



Results and Conclusions

Weight Loss “Betting” Program Produces 63% Success Rate for Male Participants

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INCENTIVES IN THE FORM OF A WEIGHT LOSS “BET”

The program allowed participants to make a \$100 “bet” on whether they would lose 10% of their weight in the next six months, and paid them \$400 if they succeeded. The program harnessed the findings of recent behavioral economics studies that showed that financial incentives in the form of rewards (i.e., “carrots”) and penalties (i.e., “sticks”) were powerful weight intervention tools. Employing a unique format—a weight loss “bet”—made the program the first major initiative to leverage *both* a “carrot”, for its powers of short-run motivation and excitement, *and* a “stick” for the power of loss aversion. The result was stunningly widespread weight loss among participants—particularly men. We conclude that all incentive-based biometric interventions should include “betting” to maximize effectiveness by combining carrots and sticks.

Executive Summary

This report describes the results and our conclusions about the HealthyWage 10% Challenge Weight Intervention Program (the “Program”)—a custom incentive-based weight loss “betting” program in which 66 Fortune 50 Health employees participated from August 15, 2011 through February 15, 2012. The Program allowed participants to make a \$100 “bet” on whether they would lose 10% of their weight in the next six months, and paid them \$400 if they succeeded.

In short, the Program led to significant weight loss for a stunning portion of participants—male participants in particular. **63% of male participants lost at least 10% of their weight**, and thereby successfully completed the program, as verified by a third party fitness center. Overall, **29% of participants lost 10% of their weight**, and thereby successfully completed the program. A staggering 47% of participants self-reported weight loss of at least 5%.

These results are consistent with academic research that has found that financial incentives—in the form of cash rewards (i.e., “carrots”) and cash penalties (i.e., “sticks”)—are highly effective weight loss tools. The Program’s unique weight loss “betting” formula, which was designed by leading incentive-based wellness company HealthyWage, combined a carrot *and* a stick.

Based on the results of the Program and feedback from participants, our conclusions are that weight loss “betting” is extremely effective as (1) a targeted primary weight intervention for men, and (2) as an enhancement to other weight interventions for both men and women. We also conclude that biometric-based incentive programs should allow participants the opportunity to “bet” to leverage the power of a “stick” and to enhance the effectiveness of a carrot.

The 10% Challenge is affordable, and can be offered at little or no cost to Fortune 50 Companies. The program focuses on verified results and can be a way to incorporate regular check-ins or verified outcomes into a wellness program.

Cleveland Clinic Health Plan

The Program is the result of collaborative innovation by a large U.S. Corporation and HealthyWage in response to numerous academic studies and industry initiatives that have shown that behavioral economic-based interventions are extremely powerful tools for helping people accomplish behaviors that are in their self-interest but which, due to self-control problems, they have difficulty accomplishing. Financial incentive-based programs have been used successfully for quitting smoking, drug compliance, and weight loss. The same decision errors that often result in self-destructive behavior can be used instead to help people engage in beneficial behaviors, such as weight loss.

Recent studies have shown that weight loss incentives “supercharge” weight loss interventions.¹ The results of one widely-cited study revealed that participants in a weight intervention program

¹ Kevin Volpp, L John, AB Troxel, L Norton, J Fassbender, G Lowenstein (2008), Financial Incentive-based Approaches for Weight Loss: A Randomized Trial, *JAMA*, 300(22): 2631-2637.

who were given a financial incentive were three times more likely to achieve a defined weight loss goal than a control group that did not receive a financial incentive.

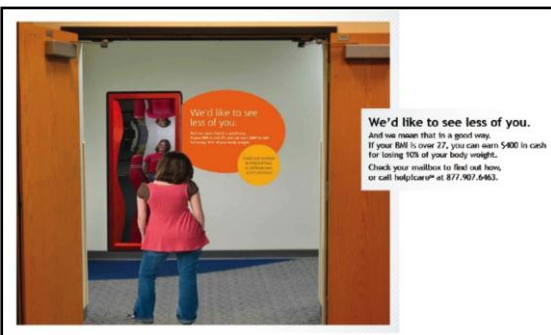
Based on these studies as well as similar programs that HealthyWage² had previously implemented for other companies, HealthyWage designed an incentive program that combined both types of incentives—carrots and sticks—into one program consisting of a unique format: a weight loss “bet.” Participants lost their entry fee if they failed, and got their entry fee back plus a significant reward if they succeeded.

