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Poster

# Using High-Tech and High-Touch Methods for Effective Population Health Management

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## Abstract

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**Background:** Healthcare consumers today are more engaged and empowered than ever before. Social, mobile, and in-home self-monitoring tools now enable health consumers to manage their health conditions and receive advice, support, and care without leaving home. Consumers are increasingly buying biometric devices such as the Fitbit and Apple Watch to monitor their health. Many payers and employers are providing fitness devices to encourage consumers to be healthy, often offering discounts to their healthcare premiums. These devices create a sense of euphoria initially, but they do not yield sustainable health results and necessary behavioral changes in consumers to sustain it in the long-term. According to BJ Fogg, Stanford professor, sustainable behavior change (B) is a function of the motivation of the individual (M) × ability of the individual to do the task (A) × Trigger (T);  $B=MAT$ .

**Objective:** Our hypothesis was that self-managed digital triggers alone would not yield sustainable change, but a combination of digital biometrics devices that automatically monitor health supplemented by weekly contact with a health coach would deliver sustainable changes to consumer behavior.

**Methods:** During the 6-month pilot in 2014 and 12-month program in 2015, Cognizant wanted to test this hypothesis by providing appropriate triggers to motivate individuals to achieve their goals and ensure sustainable change in behavior. We provided Fitbit devices to participants and shared their digital information with our health coach. The coach worked with the individuals in setting individual goals, reviewed their progress, and helped with better food and exercise choices. The coach also used gamification to motivate the group into friendly competitions.

**Results:** At the end of the pilot, participants averaged 70,000 steps per week. This was well above the average US baseline of 36,000 steps and Fitbit average of 42,000 steps. Pilot participants also lost over an average of 10 pounds each. However, during the pilot we determined coaching needed more focus on incremental, sustainable goals to lead toward long-term behavior changes. During a 6-month period between the pilot ending and the 2015 program initiation where pilot participants did not have access to a coach, participants' activity level decreased, and weight lost during the pilot was gained back. During the 2015 program, participants sustained on average 66,000 steps per week (well above both the US and Fitbit average). Obese 1 participants normalized steps at 70,000 per week and increased activity from baseline almost 30%. This group started at the very bottom of "Somewhat Active" and transitioned into the "Active" category. Obese 2 participants normalized steps at 60,000 per week and increased activity from baseline almost 33%, which transitioned them from "Low Active" to "Somewhat Active." This was the largest increase by any group from baseline. Our control group, who did not have access to coaches, averaged only 43,000 steps per week.

**Conclusions:** Coach influence and participant change is most effective in the first 6 months. After that, coaches concentrate on incrementally increasing activity in a sustainable manner. Effective population health management and high value personalized services can be achieved by weight loss from increasing physical activity and better food choices brought about by direct consumer engagement that combines "high tech" with "high touch."

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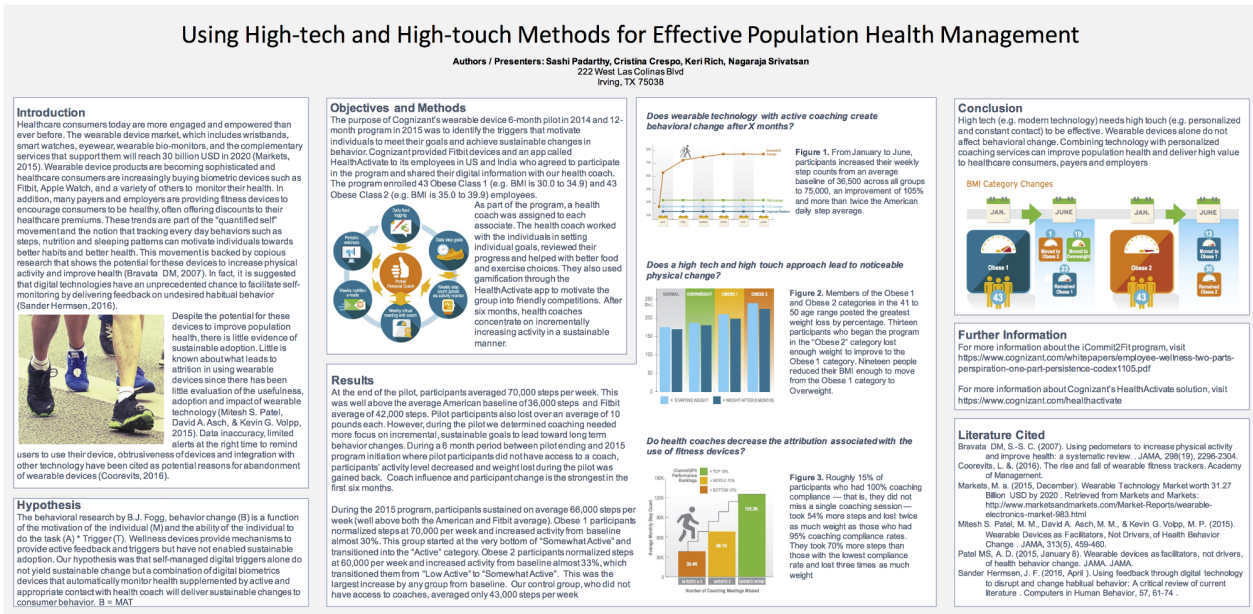
**KEYWORDS**

population health management; fitness apps; self-monitoring

This poster was presented at the Connected Health Symposium 2016, October 20-21, Boston, MA, United States. The poster

is displayed as an image in [Figure 1](#) and as a PDF in [Multimedia Appendix 1](#).

**Figure 1.** Poster.



**Multimedia Appendix 1**

Poster.

[\[PDF File \(Adobe PDF File\), 1MB-Multimedia Appendix 1\]](#)

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