

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

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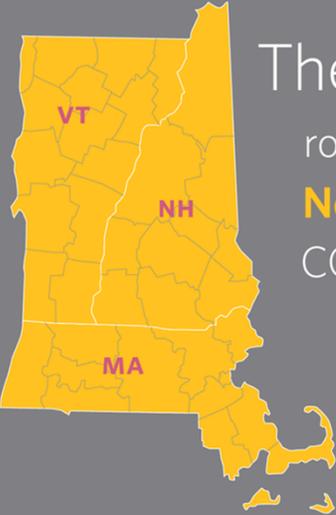


Source: Partners in Health



# 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**
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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



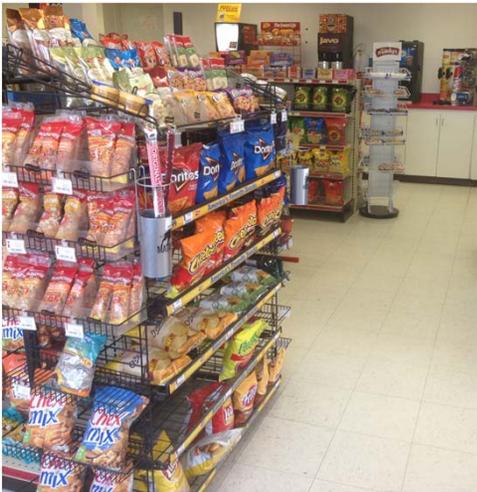
**Food desert** (USDA, 2016)

**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

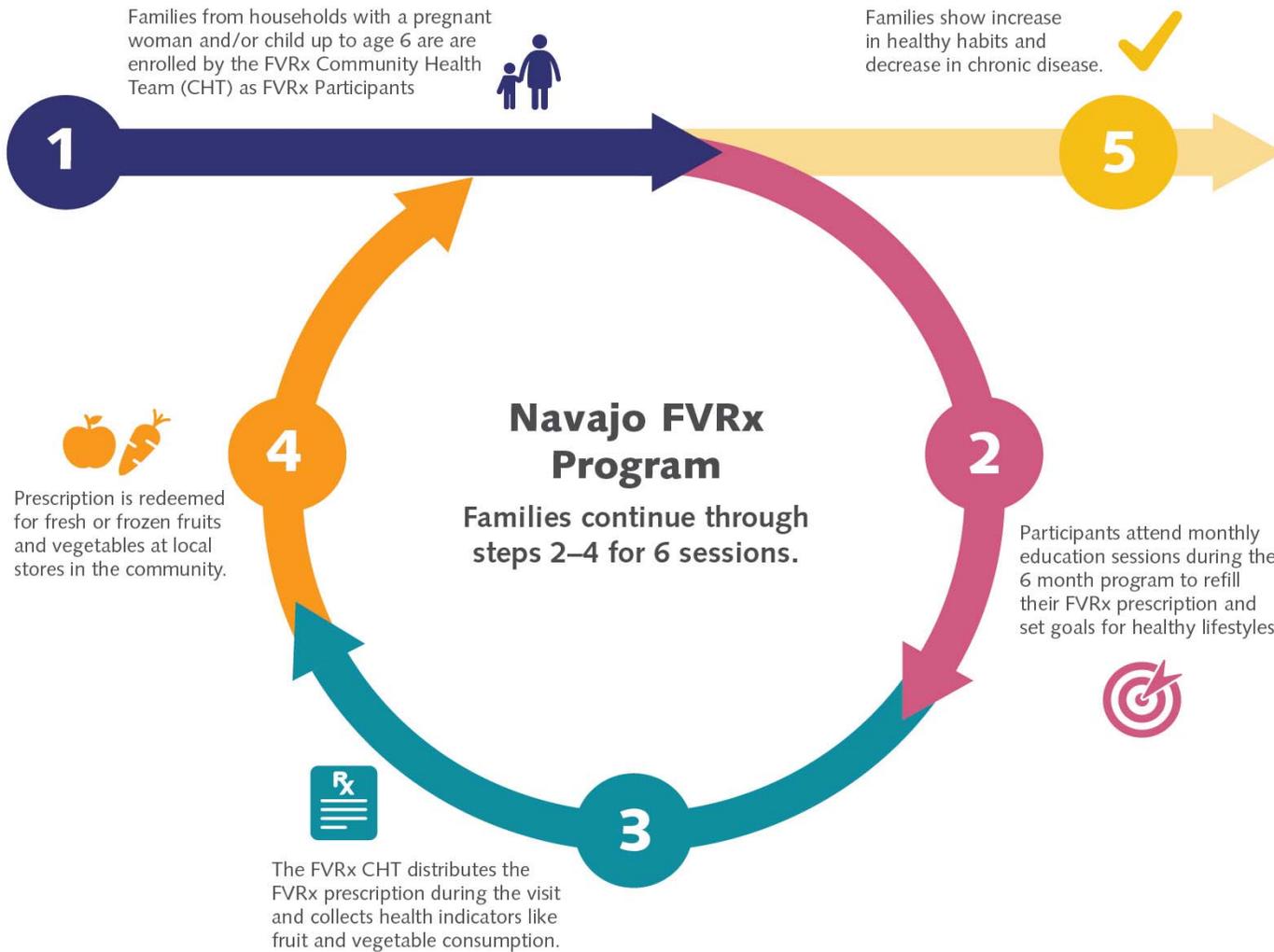
Photo credit from left to right: Emily Piltch, Onagh MacKenzie, Bashas' Grocery

