

Bright Spots, Physical Activity Investments that Work: Vitality Active Rewards – a smartphone app that that incentivises programme members to be physically active

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Programme Card

Country/locality/coverage: A smartphone app-based programme that has been activated by more than 415 000 people in South Africa.

Target Population: Adult members of *Vitality*, a health promotion and disease prevention programme linked to medical and life insurance plans

What modes/types/domains of physical activity does the programme promote? The *Vitality Active Awards (VAR)* programme promotes, facilitates and incentivises all modes of physical activity, including walking, gym-based activities such as yoga, aerobics, aqua-aerobics; social walking and running programmes; and endurance events such as marathons, cycle races and triathlons.

Which of the 7 best investments the program addresses? The *VAR* programme encourages active transport (Investment 3), community-wide programs involving multiple settings and sectors and that mobilise and integrate community engagement and resources (investment 6) and sports systems and programs that promote 'sport for all' and encourage participation across the life span (investment 7)

What sectors does it involve? The programme is offered to members who subscribe to a private life- or health insurance policy offered by *Discovery*.

Estimated program reach. The *VAR* app has been downloaded by approximately 415 000 adult members of *Vitality* in South Africa who have an Apple or Android smartphone. *Vitality* (and *VAR*) is also offered by various insurers in numerous countries across the world.

What is special about this program? Drawing on insights from behavioural economics, sports science and social marketing, the programme integrates the latest advances in digital and wearable technology with a range of distinctive options to encourage physical activity. Using rewards from a range of partner companies as an incentive the program has potential for successful physical activity behaviour change.

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Background

The *Vitality Active Rewards (VAR)* programme is a smartphone-based application which sets weekly, personalised physical activity goals and rewards individuals for achieving these goals.

In South Africa *VAR* has been activated by over 415 000 members of *Vitality*, a comprehensive health promotion and disease management programme with more than 1.12 million adult members who are also on *Discovery* insurance plans. *Vitality* (and *VAR*) is also offered by insurers in various countries across the world. *Vitality* offers a new, shared-value model of health and life insurance¹. We have previously reported on the association between engagement with various options on the *Vitality* programme and improved physical activity behaviour², improved food purchasing behaviour³ and increase frequency of recommended screening tests⁴. Here, we report on our experience with *VAR*, a relatively new intervention on the South African *Vitality* programme.

Description of the programme

VAR was launched in South Africa in September 2015 and was designed to encourage members of *Vitality* to increase their activity level by setting personalised and progressive weekly physical activity targets. The *VAR* benefit is accessed as a smartphone application (app) on Apple and Android phones. Individuals who download the app and sign up with the programme are given a personalised weekly fitness 'points' goal. Figure 1 gives a diagrammatic overview of the *VAR* programme.



Figure 1. Vitality active rewards.

The weekly goal can be achieved by engaging with an array of physical activity options offered by *Vitality*, including using partner gyms, taking part in a social running programme (*parkrun*), and completing organised endurance events.

Members can also engage in self-chosen activities which are recorded with various wearable activity tracking devices that measure heart rate, duration of activity and/or steps. The workout data from various devices such as the *Fitbit*, *Garmin*, *Polar* and *Apple Watch* is transferred seamlessly via an online platform to the VAR app. The number of points allocated for an activity measured by wearable devices depends on the type, intensity and duration of the activity. For instance, members who accumulate more than 10 000 steps a day are allocated 100 points whereas those who use a heart rate monitor and achieve more than 80% of maximum heart rate for more than 30 minutes will receive 300 points.

Individuals who achieve their weekly goal qualify for a range of rewards including smoothie and coffee vouchers which can be redeemed at partnering stores. Members can also choose to donate the equivalent value of the voucher to a charity. In addition, members obtain supplementary, larger rewards such as gym subscription subsidies and discounts on airplane flights, running shoes and fitness tracking

devices (such as *Fitbit*, *Garmin*, and *Polar* heart rate monitors) based on the number of weekly goals that they achieve each month. *Vitality* has also established a global partnership with *Apple* to offer the *Apple Watch* to *Vitality* members.

Why the VAR programme works

Since launching, approximately 412 000 members have downloaded the app and signed up with the programme. Three hundred thousand members are recording activity using a device and approximately a 100 000 of these members are recording their activities using a heart rate monitor.

