Evaluating Prevention and Wellness Programs to Promote Health and Productivity
For the past two years, the Patient Protection and Affordable Care Act (PPACA) has been at the center of one of the fiercest political debates in this country’s history. Signed into law in March 2010, everyone from physicians to business owners to individual healthcare consumers have been trying to gauge what kind of impact the new law will have.

A handful of chronic conditions — diabetes, heart disease, asthma, and depression — consume the majority of healthcare expenditures in the United States.1 Treating patients who have these conditions is expensive, and the cost extends beyond paying for clinical services. For the working population, employers also incur costs related to absenteeism and presenteeism. Absenteeism adversely affects employee productivity. And presenteeism, which occurs when employees come to work in spite of illness, can be even more detrimental to workplace efficiency.

The advent of healthcare reform has created an unprecedented landscape for new prevention programs and funding, in addition to an increasing need for rigorous evaluation of the efficacy and value of prevention efforts.

Our research helps inform public and private decision makers on issues related to health and productivity management. We also conduct applied research on the clinical, economic, and psychological effectiveness of interventions aimed at improving health. Our work includes:

- Program evaluation
- Econometric modeling
- Prospective data collection
- Retrospective data analysis
- Return-on-investment (ROI) modeling
- Benchmarking with the MarketScan® Research Databases

Demonstrating ROI for Health and Wellness Programs

Many employers have developed health and wellness programs to address behaviors that can result in chronic conditions. It is often necessary to document cost savings and a positive ROI from these programs to help justify the investment. Research conducted by our team and Emory University quantifies the health and economic impacts from innovative health, safety, and productivity management programs.
Goals and Methodology

Through our research, we evaluate whether wellness and prevention programs are effective, assess their ROI, and develop recommendations supporting interventions for lifestyle modifications and health improvement. Methods we typically use in evaluations of health and wellness programs include:

- The aggregation and analysis of health risk assessment (HRA), biometric, medical insurance claims, absence, disability, workers’ compensation, and productivity data
- The application of quasi-experimental research designs to compare program participants with nonparticipants over time and across several health, productivity, and financial outcome measures
- The use of multivariate statistics and other econometric methods to control for confounding variables and reduce self-selection bias
- Reporting the impacts of workplace health and productivity management programs on behavior change, risk reduction, and cost savings

Because we are recognized thought leaders in the field of Health and Productivity Research, the methodologies and results of many of our client engagements are published in peer-reviewed journals and presented at industry conferences.

**FACT:** Many of our client engagements are published in peer-reviewed journals and presented at industry conferences.
American Specialty Health: Healthyroads® Weight Management Program ROI

American Specialty Health contracted with us to evaluate the ROI of the Healthyroads Weight Management Program, using a sample of 890 participants. The evaluation was conducted using an ROI econometric model developed by us that estimates financial benefits in healthcare costs, absenteeism, and presenteeism by comparing changes in employees’ health risks before and after the intervention program, and contrasting cost savings to program costs using a defined set of inputs. Researchers adjusted baseline costs to reflect differences in participants’ health risks and demographics, based on an analysis of Healthyroads HRA data over time. Overweight and obesity, physical inactivity, poor nutrition, high cholesterol, high blood pressure, high blood glucose, and depression are health risk factors included in the ROI model. The goal of this project was to demonstrate how employers can utilize an ROI model to estimate cost savings from health promotion programs.


* Truven Health researchers are bolded in the citations provided for case studies.
CDC Foundation: Implementing and Evaluating Evidence-Based Obesity Management Programs in Real-World Employer Settings

Emory University’s IHPS, in partnership with Truven Health, is collaborating with the Centers for Disease Control and Prevention (CDC) Foundation to test the effectiveness of their LEAN Works! programs. LEAN Works! is a series of programs, tools, websites, and support activities designed by the CDC Foundation and the CDC Division of Nutrition, Physical Activity, and Obesity to help employers reduce the prevalence of overweight and obese employees in the workplace. The two goals of this project are to determine whether evidence-based interventions and tools developed by the CDC Foundation can be successfully adopted, translated, and implemented in real-world employer settings and to examine the impact of implementation on the percentage of overweight and obese workers, and other obesity-related outcomes.

CDC-NYC: Worksite Health Promotion Through Private-Public Partnerships

The IHPS, the CDC, the New York City Department of Health and Mental Hygiene, Truven Health, the Wellness Councils of America, and New York City employers formed a private-public partnership to identify strategies by which a public sector agency can effectively support employer efforts to design, implement, and evaluate evidence-based health promotion and disease prevention programs. Data collection was conducted at baseline and again at one- and two-year intervals. This was designed to test the incremental benefits of offering high-intensity interventions against moderate (and lower cost) programs on behavioral risk factors, self-reported biometrics, and absenteeism and presenteeism. Healthcare utilization and expenditures and the financial impact of the program were also examined.


