



What's the ROI?

A Systematic Review of Return on Investment (ROI) Studies of Corporate Health and Productivity Management Initiatives

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Introduction

- Many worksite-based prevention programs strive to improve employee health and productivity.
 - But, managers also want to know if these programs save money.
 - Are these programs worth their cost?
 - MEDSTAT researchers reviewed the literature to summarize return on investment (ROI) findings related to Health and productivity Management (HPM) programs.
 - Results were published in *AWHP's Worksite Health*, Summer 1999 issue.
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Three Program Types Were Studied

- We reviewed studies of:
 - Health management, health promotion, and wellness programs
 - Demand management and self-care programs
 - Chronic disease management programs
- Only a few rigorous return on investment (ROI) studies were found.
- But a wide range of ROI estimates were noted (from \$1.40 - \$13.00 in savings per dollar spent on these programs).



The Primary Aim is to Improve Health

- The primary goal of all of these programs is to improve employee health and productivity (not just to save money).
- But program funders often also require a “business case” justification for programs continuation and enhancement.
- Thus, the need to demonstrate a positive return on investment is still very strong.



Three Objectives for Our Review

1. Identify well-conducted, rigorous evaluation studies that exemplify best practices in econometric ROI analyses.
2. Document the range of ROI estimates found in these studies.
3. Comment on factors influencing ROI.



Inclusion Criteria

- Studies were extracted from MEDLINE and HSTAR electronic databases, from article reference lists, or from unpublished sources familiar to authors.
- Studies were included in the review if true experimental or strong quasi-experimental designs were used.
- Cost data in these studies needed to be from archival databases (i.e., not self-reported).
- Appropriate research methods had to be used in the studies (i.e., large sample sizes and long study periods).



Results re: Health Management Programs

- Corporate health management programs often include:
 - health risk assessment,
 - exercise/fitness facilities/programs,
 - nutrition education,
 - stress reduction programs,
 - disease screening,
 - high risk intervention programs,
 - smoking cessation programs



Health Management Program Studies

- ROI studies of health management programs have been conducted for:
 - Canada and North American Life
 - Chevron Corporation
 - City of Mesa, Arizona
 - General Mills
 - General Motors
 - Johnson & Johnson
 - Pacific Bell
 - Proctor and Gamble
 - Tenneco
- ROI estimates in these nine studies ranged from \$1.40 - \$4.90 in savings per dollar spent on these programs.
- Median ROI was \$3 in benefits per dollar spent on program.
- Sample sizes ranged from 500 - 50,000 subjects in these studies.



Results re: Demand Management Programs

- Demand management programs expand use of self-care and give beneficiaries greater control of their health care usage.
- Components include:
 - 1-800 nurse call-in or other telephone information services
 - newsletters
 - seminars
 - counseling services
 - self-care books
 - other educational services



Demand Management Program Studies

- ROI studies of demand management programs were conducted for:
 - Blue Cross of California
 - Five California counties
 - Group Health Inc.
 - Rhode Island Group Health Association (2 studies)
 - United Healthcare
- ROI estimates in these six studies ranged from \$2.20 - \$13.00 in savings per dollar spent on these programs.
- Median ROI was about \$4.50 in benefits per dollar spent.
- Sample sizes ranged from 460 - 5,647 subjects in these studies.



Results re: Disease Management Programs

- Disease management programs target disease conditions for which there are effective, evidence-based practice guidelines.
- Components of disease management programs include:
 - educational programs for patients or doctors
 - counseling services
 - care programs based on evidence-based clinical practice guidelines
 - incentives for appropriate utilization of health care services



Disease Management Program Studies

- ROI studies of disease management programs were conducted for:
 - Henry Ford Hospital (asthma)
 - Spohn Memorial Hospital (diabetes)
 - United Behavioral Health (mental health)
- ROI estimates in these three studies ranged from \$7.30 to \$10.40 in benefits per dollar spent on these programs.
- Median ROI was \$9.00 in benefits per dollar spent.
- Sample sizes ranged from 176 - 1,671 subjects in these studies.



Results Re: Multiple Component Programs

- Some programs combined elements of health, demand, and disease management programs.
- Key features included:
 - health risk appraisal surveys to identify people at high risk for poor health
 - triage into risk-appropriate intervention programs
 - tailored communication and health education
 - self-care materials
 - appropriate follow-up to monitor progress



Multiple Component Program Studies

- ROI studies of multiple-component programs were conducted for:
 - The Bank of America
 - California Public Employee Retirement System
 - Citibank, N.A.
- ROI estimates in these three studies ranged from \$5.50 - \$6.50 in savings per dollar spent on these programs.
- Median ROI was \$6.00 in savings per dollar spent.
- ROI for Citibank study dropped from \$6.50 to \$4.70 per dollar spent when subjects who died during study period were excluded from analyses.
- Sample sizes ranged from 4,700 - 21,700 subjects in these studies.



Summary and Discussion

- ROI estimates ranged from \$1.40 - \$13.00 in savings per dollar spent on these health, demand, and disease management programs.
- Wide range of ROI estimates may be due to variety in program design features.
- Maximum health impact may come from programs directed at improving organizational health, employee absence patterns, worker disability, and safety. Although most costly, these are likely to also be most cost-beneficial.



Summary and Discussion

- In general, some of the more expensive programs produced lower ROIs, compared to less expensive programs.
- A notable exception, though, was the disease management program for mental health that was organized by United Behavioral Health (UBH) for Pacific Bell.
- Although the UBH program was one of the most expensive, it also produced a high ROI (\$10.40 in benefits per dollar spent on the program).



Limitations

- Programs that produced negative ROIs are less likely to be published in the literature.
- Thus, ROI estimates noted in this review may overstate the true average impact.
- Only a few studies used inflation-adjustments and discounting procedures to control for the changing value of money over time.
- Thus, costs and benefits in out-years may be overstated.



Conclusions

- The range of ROI findings underscores the requirement to closely examine the needs of the target population and introduce interventions that are appropriate and targeted for that population.
- Organizations should assess the value derived from their Health and Productivity Management programs.
- Rigorous evaluations should not only focus on improvements in health and reductions in risk but also on return on investment.