

Achieving Equity in Obesity through Community/Public Health Approaches: Examples from Native American Communities

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Valarie Blue Bird Jernigan, DrPH, MPH

Director, Center for Indigenous Health Research and Policy

Oklahoma State University

bluebird.jernigan@okstate.edu

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Institute of Medicine

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Osage Nation

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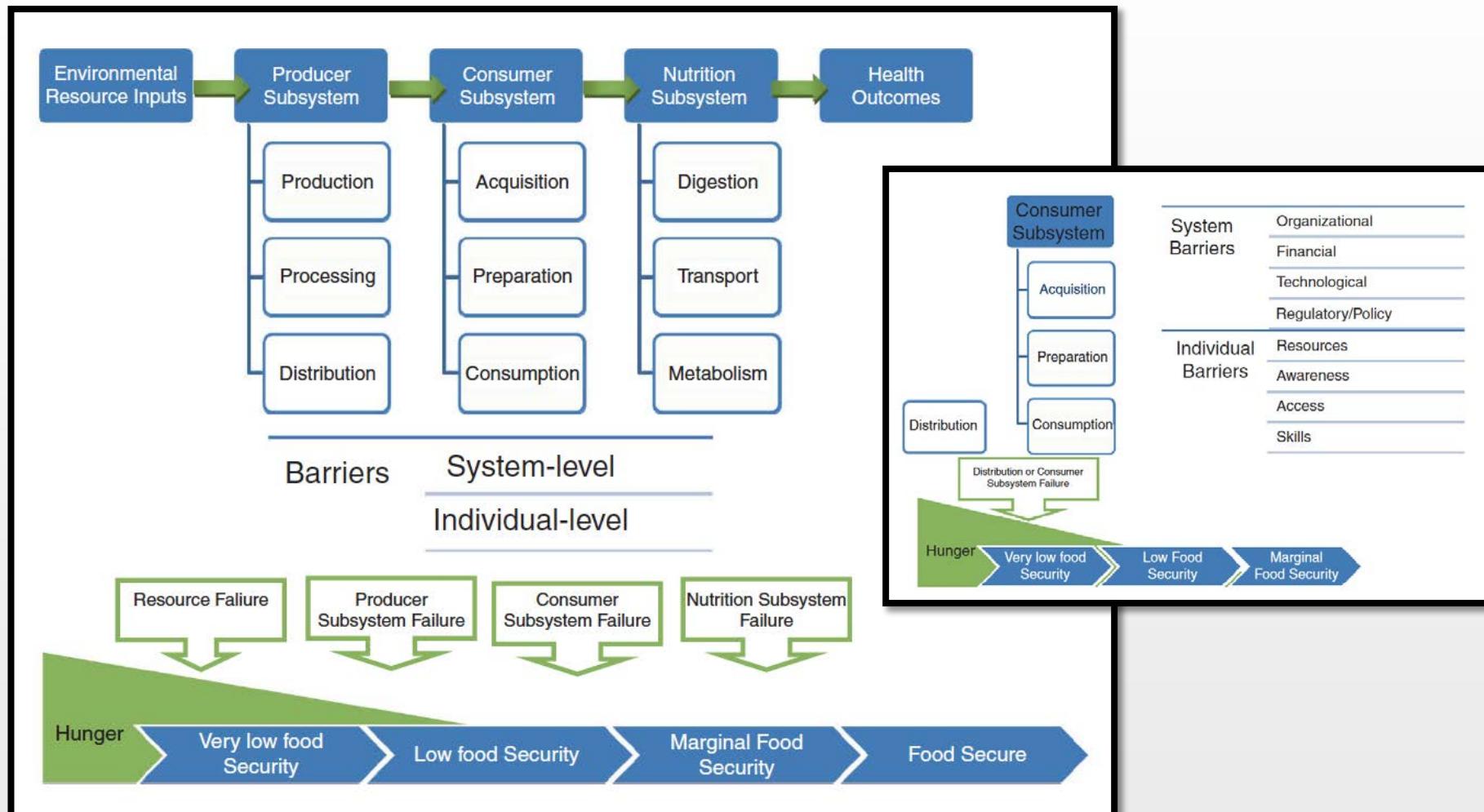
Yakoke to our partners for making this work possible!

