

Does the World Really Need Another Health App?

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ABSTRACT

The cost of health care in Canada is at an all-time high. With the proliferation of smartphones and other digital technologies in recent years, the Canadian health and wellness industry has been flooded with apps, wearables and other devices promising health behaviour changes that may help reduce some of this economic burden. Despite the inarguable power of such technologies, many app and wearable-based programs struggle when it comes to achieving sustainable participant health behaviour change. In this commentary, the authors explore both the unique benefits and challenges of such technologies, examine the qualities of successful health behaviour change programs and make the argument that positive, long-term health behaviour change is best supported by comprehensive programs that take a more integrated approach and are personalized to the needs of their participants.

INTRODUCTION

In Canada, government health care spending is increasing at an alarming rate, with an estimated \$242 billion in total health expenditure in 2017; an annual increase of almost four percent.¹ Health care monopolizes provincial budgets across Canada, affecting everything from fiscal balances, to tax competitiveness, to the quality of resources available for other essential programs.² Direct and indirect costs related to five key modifiable chronic disease risk factors — physical inactivity, smoking, excess weight, use of alcohol and low vegetable/fruit consumption, make up the bulk of this economic burden, and it is not just provincial governments being forced to carrying it.³ Employers experience indirect costs through reduced employee productivity, absenteeism, workplace disability and even premature death,³ which is why many companies are now utilizing health behaviour change programs to reduce the risks of chronic disease in their employees.

At the same time, the proliferation of smartphones in recent years has transformed the way health and wellness programs operate. Estimates suggest that the number of consumer health and wellness apps on the market more than doubled between 2013 and 2015, from 43,000 apps to over 90,000.⁴ Meanwhile, wearables shipments in Canada are forecast to reach 3.6 million units by 2019.⁵ Both technologies, in addition to various other mobile health (mHealth) solutions, have flooded the market, promising positive health behaviour change through the use of gamification (game design elements applied to nongame contexts) and other incentive-based strategies, such as offering participants money or other forms of rewards.⁶ While these types of technological advancements are hugely exciting developments for our industry, it is also apparent that many of these new offerings struggle when it comes to maintaining user engagement and healthier behaviours.^{6,7} It is with these new trends — and these new challenges — in mind that this article explores what makes a health behaviour change program both successful and sustainable.

BACKGROUND

While health behaviour change programs may seem like a recent trend, they are by no means a new concept. Nearly 100 billion dollars have been spent on employer-sponsored initiatives since workplace wellness programs first became popular in the 1970s.⁸ The workplace has long been regarded as an ideal environment for such initiatives, as it helps facilitate earlier access to participants — an essential component of chronic disease prevention. Several studies have found, however, the success of such programs has been mixed over the years. With many employers experiencing low employee engagement rates, as well as challenges with progress tracking, many are questioning the return on investment (ROI) of such initiatives.⁸⁻¹⁰ Such issues have in turn led to a rise in the use of incentives to help promote higher program engagement levels.³

Based in behavioural economic theory, which argues that people have cognitive biases that can cause them to act against their own best interest, incentives have become an

increasingly popular tactic to help encourage specific actions.⁹ For example, a common challenge for workplace wellness programs is the “present bias” or a human tendency to place a greater value on immediate payoffs (the benefit of enjoying eating a fast food meal, for example) at the expense of longer-term benefits (weight loss and better health). By providing participants with an incentive (such as money or rewards points), you can help offset that initial benefit value imbalance and increase the likelihood they will choose healthier meals that are more conducive to their longer-term health goals.⁹ In today’s digitized world, incentives are more effective than ever as they can now be highly personalized and received by participants in real-time via apps, wearables and other mHealth technologies.

THE ROLE OF TECH

Apps and wearables certainly seem like a natural fit for incentive-based health behaviour change programs. In addition to their pervasive use, psychological rewards (another form of incentives) are built into these devices at the outset. Push notifications, likes, shares, activity badges – they are all designed to keep users engaging with the app or device as much as possible. Incentive-based health behaviour change programs can build on those engagement strategies. In addition to their naturally addictive capabilities, the wealth of user behavioural data that comes with wearable self-tracking technology is powerful information for health behaviour change programs. And yet, despite their various advantages and seemingly soaring popularity, (there are over 165,000 mHealth apps available in the Apple iTunes and Android app stores, while an estimated 500 million wearable devices will be in the hands of consumers by 2020), questions surrounding the efficacy of such technologies persist when it comes to sustainable health behaviour change.^{8,11,12}