Specifically, participants invested \$100 for the opportunity to win \$400 for losing 10% of their weight over six months. In addition to the \$100 that each participant paid, the Fortune 50 Company provided \$100 per participant, and HealthyWage assumed the financial exposure for paying the \$400 to all participants who won the challenge. We chose 10% weight loss because that amount is enough to have a meaningful clinical impact and reduction in health care costs.

² In the last few years, HealthyWage has offered financial incentive-based weight loss programs to tens of thousands of Americans through over 350 large U.S. employers. HealthyWage also offers direct-to-consumer programs; more than 100,000 Americans have participated in one of HealthyWage online weight loss challenges. HealthyWage’s advisory board includes leading behavioral economists who help it develop financial-incentive based interventions to produce significant positive weight loss. In the last few months, HealthyWage has been profiled prominently in the *New York Times* and *Washington Post*, and mentioned in the *British Medical Journal*.

Methods

The 10% Challenge invited participants to pay \$100 to win \$400 for losing 10% of their weight over six months. Participants had to reach out to their wellness coach the start of the challenge and have their starting and ending weight verified by a third party health club.



Participants were recruited from the body of employees at a Fortune 50 Company. Only employees with a body mass index of at least 27 were allowed to participate. Consequently, the eligible population consisted of approximately 800 employees. **Error! Bookmark not defined.** The eligible population was roughly 50% male and mostly upper income. **Error! Bookmark not defined.**

Recruiting methods were thorough and included targeted emails, posters in the workplace, flyers in employee mailboxes, training healthcare coaches advocates to explain the program, and a custom website for the participants to learn about the program and enroll. To participate, employees had to call their wellness coach and get a registration code to enroll online.

To the left is a screenshot of the website landing page used to recruit participants for the Challenge as well as copies of two of the posters put up to recruit participants to join.

After phoning their wellness coach, participants completed an online registration with basic demographic information and paid \$100 via credit card to join the challenge. Participants received an email confirmation of payment from HealthyWage along with instructions on how to verify their weight to start the challenge. All participants had their starting weight verified at a third party fitness center. After starting the challenge, the wellness coach followed-up with participants to coach them to win the challenge. HealthyWage reminded participants weekly to log-in online and self-report their weight to stay on track in the challenge. At the end of the

Challenge participants were emailed a reminder to get an ending weight verification.

Results and Analysis

The 10% Challenge had meaningful, positive weight loss results. Approximately 29% of participants (19 of 66) won the challenge and lost more than 10% of their weight after six months. An additional four participants got an ending weight verification showing that they lost more than 5% of their weight, meaning that 35% of the total starting population lost a verified 5% or more of their weight over the six month program. One participant got an ending weight verification but did not lose weight. The remaining 62% of participants did not get an ending weight verification so we do not know whether they lost at least 5% of their weight. However, more than 80% of the total participants self-reported losing weight in the online journal with 46.97% reporting at least a 5% weight loss in the online journal.

	10%+	5%+	1%+
Verified Weight by 3 rd party Health Club	28.79%	34.85%	34.85%
Self-reported and verified	28.79%	46.97%	81.82%

We analyze below the participant demographics that most affected the results: gender and starting BMI. Other characteristics, such as the age of participants, did not appear to influence success in the program. We do not have enough information to draw conclusions about job title, income, and other similar demographics.

Gender

There is a significant difference in the rate of success in the 10% Challenge by Gender—with men remarkably more successful in the challenge than women. The table below illustrates that 63.16% of male participants (or 12 of 19) won the challenge; while 14.89% of female participants (7 of 47) won the challenge.

	Male	Female	Total
10% Weight loss verified by 3 rd party	63.16%	14.89%	28.79%

The success of male participants in the 10% Challenge is exciting. No weight loss program has reported such strong weight loss results for men. This outcome is consistent with tremendous male weight loss in other HealthyWage incentive-based programs, and academic literature that men respond well to competition-based programs and programs involving a bet or challenge.