Participatory Research and Policy Work

- **Participatory intervention research** – research for action and social change
- **PSE:** We focus on identifying and leveraging systems, creating environmental/structural/policy changes
- Primarily in the area of food environments and food systems



Conceptual model of food system and food security (Rutten 2011)



Rutten, L. F., Yaroch, A. L., & Story, M. (2011). Food systems and food security: a conceptual model for identifying food system deficiencies. *Journal of Hunger & Environmental Nutrition*, 6(3), 239-246.

THRIVE Study Overview

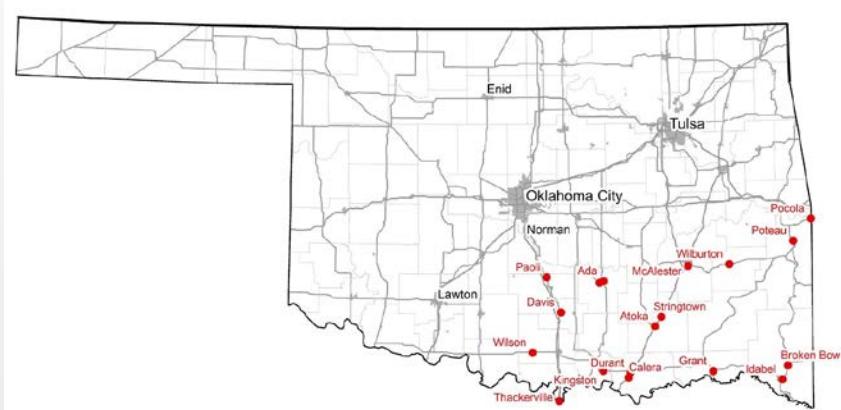
Study purpose—to improve tribal food environments in Chickasaw and Choctaw Nations by implementing “healthy makeovers” in tribal convenience stores



Choctaw Travel Plaza, Broken Bow, OK



Chickasaw Travel Stop, Ada, OK

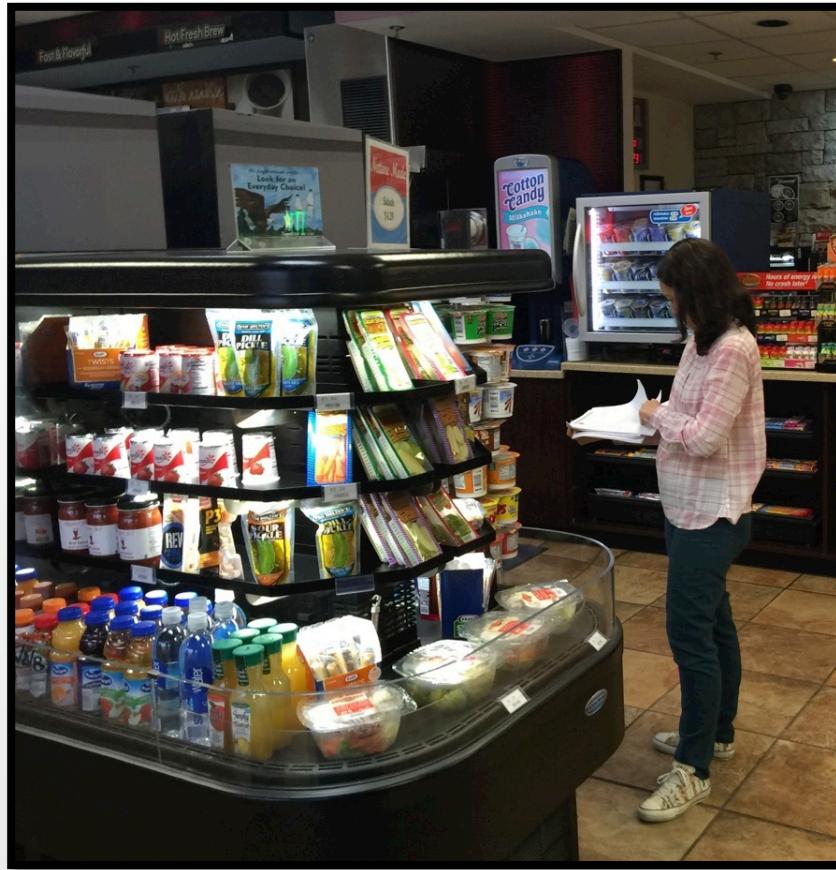


Participatory research methods

- **Study Design:** a cluster control trial with 8 stores
 - 2 stores/tribe assigned to implement intervention (4 total)
 - 2 stores/tribe assigned as control (4 total)
 - Longitudinal cohort study - surveyed 1637 Native shoppers before and after the interventions
- **Primary Outcomes:**
 - Store level: changes in fruit and vegetable availability (*measured by store inventory, sales receipts, and nutrition environment measures scores*)
 - Individual-level: changes in perceived food environments and intake of fruit and vegetables (*measured by self-report questionnaires*)
- **Strategies:** guided by IOM - product, placement, promotion, and pricing,¹ adapted and localized for Native stores

