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# Preventive medical services do not save money

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PUBLIC health advocates and reformers often call for greater use of preventive medical services. A common argument is that huge amounts of money could be saved if doctors caught conditions in their early stages, before they develop into more costly-to-treat diseases.

However, there are literally hundreds of studies from over the past 40 years that show preventive medical services usually increase medical spending. For instance, a review of nearly 600 studies published between 2000 and 2005 found that fewer than 20% of preventive services (and a similar proportion of treatments for existing conditions) were cost saving (Russell, 2009)—80% actually increased the total costs of care. As one observer has put it, “Nearly every aspect of preventive care has crashed upon the rocky shore of added costs” (Gottlieb, 2001). Some exceptions to the general rule include immunization for childhood diseases, smoking cessation advice, and prenatal care for at-risk mothers (Tengs et al., 1995).

Contrary to popular belief, checkups for children and adults do not save the health care system money. Nor do pap smears, mammograms, and most other tests (Ferrara, 1995).<sup>1</sup> And while diagnosing cancer early does lower treatment costs for patients found to have the disease, that diagnostic test is given to thousands of healthy patients in order to find the sick patients. When all costs are considered, the cost of screening healthy patients is much higher than the cost reduction associated with treating the

few found to have the disease (see, for example, Russell, 2009). For instance, a study by a Copenhagen-based independent research center found that 2,000 women (aged 50 to 70) would have to be screened for 10 years to save one woman from dying of breast cancer. During the same period, 10 women would be misdiagnosed as having breast cancer and undergo unnecessary treatments (Gøtzsche and Nielsen, 2006).

## Costs and benefits

THE fact that preventive care usually adds to overall health care costs does not mean that it is not valuable. But we need to compare the money spent with the benefits received. For example, consider the cost of screening for breast cancer (including the costs of treatment for those discovered to have cancer) per quality-adjusted life year saved as a result of the screening and subsequent treatment for breast cancer. In a 2006 study, Natasha Stout and her colleagues found that:<sup>2</sup>

- When compared to no screening, giving mammograms to women every five years, starting at age 55 and ending at age 70, costs about \$43,000 for every quality-adjusted life year (QALY)<sup>3</sup> saved as a result of the screening, when all costs are considered.
- Decreasing the screening interval from five years to every three years could buy additional QALYs at a cost of about \$46,000 for every additional year of life.
- Increasing the last screening age to 75 while screening every three years

would add \$51,000 in costs per incremental QALY.

This does not mean that mammograms are wasteful. On the contrary, they are a very reasonable investment for many women. Economists who have studied the price people will pay to avoid various risks have found that people were willing to pay between \$110,000 and \$220,000 for each year of life saved (Viscusi, 1993; Tolley et al., 1994).<sup>4</sup> These numbers are based on the amounts people were willing to pay to avoid risk when the risks were small and the amount of money was also small (for example, the extra wages required to induce people to take riskier jobs).

Since the cost of a mammogram is below that range, regular mammograms probably seem worthwhile to most women. However, more frequent screenings make the costs rise in relation to the benefits. Despite the preference of many doctors for annual screening, the trade-off is not in keeping with the kind of choices people typically make to avoid risk in other areas of life.

## Prevention vs. preventive care

A distinction should be made between “prevention” and “preventive medical care.” Anything that can prevent a disease can be labeled prevention. Eating a proper diet, getting adequate exercise, losing excess weight, abstaining from smoking, drinking only in moderation, and practicing proper sanitation are all examples of prevention. The medical literature has conclusively demonstrated

that many individuals can avoid disease and premature death by choosing healthy eating and living habits.

For instance, many cases of diabetes could be prevented by appropriate lifestyle modifications. One study found that cases of adult onset diabetes could be reduced by 58% through a prevention program for at-risk obese adults. Treatments include training sessions with physicians, nutritionist consultations, and individual case management on diet and exercise regimens, with annual follow up (Tuomilehto et al., 2001). However, the cost of such a tailored program of behavioral modification exceeds the cost of reducing diabetes. Taking into account annual enrollee turnover rates, a private sector health plan could expect to spend \$143,000 per quality-adjusted life year (QALY) gained on such a program (Eddy et al., 2005).<sup>5</sup> These figures would change depending upon the duration of the program:

- A five-year program would result in a cost of \$2.7 million per QALY gained.
- A 10-year program would result in a cost of \$1.2 million per QALY gained.
- A 20-year program would result in a cost of \$188,000 per QALY gained.

The longer the program, the lower the cost per QALY gained because diabetes prevention has high upfront costs, while savings often come many years later.

Vaccination is still one of the few medical interventions that saves more money than it costs. Public health efforts to provide clean drinking water and improve sanitation have also been shown to prevent disease and promote longevity. In fact, according to public health experts, most of the increases in life expectancy over the last 100 years have resulted from improvements in public health rather than advances in medicine. Only a few of the 10 greatest public health triumphs of the twentieth century were related to medicine (CDC, 1999).<sup>6</sup>

## Conclusion

PREVENTIVE medical care usually adds to overall health care costs, but this does not mean that it is bad. Diagnostic tests showing that no disease is present benefit patients by relieving anxiety and reassuring them of their health. Most of the time, preventive care is like a consumer good that creates benefits in return for a cost. It is not like an investment good that promises a positive economic rate of return.

## Notes

1 The Office of Technology Assessment (OTA) studied the cost-effectiveness of various preventive medical services and found that only three kinds of preventive care save money: prenatal care for poor women, tests in newborns for certain congenital disorders, and most childhood immunizations (US Congress, Office of Technology Assessment, 1993).

2 Figures stated in 2000 dollars.

3 A quality adjusted life year is a year of life saved adjusted for its quality. Under this measure, a year of disability-free life is worth more than a year of life confined to bed.

4 Figures updated to 2009 dollars. Please note that this is not the amount of money people were willing to pay to purchase an extra year of life.

5 Figures stated in 2000 dollars. Russell (2009) calculated the equivalent value in 2008 to be worth \$192,000.

6 For an in-depth review of each achievement, visit the Centers for Disease Control and Prevention's website, <[www.cdc.gov](http://www.cdc.gov)>.

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