The success of females in the 10% Challenge is good and consistent with industry weight loss results. Female participants, providing feedback after the program, explained that the Program was helpful for improving their success in other weight interventions. The women cited, among other things, the specific weight loss timeline imposed by the Program as well as the cash incentives as leading reasons for its positive effect on the other interventions.

The gender difference in the 10% Challenge can partially be explained by difference in weight loss ability between men and women and also by a different response to competitive games and challenges. Studies show that, for a variety of physiological and psychological reasons (including that men are better predictors of whether they are likely to lose weight with a

particular program), men tend to be marginally more successful participants in weight intervention programs than women. Additionally, studies suggest that, given a program of incentives to accomplish any task (whether health-oriented or not), men are considerably more likely than women to prefer and perform well in competitive and challenge game environments.³

Starting BMI

In addition to the gender differences, there is a significant difference in success in the challenge by starting BMI. Participants who were overweight or obese were more likely to win the challenge and lose 10% of their weight than participants who were morbidly obese. The below table illustrates the proportion of participants who won the challenge by starting BMI and by gender.

Starting BMI	Men	Women	Total
27-29.9	80.00%	27.27%	43.75%
30-34.9	85.71%	11.76%	33.33%
35+	28.57%	10.53%	15.38%
Overall	63.16%	14.89%	28.79%

These results are consistent with the weight loss literature. It is easier for people who are lighter to lose weight in all weight loss programs. Participants with a lower starting BMI are more likely to succeed because (1) they have less pounds to lose in order to achieve 10% weight loss; and (2) they are less likely to be subject to genetic, environmental and pathological influences that induce weight gain and inhibit weight loss.

Why were they successful?

Successful participants report that the 10% Challenge was an enhancement to their weight loss efforts. It helped them prioritize their health and accelerate lifestyle changes that they had intended to make:

“I loved the program and hope that my employer does it again since I learned a lot and unfortunately still qualify (for now).Striving for this \$400 prize cost me well over \$2000. This is not a complaint. Long before the contest was over REI alone pocketed over \$400 from me as I purchased winter exercising clothes. Erik’s Bike Shop got almost \$2000 after I bought my dream bike earlier this month as my reward. I kept a picture of my future bike on my cube wall, my work computer wallpaper, and my refrigerator at home; the latter was to remind me "do you really want that pudding cup? Is it worth \$400?" It worked exceedingly well. I was already losing weight and getting healthier, I'm now down 52 lbs in 2 years, but this program dramatically accelerated my progress and

³ See Gneezy, Uri, Muriel Niederle, Aldo Rustichini, “Performance in Competitive Environments: Gender Differences”, *Quarterly Journal of Economics*, CXVIII, August 2003, 1049 – 1074 & Niederle, Muriel, and Lise Vesterlund, “Do Women Shy away from Competition? Do Men Compete too Much?,” *Quarterly Journal of Economics*, August 2007, Vol. 122, No. 3: 1067-1101.

helped me make some permanent changes that I hadn't considered before. I'm very happy I did it. Thanks!"

-David D

I already had a goal of losing at least 10% of my weight. Having the HW program was an extra boost. I think the cash prize did have an impact. More so it helped me achieve my goal within a time period. I was more likely to stick to my fitness regiment knowing that the weigh-out period was just around the corner."

-David M

"When I was really struggling to get a jump start I thought in terms of the \$400. For example, was that piece of cake worth \$400. If it wasn't, then I didn't eat it. Once I was on a roll and feeling really good and seeing success, the money became less important. I told everyone, no matter how it turned out, it was the best \$100 I had ever spent."

-Carol F

Participants report that initially the "stick"—losing their \$100 financial commitment—motivated them to lose weight and, later the "carrot" of winning the \$400 prize, as well as the desire to "win" the Challenge—helped them lose weight (which is consistent with the academic literature on the subject):

"the program was very motivating to me . . . early on I would think about the \$100 I just spent and that helped, then later in the program I would think about the \$400 I could get, that was very motivating for me. In fact I even spent it (in my mind) a month ago.....knowing I could have the prize or not and it was all up to me was very helpful and made me accountable to myself (something just going on a diet and exercising on my own would not get me)."

