Fruit and Vegetable Prescription Program Associated with Produce Purchasing on Navajo Nation

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October 19, 2017

Source: Partners in Health
American Indian and Alaska Native Health Disparities

- AI/AN life expectancy is 4.4 years less than general U.S. population (IHS, 2010)
- 2.3 times more likely to have diabetes (O’Connell, 2010)
- 4 times higher risk of death due to diabetes (O’Connell, 2010)
- 23% to 60% of Navajo Nation population is obese (Simpson, 2014)
- Crucial to recognize impacts of colonization
The Navajo Nation is roughly the SIZE of Massachusetts, New Hampshire and Vermont COMBINED. In that area, there are just **13 grocery stores**

*Centers for Disease Control and Prevention and USGS

**Food desert** (USDA, 2016)

80% of food low in nutritional value (DPI, 2014)

13% of stores met Excellent Fruit & Vegetable Index (COPE, 2015)

77% food insecure (Pardilla, 2014)
Food Retailers on Navajo Nation

Convenience Store  Trading Post  Grocery Store

Photo credit from left to right: Emily Piltch, Onagh MacKenzie, Bashas' Grocery
**Evaluation Aims**

To identify multi-level factors that are associated with fruit and vegetable purchasing among consumers on Navajo Nation.

To inform food access projects being implemented on the reservation, including a fruit and vegetable prescription program and a healthy store intervention.
Navajo
Fruit and Vegetable Prescription Program (FVRx)

1. Families from households with a pregnant woman and/or child up to age 6 are enrolled by the FVRx Community Health Team (CHT) as FVRx Participants.

2. Participants attend monthly education sessions during the 6-month program to refill their FVRx prescription and set goals for healthy lifestyles.

3. The FVRx CHT distributes the FVRx prescription during the visit and collects health indicators like fruit and vegetable consumption.

4. Prescription is redeemed for fresh or frozen fruits and vegetables at local stores in the community.

5. Families show increased healthy habits and decrease in chronic disease.

Families continue through steps 2–4 for 6 sessions.

Source: COPE
Navajo Healthy Store Initiative

Photos: Partners in Health
FVRx Program Today

Three cycles, 2015 - 2017

Nine FVRx Teams (cycle II)

12 FVRx retailers (cycle II)

77 participating families, 395 individuals (cycle II)

2016 FVRx-linked sales - $48,771
Evaluation Design & Data Collection

- Cross-sectional survey by COPE
- 692 customers at 28 stores on Navajo Nation
- Stores participating in Fruit and Vegetable Prescription Program (FVRx) matched with non-FVRx stores
- 2–3 store visits with aim to intercept 24–30 customers per store
- Trained research assistants from community
- Data collection from June to December 2016
Data Analysis

**Outcome variable:** Fruit or vegetable purchasing within last week

“Have you purchased any fresh or frozen fruits or vegetables within the last week at this store?”

**Key independent variables:** type of store, store FVRx participation

**Covariates:** Individual, household, store-level characteristics

**Descriptive and bivariate analyses:** Chi-square test

**Spearman correlation** to test for co-linearity

**Multivariable logistic regression model**
Description of Sample

77.1% female

Average age: **51.1 years old**

67.5% employed less than full time

Highest level of formal education — **53.4% High School**

43.8% **Food Insecure**

14.2% **no running water**

61.4% grew food for consumption
Description of Stores

Majority Convenience Stores: 57.1%
Trading Posts: 25.9%
Grocery Stores: 18.5%

Majority met Good/Excellent Fruit & Vegetable Index: 60.7%
FVRx redemption sites within past year: 35.7%
Factors Associated with F|V Purchasing within last week

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Adjusted OR (95% CI)</th>
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<tbody>
<tr>
<td><strong>Type of Store</strong></td>
<td></td>
</tr>
<tr>
<td>Convenience</td>
<td>1.0</td>
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<tr>
<td>Trading Post Grocery</td>
<td>2.2 (1.4-3.4)*</td>
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<tr>
<td></td>
<td>6.2 (3.4-11.1)*</td>
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<tr>
<td><strong>FVRx Participation</strong></td>
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<tr>
<td>Non-FVRx Store</td>
<td>1.0</td>
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<tr>
<td>FVRx Store</td>
<td>2.5 (1.6-3.7)*</td>
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</tbody>
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*P-value ≤ 0.001; N=692

Adjusting for: age, education, gender, shopping frequency, household size, travel time to store, Fruit & Vegetable Index, receipt of food assistance, household refrigeration, running water
Discussion & Implications

FVRx programs are promising interventions on Navajo Nation. Store interventions should consider store type. Influence of FVRx programs may be community wide. Food insecurity widespread. Ongoing intervention evaluation needed to confirm findings.
Limitations

Convenience sampling of customers

Self-reported fruit or vegetable purchasing

No measures of fruit or vegetable consumption

Fruit & Vegetable Index not measured at time of customer survey

Food security measured with one item

Cross-sectional study design
Acknowledgements

Navajo families and stores

Navajo Nation Human Research Review Board

Community Outreach and Patient Empowerment (COPE)

- Dr. Sonya Shin, Jessica Lasky-Finch, Clarina Clark, Sharon Sandman, Que'sha Jodeci Avalos, Emily Piltch, Taylor Wilmot

Dr. Rafael Pérez-Escamilla

Program Funding

- Partners in Health
- Wholesome Wave
- Centers for Disease Control and Prevention
Questions?

Photos: COPE
References

COPE. Store Survey Results: Unpublished. COPE; 2015.


