when they do not. As a result, the health and dollar costs of too much screening are large. They should be weighed against the costs of too little screening when recommendations are being formulated, but in the United States they seldom are.

Chapters 3 and 4, which deal with screening for prostate cancer and high blood cholesterol, bring out even more fundamental issues. By itself, even the most accurate screening accomplishes nothing. If it is to be effective, it must meet two more requirements: there must be effective treatment for the condition, and treatment must be more effective when delivered early, before the disease becomes obvious through symptoms. If either requirement is missing, screening contributes nothing to better health. The cases of prostate cancer and high blood cholesterol show that even for widely accepted and frequently used tests evidence that their use is effective is often simply not there. Screening for both conditions is recommended as much out of hope as on the basis of scientific fact.

The final chapter draws conclusions for the three examples and for screening tests in general. It raises questions about

how tests are evaluated, recommendations are formed, and medical resources are allocated. In doing so, it stresses, as the earlier chapters do, the full range of consequences—the benefits and the costs, both personal and national. The chapter points out the opportunity costs of current recommendations, that is, the benefits lost when one possibility is put aside in favor of another. These benefits—what could be gained if things were done differently—are the true cost of decisions made about screening tests.

Some of the conclusions will be considered controversial and upsetting by many in public health and medicine. Individual screening recommendations are sometimes defended on the ground that even if the test itself is not useful, it serves an important purpose by bringing the patient to the doctor's office when nothing else would, thus giving the doctor the chance to evaluate the patient's health and needs more generally. The concern and caring for patients that underly this argument are praiseworthy, but the argument itself is at odds with the principle that modern medicine should be scientifically based. Science requires that services be proven beneficial by solid evidence. It is not enough that some experts believe they are beneficial. Medical care is only justified when it makes a difference to people's health.

This book is motivated by the belief that resources for medical care should be allocated so that they do as much as possible to improve the life and health of the population. To meet this goal, allocation decisions must be based on the best scientific evidence about what works, for whom, and at what cost. The United States spends vast sums on medical care, more than any other industrialized nation, and screening drives a large share of this expenditure. Thus understanding the full range of choices offered by screening tests is a critical starting point for understanding how to make the medical system serve the nation better.