

Investments in Prevention: Countering Myths and Resolving Paradoxes



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in 1123 LBME**

Conventional wisdom regarding the value of prevention in addressing health and health care costs suggests that:

- Only 3% of health care expenditures in the US are devoted to prevention;
- This clearly indicates that prevention receives inadequate funding compared to treatment;
- If more spending were devoted to prevention, total health care spending would decline;
- Community-based prevention efforts are generally more cost-effective than clinical preventive services.

This talk addresses these assertions using results from a series of projects designed to help us better understand the role of prevention in improving health and controlling costs. First, we assess the amount spent on prevention and find that that nearly 9% of national health expenditures are devoted to prevention – roughly three times commonly-cited values. We summarize evidence for the relative cost-effectiveness of prevention and treatment and describe a tool for understanding the appropriate allocation of healthcare spending to prevention versus treatment. The tool incorporates a Markov model of the flow of individuals among states of health, where the transition rates are governed by the magnitude of appropriately-lagged expenditures in each of these spending categories. Finally, we review evidence regarding the cost-effectiveness of community-based prevention and discuss ongoing work to develop an analytical structure for conducting and synthesizing research on the value of non-clinical prevention.

George Miller is an Institute Fellow at Altarum Institute and a member of Altarum's Center for Sustainable Health Spending (CSHS), where he supports Altarum in the application of operations research methods to modeling and analysis of issues related to health care expenditures. Dr. Miller is currently directing a grant sponsored by the Robert Wood Johnson Foundation that addresses the value of non-clinical primary prevention. He earlier led a grant from the National Heart, Lung, and Blood Institute to investigate the tradeoffs in cost effectiveness of alternative investments in treatment and prevention. He participated in a project to estimate national health expenditures by medical condition and directed a subsequent project to estimate national expenditures on prevention. He contributes monthly to the CSHS Health Spending Economic Indicators, which track national health care spending, prices, and labor. Other past and ongoing efforts have addressed topics in the cost of care, the cost-effectiveness of disease management and other clinical interventions, beneficiary population forecasting, telemedicine, graduate medical education, medical logistics, medical staffing, medical responses to bioterrorism, medical facilities planning, and collections forecasting. Dr. Miller received BSE, MSE, and PhD degrees in Industrial and Operations Engineering from the University of Michigan, where he subsequently served as an Adjunct Assistant Professor.

The seminar series "Providing Better Healthcare through Systems Engineering" is presented by the U-M Center for Healthcare Engineering and Patient Safety: Our mission is to improve the safety and quality of healthcare delivery through a multi-disciplinary, systems-engineering approach.

For additional information and to be added to the weekly e-mail for the series, please contact genehkim@umich.edu