One of the initial challenges app-based programs encounter is the sheer number of apps available to consumers overall. A 2017 comScore report suggests the app market hit a point of saturation back in 2014.¹³ Today, while 57 percent of consumers’ time spent using digital media is taking place in mobile apps, the majority of users (51 percent) don’t download any new apps in a month.¹⁴ A far greater challenge for apps and wearables, however, is that despite their obvious technological advantages, research shows they can actually be quite limited when it comes to maintaining user engagement and achieving healthier behaviours long-term. Wearable data isn’t always an accurate representation of user fitness. While incentives can certainly generate app downloads, inspire high-risk employee groups to participate, and initially motivate people to take action, their ability to support sustainable health behaviour change remains unclear.¹⁵ An analysis of gamification use in over 130 health and fitness apps found that while gamification and other incentives are widely used in mHealth apps, there is a lack of behavioural theory integration, potentially impacting the efficacy of such apps to change health behaviours.⁶ The same study found that the vast majority of apps examined focused primarily on motivational components of behaviour without adequately addressing capability or behavioural triggers. It also critiques the use of revenue generation as a measurement for success in such apps, rather than behavioural metrics — a common issue.⁶ It is clear that while

incentives, apps and wearables may help as augment strategies within comprehensive health and wellness programs, we cannot rely on these technologies as standalone alternatives. Successful, sustainable health behaviour change requires the integration of multiple behaviour models to function properly, and this is where so many of the new mHealth apps and devices fall short.

THE INTEGRATED APPROACH

As we know, health is a highly personal, complicated issue and health behaviour change theory has itself been criticized for overlooking the interdependencies of social and cultural contexts and health behaviours.¹⁸ Successful programs strive to address these challenges by taking a more comprehensive, personalized approach to the needs of their participants, while incorporating multiple health behavioural models, a technique that has been shown to have compounding effect on the long-term health of participants.¹⁹ The BestLifeRewarded (BLR) program is an example of this integrated behaviour change model in action. The first health behaviour change program in Canada to use multiple behavioural models, including incentives, BLR has been recognized globally for its evidence-informed innovation in health behaviour change and continues to lead the industry, eight years later.

Developed by BestLifeRewarded Innovations (formerly Cookson James Loyalty) Inc., BLR content is developed in collaboration with the leading health authorities across Canada, including non-profits, government agencies, health professionals and other respected experts. The program leverages the power of proven behavioural models, such as incentives, rewarding participants for healthy behaviours like healthier eating, being more physically active, quitting smoking, participating in healthy living challenges and using health trackers and wearable technology, such as Fitbit devices.

Theoretically grounded in both stages of change and behavioural economics, a notable attribute of BLR is its sustainable nature. Unlike many research interventions that test the sustainability of incentives on behaviour change once removed, BLR offers persistent, self-determined and customized incentives. These incentives are both participation *and* outcome oriented and can be “cashed in” through existing retailers at various points along the change process. In addition to incentives and a proprietary Health Assessment Survey with an engagement rate 35 percent higher than average wellness program HRAs,¹⁰ BLR employs other behaviour change best practices throughout the program’s design including: the Morisky Medication Adherence Scale (MMAS-8), assessing the likelihood a participant will adhere to taking their medication as prescribed, the Transtheoretical Model (TTM), addressing the participant in a relevant way based on their stage in the behaviour change cycle, as well as the Conviction Confidence Model, assessing the participants readiness to modify their behaviours and increasing their confidence, conviction or both. These behaviour change strategies have all proven to increase the likelihood a participant will take action, while incorporating them all into a single, multilayered program structure that fosters genuinely meaningful and long-term change in participants.^{20,21} Randomized controlled trials are currently underway to further

investigate the impact this distinct program design has on various behaviours, including: activity levels and cardiac rehab participation.

The benefits of a comprehensive, multilayered health behaviour change program are not limited to participants. For instance, human resources program managers can enjoy distinct advantages as well. BLR's ability to identify and group participants into low-risk, rising-risk and high-risk groups helps organizations strategically plan and assign relevant support services, such as offering high-risk participants live health coaching services and lower-risk participants automated health coaching. Equally important, BLR understands that within each organization, unique needs exist. BLR is fully customizable and offers a robust reporting dashboard that provides valuable insights and areas of focus for organizations. By getting clear understanding into each organization's specific needs based on their employee population, human resource program managers can intervene using relevant supplemental program resources with confidence and maximize the overall health and impact within an organization. A tailored approach that allows organizations to align their health behaviour change program with existing initiatives will be much more likely to deliver on the goals of both the organization and program participants — something many “off-the-shelf” offerings simply can't offer.

CONCLUSION

Recent technological advancements offer health behaviour change programs a wealth of new possibilities for both the Canadian government and employers. While we agree that incentives, apps and wearables are all powerful tools for health behaviour change, we strongly encourage their use as augment strategies within comprehensive, research-based health behaviour change programs rather than attempting to have them function on their own as standalone solutions. As a recent RAND study puts it, “while incentives seem to be effective at increasing program uptake, they are not a panacea. Offering a rich, well-designed program is almost as effective at boosting employee participation rates as incentivizing employees to join more-limited ones.”²¹ It is with sustainable, meaningful change in mind, that we continue conducting industry-leading research in our field and refining the BLR program to help more Canadians lead healthier lives long-term.

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