-Randy Zaffke

"The cash prize was a great motivation for me at the start of the program. As I got closer to the end of the program I was less motivated by the money and more motivated by making my goal."

-Brian Harms, Shoreview, MN

"The cash prize totally incented me to stay on track with losing weight."

-Curtis Hunt, Golden Valley, MN

"At the expense of sounding materialistic, yes, the money was the biggest motivational factor. Also, the fact that once the challenge was complete, I would be well on my way to looking better for spring and summer, was another motivation for me. I continue to work out after the challenge indicating that it helped me make a lifestyle change for the better."

-Paul Gearhart

Open Questions

There are several open questions that could influence a future roll-out of the program:

- *Who opted-in and decided to join the program:* What differences are there between those who decided to participate and those that did not? Can we learn anything about the contest based on who chose—or did not choose—to participate?
- *What is the ending weight of those who did not get a verified weigh-out?* HealthyWage has found that many participants lose weight, but do not bother to get a verified weigh-out if they will not win the challenge. What is the ending weight of the participants who failed to win the challenge—and did they lose at least 5% of their weight.
- *Would a larger than \$100 upfront investment by the participant drive meaningful behavior change?* Many of the participants who failed in the 10% Challenge had disengaged from the help!care coaches within the first few months of the Challenge. These participants made clear they were not interested in coaching support and appeared to be indifferent to their financial commitment that they made to start the challenge. This behavior by the participants was not rational—they could easily still have won the challenge. Perhaps, if participants made a larger upfront investment, they would be more likely to be motivated to continue in the contest after facing personal setbacks in their weight loss efforts.
- *Would a larger prize motivate morbidly obese participants to continue and be successful?* Since the success rate varies significantly by starting weight, there is an opportunity to offer more obese participants a more attractive incentive program. If we increased the prize amount by 50%, would these participants be more successful?
- *Would prizes delivered more frequently make a difference with morbidly obese patients?* Many morbidly obese participants disengage within a few months of starting the Challenge. If we required more frequent weigh-ins or check-ins as part of the program, would the participants be more likely to continue on and be successful?

Conclusions

We conclude that weight loss “betting” is effective as (1) a targeted primary weight intervention for men, and (2) as an enhancement to other weight interventions for both men and women and (3) that biometric-based incentive programs should allow participants to “bet” to enhance their effectiveness. Weight loss “betting” can be offered to Fortune 50 clients at little to no cost to the employer and can significantly enhance other weight management programs.

The 10% Challenge would be very effective as a stand-alone program for employers with a significant population of male employees. The 63% male success rate presents an incredible opportunity for employers to improve the weight of their population. The Challenge helps males focus on their health in a concrete timeline. The marginal incentive of a cash prize and the opportunity to “win” appear to have a strong impact on men.

This program seems to be most effective for women as an enhancement to other weight loss intervention programs and as a way to jumpstart weight loss in women whose weight loss has stalled. As reported by female participants, the program increased feelings of accountability and motivation for women who were already participating in other programs, like Weight Watchers at Work. HealthyWage has found good results for women in team-based weight loss competitions with large cash incentives. Perhaps, women benefit more from the social support of a team and competition than an individual weight loss challenge. The 10% Challenge could be targeted to participants starting other weight loss programs—i.e. when joining online weight management tools they could be invited to join the 10% Challenge or when members engage with a wellness coach and start to make progress they could be invited to join the 10% Challenge to help the members stick with their goals.

The program demonstrates that weight loss incentives can be an exceptionally effective tool for weight loss; however, incentive programs must be carefully constructed to produce meaningful results. “Betting” is an incentive tool that appears to engage participants in their health and can be used to improve the effectiveness of other biometric incentive programs. Betting forces participants to “opt in” to the incentive program by making a tangible commitment to their health. Betting can be offered at little to no cost to Companies as the people who do not win the program fund the prizes to those who are successful. Betting can enhance other incentive programs and is an important tool to include in all biometric incentive programs.