¹Institute of Medicine. Committee on Prevention of Obesity in Children and Youth : Koplan JP, Liverman CT, Kraak VI, editors., Preventing Childhood Obesity: Health in the Balance. Washington, DC: National Academies Press; 2005

First step – what is currently available; what is possible?²

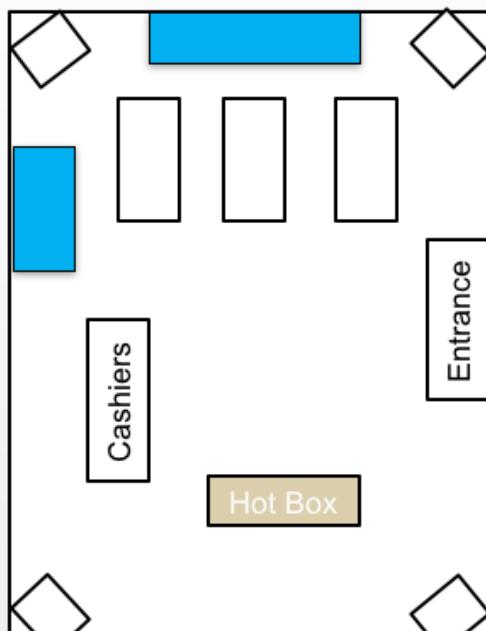


²Wetherill, M. S., Williams, M. B., Taniguchi, T., et al. (2018). A nutrition environment measure to assess tribal convenience stores: the THRIVE study. *Health Promotion Practice*, 1524839918800968.