We looked at all the members that had downloaded the Discovery app to assess the persistency of using the app to track and monitor their physical activity progress. Over a one year period just over a third of members logged on to the app on a monthly basis for a year; just under one third used the app on a monthly basis over a period of 7-11 months; 13% of the people who downloaded the app logged on monthly for a period of 4-6 months, and a further 13% used the app monthly for just 1-3 months; 8% of members who downloaded the app did not log on at all.

Our experience suggests that members on *VAR* are appreciably changing physical activity behaviour (see Table). Amongst members who have been on the programme for a year or longer, the frequency of physical activity has more than doubled (from an average of 5 to 11 events a month) when compared to an equivalent period before the launch of programme. This is also true for older adult members who have lifestyle-related chronic disease (Table 1). Members who have obtained an *Apple Watch* are engaged in 50% more activity than members who did not obtain the watch.

Table 1. Average percentage increase in physical activity days per month amongst members who were on the VAR programme for one year or longer compared to an equivalent period before joining VAR

All members on the VAR programme ^a	117%
Members with non-communicable chronic diseases who on the VAR programme ^b	119%
Members who obtained an Apple Watch ^c	167%
Members who did not obtain an Apple Watch ^d	107%

Footnote: b,c and d are subsets of a.

What is novel about the VAR Programme?

The VAR programme has several inbuilt structural and behavioural features intended to overcome motivational impediments and also appeal to diverse sections of the *Vitality* membership. These are:

- A smartphone app which makes tracking activity and redeeming vouchers a seamless process. The app is supported by numerous other physical activity options on the *Vitality* programme.
- Personalised and tailored options which are more effective at changing behaviour than options that are generic and impersonal. The programme encourages incremental changes to achieve persistent behaviour change⁵. Moreover, externally imposed goals complements the innate tendency by individuals to self-impose goals⁶.
- Incentivising and rewarding physical activity behaviour. There is accumulating evidence that incentives and rewards are effective in reinforcing intrinsic motivation⁷. In the VAR programme smaller, weekly, contingent rewards are combined with larger rewards which are conferred monthly to entrench habit formation.
- Loss aversion and the Apple Watch. The purchase of the watch is financed by *Vitality* and members are required to repay the purchase price in 24 monthly instalments. Members who achieve all their goals in a month are exempt from the monthly repayment. Members who do

not meet all their weekly goals are charged a variable percentage of the repayment, depending on how many goals they achieve. “Loss aversion”⁸, which describes a powerful behavioural trait where people assign a greater value to loss than to gain, may motivate members who have obtained the watch to more frequently achieve their targets.

Conclusions

In conclusion, the VAR programme combines personalised activity goals with a range of financial incentives and incorporates the latest innovations in digital and wearable technology to improve physical activity behaviour. Other commercial providers and organisations that implement physical activity interventions may benefit from using the VAR principles and methods.

Competing Interests: Patel DN, Nossel C and Maboreke J are employed by Vitality.

References

1. Porter ME, Kramer MR, Sesia A. "Discovery Limited." Harvard Business School Case 715-423, December 2014. (Revised February 2018.).
2. Patel D, Lambert EV, da Silva R, et al. Participation in fitness-related activities of an incentive-based health promotion program and hospital costs: a retrospective longitudinal study. *Am J Health Promot.* 2011;25:341-348.
3. Sturm R, An R, Segal D, et al. A cash-back rebate program for healthy food purchases in South Africa results from Scanner Data. *Am J Prev Med.* 2013;44:567-572
4. Mehrotra A, An R, Patel D N, Sturm R. Impact of a Patient Incentive Program on Receipt of Preventive Care. *Am J Manag Care.* 2014;20(6):494-501
5. Heath C, Larrick RP, Wu G. Goals as reference points. *Cogn Psychol* 1999;38(1):79-109.
6. Ariely D, Wertenbroch K. Procrastination, deadlines, and performance: self-control by precommitment. *Psychol Sci* 2002;13(3):219-224
7. Mitchell MS, Goodman JM, Alter DA, John LK, Oh PI, Pakosh MT, Faulkner GE. Financial incentives for exercise adherence in adults: systematic review and meta-analysis. *Am J Prev Med.* 2013;45(5):658–667.
8. Loewenstein G, Volpp KG, Asch DA. Incentives in health: different prescriptions for physicians and patients. *JAMA* 2012;307(13):1375-1376.