



Engagement in health and wellness: An online incentive-based program

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ABSTRACT

Increasingly, corporate health promotion programs are implementing wellness programs integrating principles of behavioral economics. Employees of a large firm were provided a customized online incentive program to design their own commitments to meet health goals. This study examines patterns of program participation and engagement in health promotion activities. Subjects were US-based employees of a large, nondurable goods manufacturing firm who were enrolled in corporate health benefits in 2010 and 2011. We assessed measures of engagement with the workplace health promotion program (e.g., incentive points earned, weight loss). To further examine behaviors indicating engagement in health promotion activities, we constructed an aggregate, employee-level engagement index. Regression models were employed to assess the association between employee characteristics and the engagement index, and the engagement index and spending. 4220 employees utilized the online program and made 25,716 commitments. Male employees age 18–34 had the highest level of engagement, and male employees age 55–64 had the lowest level of engagement overall. Prior year health status and prior year spending did not show a significant association with the level of engagement with the program ($p > 0.05$). Flexible, incentive-based behavioral health and lifestyle programs may reach the broader workforce including those with chronic conditions and higher levels of health spending.

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1. Introduction

Employers have been offering health promotion and wellness programs to employees for decades to boost morale, increase productivity, and address healthcare costs (Employee Benefit Research Institute, 2001; Fries et al., 1993; Glasgow et al., 1995; Jeffery et al., 1993; Ozminkowski et al., 1999; Bertera, 1990; Bly et al., 1986). Most health promotion programs are voluntary and despite their widespread use 61% of employers surveyed noted that poor employee health habits were a key challenge in managing their healthcare costs, the top reason cited (Towers Watson, 2012). While popular among employers, many health promotion programs have suffered from low participation rates (Towers Watson, 2010), low rates of active engagement in health promotion activities (Mattke et al., 2013), and rates of many healthy

behaviors among the employed remain low (Hughes et al., 2010). Concerns also exist that many wellness activities are used by healthier employees (Partnership for Prevention, 2008; Thompson et al., 2005), who are more likely to reap benefits, not those with existing chronic illness or high resource use.

Studies have shown that the use of incentives can help improve participation rates in health promotion programs, and field experiments have demonstrated that incentives can help employees lose weight and stop smoking, at least in the short term (Towers Watson, 2010; Volpp et al., 2009; Volpp et al., 2008). Long-term benefits of these programs could also accrue. To further increase the benefits of incentive-based wellness plans some employers are turning to behavioral economics (a field of inquiry focusing on the psychology of economic decision making and behavior such as responses to rewards and incentives) (Ayers, 2010; LDI Issue Brief, 2011) to improve employee engagement in health promotion activities.

In 2014, in the Towers Watson/National Business Group on Health (NBGH) survey of large firms, 69% reported that they offered wellness incentives and the size of the incentives is increasing with time (Towers Watson, 2013). Offering and expanding financial incentives ranked fourth in the top areas of concern for employers with 29% of

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firms indicating that this was a major area of focus (Towers Watson, 2013).

Despite the adoption of these programs, little is known about actual patterns of use and engagement in health promotion activities reflected in the online program. In this study we define engagement with health promotion activities in a way that is most consistent with the Center for Advancing Health Care's definition, "Actions that people take for their health and to benefit from care." (Center for Advancing Health, 2010) The goal of this study was to analyze patterns in the level of use of the commitment program and specifically the online incentive program. We compared characteristics of users and nonusers, analyzed individual and aggregate measures of engagement in health promotion activities, and analyzed the utilization patterns of employees to provide one of the first views of real-world use of an incentive-based commitment program with non-trivial financial rewards integrated with information on health status and health spending.

1.1. The incentive-based commitment program

In this study, a large nondurable goods US manufacturing firm implemented a customized online commitment program, integrating principles of behavioral economics such as loss aversion (see Table 1 and Ayers, 2010) in the incentive-structure, for workplace health promotion. Each employee could make their own commitments to meet health goals within predefined categories such as 'Getting Active' (within this broad category the employee would set their own goal such as 75 min of strength exercise each week for 6 weeks). Employees then earned points that could be redeemed immediately online for gift cards and prizes. Table 1 describes the design of the program.

