



# The Association between Participation in a Community Pharmacy's Digital Health Program and Flu Vaccination Rates

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Participation in a community pharmacy's Balance Rewards for healthy choices<sup>®</sup> program was associated with significantly greater odds of receiving a flu vaccination.

## BACKGROUND

- A national community pharmacy offers an online digital health program—Balance Rewards for healthy choices<sup>®</sup>—to help members improve their health. Members earn points, redeemable for dollars off store purchases, by making healthy choices like setting and achieving goals for behavioral health risk modification, tracking exercise, body weight, blood pressure and glucose, connecting health devices and apps, quitting tobacco, and chronic condition management. The pharmacy's loyalty program—Balance Rewards<sup>®</sup>—also awards points<sup>1</sup> for vaccinations.

## OBJECTIVE

- To examine the relationship between Balance Rewards for healthy choices<sup>®</sup> program participation and flu vaccination rates.

## METHODS

- Study Design: Retrospective cohort study.
- Study Sample: All pharmacy patients active in the Balance Rewards for healthy choices<sup>®</sup> program during the 2014-2015 flu season between August 2014 to March 2015 who tracked an activity or biometric are in the test group; a 5% random sample of pharmacy patients but non-Balance Rewards for healthy choices<sup>®</sup> members during the same time period are in the control group. Each patient was followed for a 180-day period to measure flu vaccination status. All patients were 13+ years, and had  $\geq 2$  non-vaccine prescription fills on different dates during the 180-day observation period.
- Outcome Variable: Vaccination rates were calculated as the ratio of eligible patients receiving flu vaccinations to the total count of eligible pharmacy patients in each group.
- Statistical Analysis: Multivariate logistic regression was used to assess the odds of receiving a flu vaccination across groups while adjusting for demographic, maintenance medication classes (MMC), race, and socioeconomic differences such as education and median household income (inferred from 2015 US census block level data). A p-value of  $<0.05$  was considered significant. All statistical analyses were conducted using SAS version 9.3 (SAS Institute Inc., Cary, NC).

## RESULTS

- Overall, Balance Rewards for healthy choices<sup>®</sup> members were younger and more female, used a greater number of maintenance medications, resided more in white neighborhoods, and had higher socioeconomic status compared to the control group (See Table 1).

**Table 1. Demographics, Maintenance Medication Utilization, and Socioeconomic Status - Study Sample**

All Patients	N	Mean Age*	Female*	Mean MMC*	≥50% White Population*	≥20% BA Degree Holders*	Median Household Income*
Balance Rewards for Healthy Choices® Members	105,255	41.6	81.90%	2.2	79.6%	67.8%	\$62,882
Control Group	1,661,817	47.9	60.50%	1.8	71.6%	63.2%	\$62,674

\* p<0.05

- Balance Rewards for healthy choices® members who received flu vaccinations were similar to members in the overall study sample test group. However, the control group flu vaccination patients were much older, used a greater number of maintenance medications, were more white, and had higher socioeconomic status compared to the overall control group (See Tables 1 & 2).

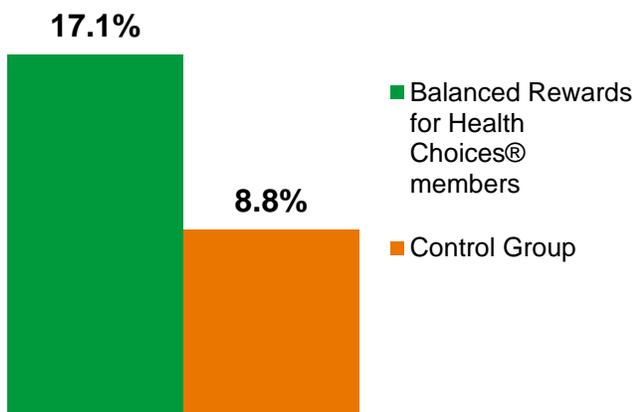
**Table 2. Demographics, Maintenance Medication Utilization and Socioeconomic Status - Flu Vaccination Patients**

Flu Vaccination Patients	N	Mean Age*	Female*	Mean MMC*	≥50% White Population*	≥20% BA Degree Holders*	Median Household Income*
Balance Rewards for Healthy Choices® Members	18,051	43.7	78.80%	2.4	81.5%	68.8%	\$63,997
Control Group	146,661	60.3	60.00%	2.6	78.5%	69.6%	\$66,728

\* p<0.05

- A total of 17.1% Balance Rewards for healthy choices® members received a flu vaccination compared to only 8.8% of the control group (See Figure 1). After controlling for group difference, Balance Rewards for healthy choices® members had much greater odds of receiving a flu vaccination than the control group (See Table 3).

**Figure 1. Flu Vaccination Rate by Group**



**Table 3. Adjusted Odds Ratio of Receiving Flu Vaccination for Balanced Rewards for Healthy Choices® Members**

Adjusted Odds Ratio		
Odds Ratio	Confidence Interval	P Value
2.94	2.89-3.00	< .0001

## CONCLUSIONS

- This study demonstrated that participation in a community pharmacy's Balance Rewards for healthy choices<sup>®</sup> program was associated with significantly greater odds of receiving a flu vaccination.

<sup>1</sup>Points cannot be redeemed on the purchase of: dairy products; alcohol; stamps; phone/pre-paid/gift cards; money order/transfers; transportation passes; charitable donations; prescriptions; pseudoephedrine or ephedrine products; immunizations, health tests or other healthcare items or services; Prescription Savings Club membership fee; clinic services.

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