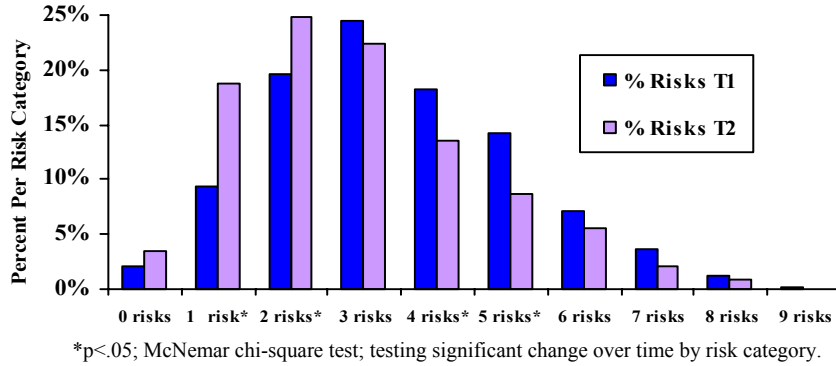


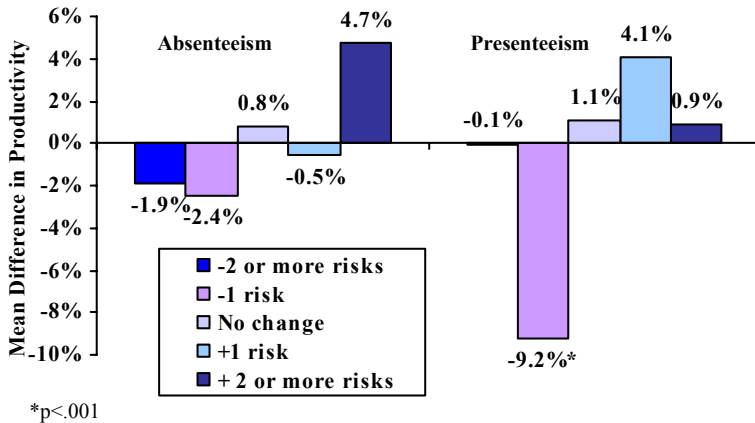
Change in Health Risks and Work Productivity Over Time

Reductions in health risks are associated with positive changes in work productivity.

Observed Change in Health Risks: Time 1 Versus Time 2



Observed Change in Productivity by Change in Number of Health Risks



Key Findings

- Employees who improved their health risk status experienced measurable improvements in work productivity
- Individuals who improved one risk factor improved their presenteeism by 9% and reduced absenteeism by 2%
- Self-reported productivity measures may have utility in the evaluation of health promotion programs

The study population consisted of 500 employees of large national employer who participated in a company-sponsored wellness program and completed a pre- and post-health risk assessment and a general health and productivity questionnaire between February-September 2001 and February-March 2002. Participants were characterized as 75% female and 65% <45 years of age.

Eleven health risks were identified from the HRA. Absenteeism (time missed from work) and presenteeism (time impaired while working) were calculated according to the rules specified by the developers of the productivity tool and was assessed in both time periods. A repeated measures regression model, controlling for baseline risk level, age, gender and interaction of baseline risk and risk change, was used to examine how changes in risks were associated with changes in reported productivity measures.

Employees who improved their health risk status experienced a significant improvement in presenteeism (p=.002). The results of the repeated measures regression model indicated that for each one risk factor improved, there was a corresponding improvement of up to 9% for presenteeism (p<.05) and 2% for absenteeism (p>.05).

Note: Aetna Inc. managed the development, delivery and data analyses for this project and all services rendered.