

Benefits Foregone: Too Much of the Wrong and Too Little of the Right

Based on a presentation by Bernard S. Bloom, PhD

Presentation Summary

Physicians, patients, and payers use some interventions that do not work, while they ignore others that have a scientific basis for efficacy. As a society, Americans are unwilling to address collectively healthcare issues, as witnessed by legislative inaction on reform. They have chosen instead to leave such matters up to the impersonal economic market. In doing so, the basic laws of economics must be taken into account: Healthcare resources are limited and conscious societal trade-offs must be made about who gets which services, how much, and who pays. Healthcare resources tend to be rationed according to

income, even with Medicaid and other programs available to those with low incomes.

The economic market lacks perfect or almost perfect information to enable rational choices to be made among alternatives. Even when the value of an intervention is known, physicians may over- or underuse it. Much of the literature focuses on overuse, but underuse is finally being recognized as a severe problem. For example, effective prevention and treatment measures for breast cancer exist and should be promoted for appropriate candidates, despite the low relative risk of adverse effects like other neoplasms.

Healthcare professionals continue to rely on a wide variety of interventions that have no established benefit, while interventions that work are underused. Bernard S. Bloom, PhD, Research Professor at the University of Pennsylvania, asserts that "we are not using a variety of interventions that have known scientific benefits, which have been proved beyond the shadow of a reasonable doubt in multiple, randomized, controlled trials. We're doing too many things that are wrong and not nearly enough that are right." Dr. Bloom added that

context is needed before this can be understood. Overuse of ineffective and underuse of effective care occur side by side among health systems and physicians.

Referring to himself as "an economist, at least by avocation," Dr. Bloom noted that "We as a society are really unwilling if not unable to deal with the myriad healthcare issues that surround us, including organization, financing, and delivery. We have said we don't want to deal with these issues legislatively because they are too politically charged and have chosen instead to leave them to the mar-

ket to decide for our society. In essence, we have insufficient consensus and a schizophrenic commitment to the issues of access, quality, and cost."

Free Market Approach

What has happened, according to Dr. Bloom, is that Americans have said, by their actions and inactions, they want free market operations to solve the issues of healthcare services use, distribution, and payment. "If we are going to do that," he noted, "we must remember the basic laws of economics, because such resources are limited, and we can only do so much.

"Economists love to say there's no such thing as a free lunch," Dr. Bloom said, adding that, "it may be subsidized, but it's never free. If we want the market to operate, we have to realize that people have different wants and needs. This means we must make conscious choices or trade-offs among many alternatives, both within healthcare and between healthcare and other areas in which to put our scarce resources, and there may not necessarily be a consensus."

Rationing in Healthcare

"The economic market allocates resources in the most efficient manner," Dr. Bloom asserted, "which means if you have the money you get the resource; if you don't have the money you don't. The process is called 'rationing,' and it's a four-letter word in healthcare. We say we don't want rationing in healthcare when in fact we generally ration every day. However, we don't ration by price; we ration by income. Witness the estimated 50 million people who have no health insurance or inadequate coverage; disproportionately, they have low incomes or are poor." Noting that those attending the conference were in high-income brackets, Dr. Bloom observed that it meant they were among the majority of the population that has access to good health insur-

ance, whereas 25% of the population does not.

"The economic market uses money as a medium of exchange," Dr. Bloom said, adding, "it is how we determine value. The costs and benefits are traded off, explicitly or implicitly, among all likely options. Now, that is easy to do, or at least to talk about. To have an effectively operating economic market," he continued, "all criteria must be met; you can't meet just some of them, you must meet them all."

The first criterion Dr. Bloom noted is that there must be many suppliers, none of whom can affect price. There are about 620,000 licensed physicians in the United States and about 5000 hospitals, he said. The notion that none of them can influence price is "rubbish," according to Dr. Bloom, who asked, "Why does my hospital charge \$5000 for an appendectomy when another hospital charges \$2500 for the same appendectomy with the same outcome?" Dr. Bloom asserted those arguments about training costs, quality differences, and cost structures are mostly without merit. In other industries, the economic market weeds out those whose prices do not justify quality, and only the efficient ones survive and prosper. Of course, he added, unfettered competition leads to monopoly with its own outcomes, which are usually not good for the public either.

Difficulties in Substitution

Dr. Bloom pointed out that, unlike in other industries, substitution of products and services may sometimes not be possible in healthcare services. In addition, "there must be few barriers to entry and exit from the market to enable the inefficient to leave and new, more efficient firms to come in," he said, noting that "a specialized education will not allow physicians to get out of the market very easily. Almost all who trained as physicians work in medical care in some fashion," he said, adding that some are

practitioners, administrators, or researchers, but in general they are all still physicians and are involved in medicine in some way; to the contrary, many lawyers who pass the bar never practice law.

"Finally," Dr. Bloom said, "there must be perfect or near-perfect information in the economic market so patients, physicians, and payers can make rational choices. We know the problems of information asymmetry in which physicians have the most, payers rarely use it, and patients have little of it as they try to decide what is best for them in a time of great emotional stress. As a result," he observed, "in most cases the criteria for a market economy do not operate. This is a consideration in breast cancer, where ineffective treatment or treatment of unknown efficacy is overused, such as bone marrow transplantation for breast cancer, and treatment of known benefit is underused, as in the case of tamoxifen for secondary prevention in breast cancer. From an economist's perspective, this is perverse: A high-cost, low-efficacy service is provided, while a low-cost, highly efficacious one is underused; it is a terrible use of the money spent."

Overuse of Interventions

"If we examine standard medical practice in the high-income countries of North America and Western Europe," Dr. Bloom continued, "we see that even when physicians define the value of an intervention, it is frequently overused." The following are some examples of low-value benefit/cost trade-offs.