Senior Risk Reduction Demonstration Project

In a project for the Centers for Medicare & Medicaid Services, Truven Health and various consultants are working to estimate the impact of a risk-reduction intervention on Medicare beneficiary risk, health, healthcare utilization, and costs. The team designed and is implementing a national demonstration project involving more than 80,000 Medicare beneficiaries to test a comprehensive and systematic approach to reducing health risks among seniors and achieving a positive ROI.


The Dow Chemical Company: Environmental Approaches to Obesity Prevention and Management

The National Heart, Lung, and Blood Institute, Truven Health, the University of Georgia, the National Business Group on Health, and The Dow Chemical Company partnered with the IHPS to design, implement, and evaluate an environmental and ecological intervention program aimed at preventing and managing obesity in the workplace. This study assessed the feasibility and effectiveness of implementing moderate- and high-intensity interventions focused on increasing physical activity, improving diet, and managing weight for Dow employees at 12 worksites around the country. The evaluation assessed the program’s impact on health behaviors, biometric measures, and health risk factors; healthcare utilization and medical expenditures; absenteeism and on-the-job presenteeism; improvement in key organizational cost measures; employee attitudes toward work; satisfaction with the work environment; and improvement in overall well-being.


Wilson MG, Goetzel RZ, Ozminkowski RJ, Deoy DM, Della L, Roemer EC, Schneider J, Tully KJ, White JM, Baase CM. Using formative research to develop environmental and ecological interventions to address overweight and obesity. Obesity (Silver Spring) 2007 Nov; 15 Suppl 1: S7-S-47S.


Highmark Inc.: Employee Wellness ROI

Our team evaluated the ROI for Highmark Inc.’s employee wellness program. Growth-curve analyses compared medical claims for participants of wellness programs versus risk-matched nonparticipants for the years 2001-2005. The difference was used to define savings. ROI was determined by subtracting program costs from savings, and alternative discount rates were applied in a sensitivity analysis. Using sophisticated methodology, this study provided further support that a comprehensive health promotion program can lower the rate of healthcare cost increases and produce a positive ROI.


Landscape Assessment of Workforce Health, Health Promotion, and Safety Efforts

In partnership with the CDC, the National Institute for Occupational Safety and Health, Truven Health, and the University of Georgia, the IHPS conducted an assessment of U.S. employers’ Workforce Health, Health Promotion, and Safety (WHHPS) activities to identify the WHHPS components that support employer efforts to preserve, protect, and improve employee health. The Landscape Project was a qualitative assessment of emerging integration efforts involving employers; health, demand, and disease management vendors; insurance companies; consultants; universities; associations; pharmaceutical companies; government agencies; and other interested parties. The analysis emphasized health promotion and chronic disease prevention efforts, coupled with occupational health
and safety structures, at the worksite. Through a review of publicly available documentation and literature, the team identified the most recent WHHPS efforts among employers that drive health promotion and worker protection integration efforts.

**Novartis: Quantifying the Impact of Modifiable Health Risks**

Truven Health worked with Novartis to quantify the impact of modifiable health risks on healthcare expenditures and productivity losses in an employed population. Health risk appraisals, medical care claims data, and productivity-related expenditures were aggregated for 5,875 Novartis employees in 2005-2006. Factor analyses were conducted to identify relationships among common health risks and multiple regression analyses were used to estimate relationships between risks and costs. Results demonstrated a significant and consistent association among health risk categories and increased healthcare costs, presenteeism, and lost work time, demonstrating that employers can reduce healthcare costs and improve worker productivity by providing health improvement programs for their workers.

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**About the Emory University Institute for Health and Productivity Studies (IHPS)**

Truven Health partners with the IHPS to conduct empirical research on the relationships between employee health and work-related productivity. These studies help inform decision makers in both the private and public health sectors concerning the health and productivity cost burden of certain health risk factors and common disease conditions. They also examine the impact of innovative intervention programs on work-related medical, safety, and productivity outcomes.

For more information on these research efforts, visit [http://www.sph.emory.edu/ihps](http://www.sph.emory.edu/ihps).
FOR MORE INFORMATION

To learn how Truven Health can support your health and productivity analysis needs, please contact Ron Goetzel at ron.goetzel@truvianhealth.com