## **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



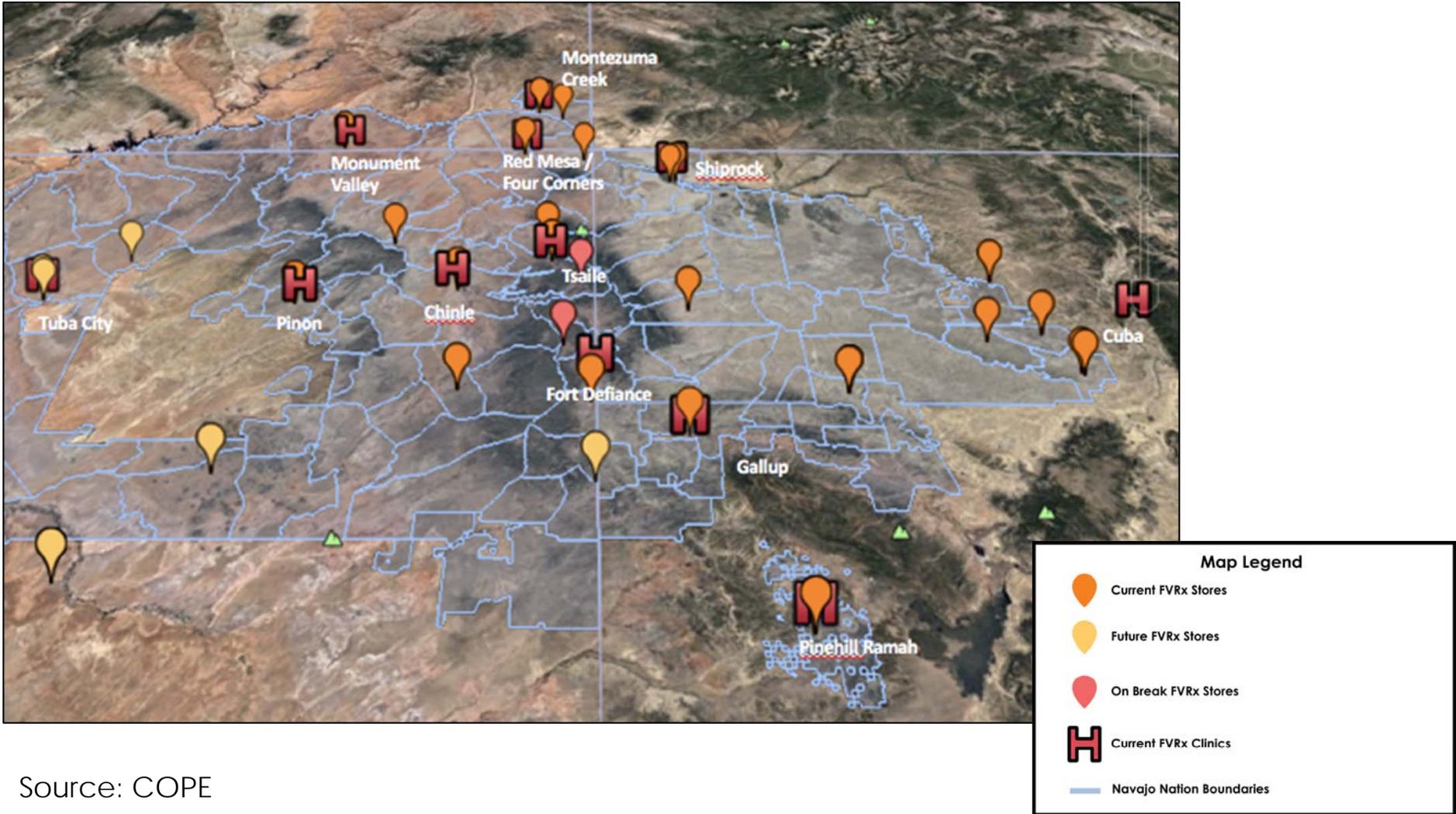


## Navajo Fruit and Vegetable Prescription Program (FVRx)

Source: COPE

## Navajo Healthy Store Initiative





Source: COPE

# 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
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# 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

Characteristic	Adjusted OR (95% CI)
<b>Type of Store</b>	
Convenience	1.0
Trading Post	2.2 (1.4-3.4)*
Grocery	6.2 (3.4-11.1)*
<b>FVRx Participation</b>	
Non-FVRx Store	1.0
FVRx Store	2.5 (1.6-3.7)*
*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

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Dr. Rafael Pérez-Escamilla

## Program Funding

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



# Questions?



Photos: COPE



# References

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