Physicians in the United States say that by their own criteria nearly 30% of all coronary angiography is used unnecessarily.¹ A similar situation exists in Europe, where physicians estimate that half of all coronary angiography is overused.² For coronary artery bypass grafting, US physicians estimate that 14% is overused,³

and European physicians say 45% is overused.²

In other examples, Dr. Bloom said that the high rates of use of systemic pediatric antibiotics in the treatment of acute otitis media and otitis externa are not supported by the literature.^{4,5} And the examples go on: In one study 25% to 34% of laboratory

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tests were determined to be potentially unnecessary⁶, in another between 8% and 25% of hysterectomies were thought to be unnecessary^{7,8}, and in yet another, half the coronary angiography tests were unnecessary or at least could be postponed.⁹

Effective Treatment Underused

"That's my usual litany: Too much of too little value," Dr. Bloom said, noting that "at the same time, we are finally getting people to realize that there is underuse of technology that works, that is, provides demonstrable benefits." As an example, the situation in the United States, where less than 25% of patients, and in Europe, where only half the patients who are eligible for a thrombolytic agent after an acute myocardial infarction ever receive this treatment. "That means that in the United States we are allowing 12,000 people to die unnecessarily each year,¹⁰" Dr. Bloom said, adding that eligibility criteria are so strict as to discriminate against the elderly,

the ones who can derive the greatest benefit from thrombolysis.

Dr. Bloom termed concern over which lytic agent to use as "specious," acknowledging that clinical trials^{11,12} and a cost-effectiveness analysis¹³ showed a marginal difference between tissue-type plasminogen activator and streptokinase. But a Bayesian re-analysis found that the differences probably did not exist.¹⁴ "That's the wrong focus," he said. "It is not which agent should be used but rather should physicians use any of these agents, because they all work similarly well and have comparable risks."

Using a minimal level of process measures of quality of care for diabetics, a multistate study using claims data for Medicare beneficiaries determined that recommended annual hemoglobin measurements were not being performed in 84% of patients.¹⁵ Finally, Dr. Bloom noted, less than 15% of people in North America and Europe get angiotensin-converting enzyme (ACE) inhibitors for heart failure.¹⁶ "We know from numerous trials what profound effects ACE inhibitors can have," he said, adding that 10,000 excess deaths a year occur in the United States simply because those who need it are not getting known effective treatment for heart failure.

"We can apply this same approach to the prevention and treatment of breast cancer," Dr. Bloom said, noting that "there have now been enough randomized controlled trials in breast cancer prevention and treatment with tamoxifen to show what we need to do. But when we examine breast cancer as a disease, we find there is underuse of known effective care as well.

"We know that about 60% of women with breast cancer have estrogen receptor-positive tumors, and we know the effect of tamoxifen on long-term outcomes.¹⁷"

According to Dr. Bloom, a recent meta-analysis of 55 randomized, con-

trolled trials on the long-term effects of tamoxifen based on experiences of 85% of the women who have been in trials found a 26% reduction in mortality, a 47% reduction in disease recurrence, and a 10% improvement in survival.¹⁷

In the single primary prevention trial that has been published, Dr. Bloom noted that researchers found a reduction of breast cancer of almost 50% in high-risk women who were taking tamoxifen.¹⁸ "We know that women with known risk factors, such as a mother, sister, or daughter who had breast cancer or a known genetic risk, should consider genetic testing and tamoxifen for primary breast cancer prevention," Dr. Bloom continued, adding that "the trade-off between these primary prevention measures is an increase in endometrial cancer, deep vein thrombosis, pulmonary embolism, and stroke, which must be traded off against the equally plausible hypotheses of less cardiovascular disease and fewer fractures of the hip, spine, and long bones."

Trade-Offs and Risk Management

Dr. Bloom said that the questions in primary and secondary prevention are: What trade-offs do patients, physicians, and payers want to make, and how can they be achieved using the strategy of risk management as well as risk reduction? He emphasized that in both primary and secondary prevention, the risk of either a first or subsequent malignant neoplasm of the breast is drastically reduced. From Dr. Bloom's perspective, although the relative risk of other neoplasms is increased, most such neoplasms are relatively straightforward to diagnose and of low absolute risk. There is a twofold increase in the relative risk of endometrial cancer, but there is also a reduced relative risk of fracture.^{17,18} But the absolute survival benefits are twofold greater than the increased relative risk of all adverse side effects.

So the trade-off patients and health systems have to weigh is: Do the benefits of preventing the initial occurrence or recurrence of cancer outweigh the risks of another cancer?

Strategies for Alternative Interventions

"As an economist, I argue there is a hierarchy of questions to be addressed in medical care," Dr. Bloom said. "The first question is about the benefit-risk trade-off; the second is about the benefit-cost trade-off." He then noted that the third question concerns the adverse monetary risks and other adverse risks of the health benefits to be achieved through primary or secondary prevention relative to the costs of treating the disease when it occurs.

According to Dr. Bloom, the final question is: What are the alternative intervention strategies for primary and secondary prevention that minimize the subsequent or negative risks and maximize the subsequent benefits? "Let's not forget there are also reasonable expectations of improved cardiovascular and skeletal health accruing from tamoxifen,"^{16,17,18} he said, adding that there are other questions that need to be asked about breast cancer, such as: Is genetic screening an alternative? Based on the P-1 study¹⁸ (the only trial of primary prevention), why aren't more women getting tamoxifen? What are the real benefit-to-risk trade-offs? What is the incremental cost of achieving such incremental benefits?

"You must ask about cost," Dr. Bloom noted "because the benefits are not going to be free; they are likely to cost something, but we need to know whether the costs are worth the benefits achieved."

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