



## Food Oases as Health Destinations: The Impact of Food Oasis Pharmacies on Influenza Vaccination Rates in Chicago Underserved Areas and Food Deserts

Michael Taitel, PhD; Heather Kirkham, PhD, MPH; Adam Cannon, MPH; Leonard Fensterheim, MPH; Jack Cantlin, RPh

Presented at the 2012 National Immunization Conference,  
March 26-28 2012



## Food Oases as Health Destinations:

# The Impact of Food Oasis Pharmacies on Influenza Vaccination Rates in Chicago Underserved Areas and Food Deserts

Michael Taitel, PhD;<sup>1</sup> Heather Kirkham, PhD, MPH;<sup>1</sup> Adam Cannon, MPH;<sup>1</sup> Leonard Fensterheim, MPH;<sup>1</sup>  
Jack Cantlin, RPh<sup>1</sup>  
1. Walgreens, Deerfield, IL

### Background

- An estimated 2.3 million United States households are located more than a mile away from a grocery store and do not have access to a vehicle; the United States Department of Agriculture (USDA) refers to these communities with limited access to grocery stores as food deserts.<sup>1</sup>
- In 2010, a large pharmacy chain converted several existing locations into food oasis pharmacies, providing access to fresh fruits and vegetables in urban neighborhoods of Chicago located in or adjacent to food deserts. The promotion of healthy nutrition in these stores may be correlated with other healthy behaviors, such as receiving an annual influenza vaccination.<sup>2</sup>

### Objective

To investigate the rate of influenza vaccinations for patients visiting converted food oasis pharmacies compared to a matched sample of patients from traditional pharmacies.

### Methods

- Ten Walgreens pharmacies that converted to food oases were matched with ten control Walgreens pharmacies on geographic proximity and population demographics.
- Vaccination rates were calculated as the number of patients who received an influenza vaccine per 1,000 pharmacy patients.
- Percent change was calculated as the difference in vaccination rates from the 2009-10 (pre-conversion) to 2010-11 (post-conversion) influenza seasons.
- Z-tests were used to compare the percent change in seasonal vaccination rates between test and control pharmacy patients.



#### References:

1. Hamrick K, Hopkins D, Kaufman P. Access to affordable and nutritious food: measuring and understanding food deserts and their consequences. In: Agriculture UDo, ed. Economic Research Service. Washington (DC): 2009:160.
2. Langlie JK. Interrelationships among preventive health behaviors: a test of competing hypotheses. Public Health Rep. Jun 1979;94(3):216-225.



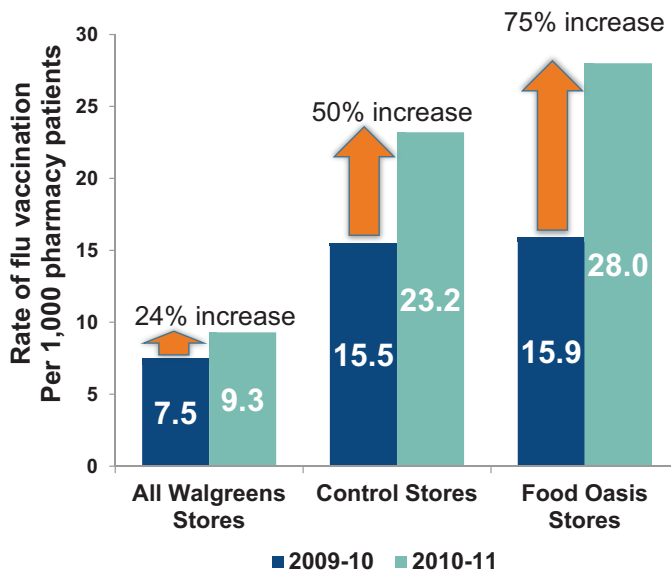
## Food Oases as Health Destinations:

# The Impact of Food Oasis Pharmacies on Influenza Vaccination Rates in Chicago Underserved Areas and Food Deserts

Michael Taitel, PhD;<sup>1</sup> Heather Kirkham, PhD, MPH;<sup>1</sup> Adam Cannon, MPH;<sup>1</sup> Leonard Fensterheim, MPH;<sup>1</sup> Jack Cantlin, RPh<sup>1</sup>  
1. Walgreens, Deerfield, IL

## Results

### Influenza Vaccination Rates: Food Oases and Control Stores



- In pharmacies that converted to food oases, the rate of influenza vaccinations increased from 15.9 to 28.0 per 1,000 pharmacy patients (increase of 75%).
- This rate was significantly higher ( $p < 0.001$ ) than the rate of increase observed in control stores: 15.5 to 23.2 per 1,000 pharmacy patients (increase of 50%).



## Conclusions

- Expanding access and convenience to immunization services in underserved areas can increase the rate of influenza vaccination among pharmacy patients.
- The introduction of food oasis pharmacies, as healthy destinations near food deserts, have further contributed to the observed increase in the rate of influenza vaccinations.



Michael Taitel, PhD;<sup>1</sup> Heather Kirkham, PhD, MPH;<sup>1</sup> Adam Cannon, MPH;<sup>1</sup> Leonard Fensterheim, MPH;<sup>1</sup> Jack Cantlin, RPh<sup>1</sup>

1. Walgreens, Deerfield, IL

For more information about this presentation, please contact: [michael.taitel@walgreens.com](mailto:michael.taitel@walgreens.com)