The first 7500 points earned could be redeemed directly for incentives worth an approximate value of \$300 as well as a variety of ongoing sweepstakes with larger dollar values (e.g., personal chef visit or tablet computer) and any points earned above 7500 could only be used to enter sweepstakes. The commitment program was implemented January 1, 2011, coincident with a new comprehensive health and wellness program including biometric screening for risk factors (such as blood cholesterol, weight and blood glucose) and completion of an annual health risk appraisal. To obtain additional incentives, employees were asked to report on progress weekly (for multi-week commitments), to recruit personal supporters, to certify progress with a referee of their own designation, and to make journal entries. Points and rewards were allocated and adjudicated within the online system.

2. Materials and methods

We combined detailed 2011 data extracted from the online commitment program with information from 2010 and 2011 administrative medical claims, pharmacy claims, and health plan enrollment data and created measures of program engagement in health promotion activities, health status and resource use, and employee characteristics. When combining administrative data with commitment program data, administrative medical and pharmacy claims, as well as health plan enrollment data were available for users and non-users of the online commitment program, so we could study determinants of use of the commitment program. Participants (users) were defined as employees who signed on to the online program, regardless of whether or not they made a commitment. Sign-on was required to receive incentives offered by the health and wellness program that began at the same time.

2.1. Measures of commitment program engagement

Using the data from the online commitment program we collected measures reflecting interactions with the online program: use of the online commitment program, number of commitments made, percentage of commitments where the employee involved a referee for verification,

Table 1
Online health promotion program design.

Behavioral economics principle ^a	Program design	Implemented in program
Optimism bias (tendency to believe in positive outcomes)	Encourage precommitment to goals and goal-setting	Commitment contracts were created by employees to meet health goals
Present-based preferences, myopia (focus on present)	Make rewards frequent and immediate for beneficial behavior	* Points were earned for the following activities: enrollment in the program, setting commitments, reporting weekly, use of referee (friend, relative or co-worker to validate success), recruiting supporters, success toward meeting health goals, posting online to a commitment journal * Rewards were selected and redeemed online
Framing and segregating rewards	Employee-selected reward more likely to be effective than a discount on health insurance premiums	Employee-selected rewards: gift cards, sporting event tickets, sweepstakes entries or health-related goods (e.g. pedometers)
Overweighting small probabilities	Provide probabilistic rewards such as a lottery with a larger payoff than employee-selected rewards	Sweepstakes entries were available as a reward
Regret aversion (desire to avoid regret)	Inform of the potential of winning had beneficial behavior been sustained	The largest point allocations were earned at the end of each commitment, and were based on the overall success rate in reaching the health goal (e.g., 75% success toward an exercise goal).
Loss aversion (desire to avoid losses)	Put rewards at risk if behavior doesn't change	Points were not earned if commitment was not successful ^b
Other incentives	Other program components	Points were deducted if weekly reports not completed Rewards also earned: completing an annual health risk appraisal and completing an in-person biometric screening

^a Source of Principles: LDI Issue Brief. Special Issue: Behavioral Economics and Health Annual Symposium. 17(1). September 2011.

^b Points could still be earned for setting a commitment, journal entries, recruiting supporters, regular reporting and using a referee.

number of online supporters recruited by the employee, number of online journal entries, percent of reports made per commitment, completion of the Health Risk Appraisal (HRA), completion of biometric screening (e.g., blood glucose and Body Mass Index), total points earned in 2011, logon user of the tool (no commitments made but used the tool), completion of a quit smoking commitment with >50% of reports (typically weekly) indicating that the person did not smoke, and successful completion of a weight loss commitment. These measures reflect the measured program activities of enrollees, and the manner in which enrollees can engage with the online program.

We sought to create a single measure of engagement in health promotion activities by creating a composite of these individual items. First, we evaluated internal consistency of these items (standardized) by examining inter-item correlations, item-total correlations and Cronbach's alpha.

We then created a summative scale of the standardized items (equal weight for each item), and, as a comparison, we created a summative

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