Specific Intervention Strategies: Products

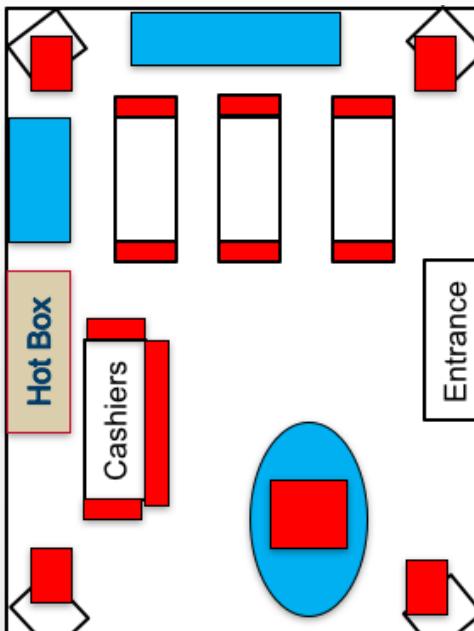


Specific Intervention Strategies: Placement



a. Store layout before intervention

□ Packaged foods Refrigeration unit Intervention foods

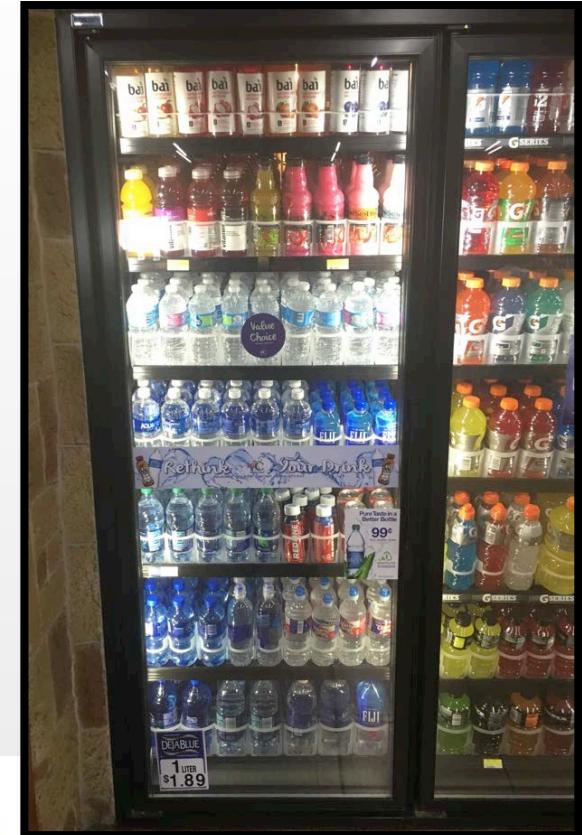


b. Store layout after intervention

Shelf planogram



Specific Intervention Strategies: Promotion



Specific Intervention Strategies: Promotion



Specific Intervention Strategies: Pricing

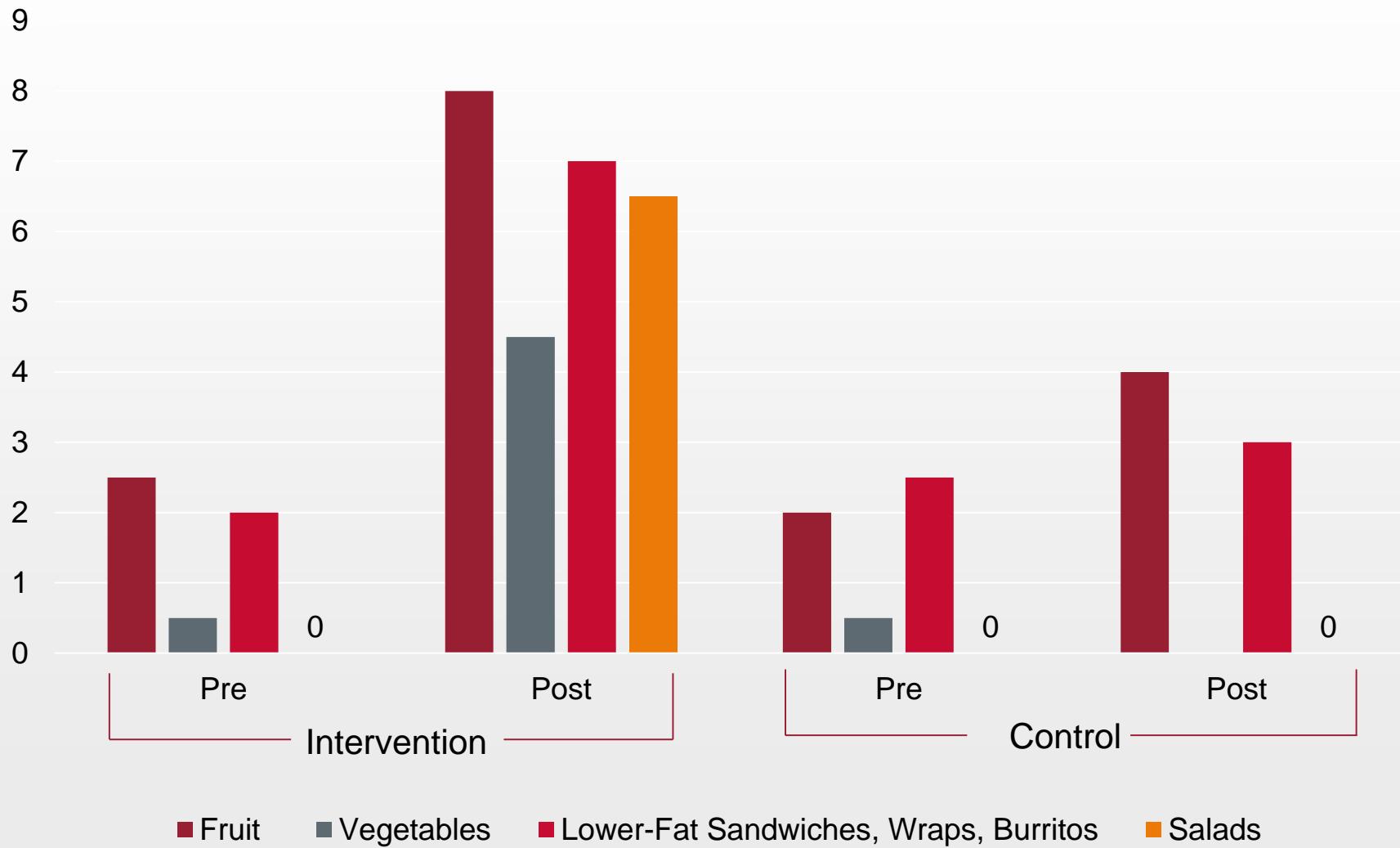


Study Outcomes

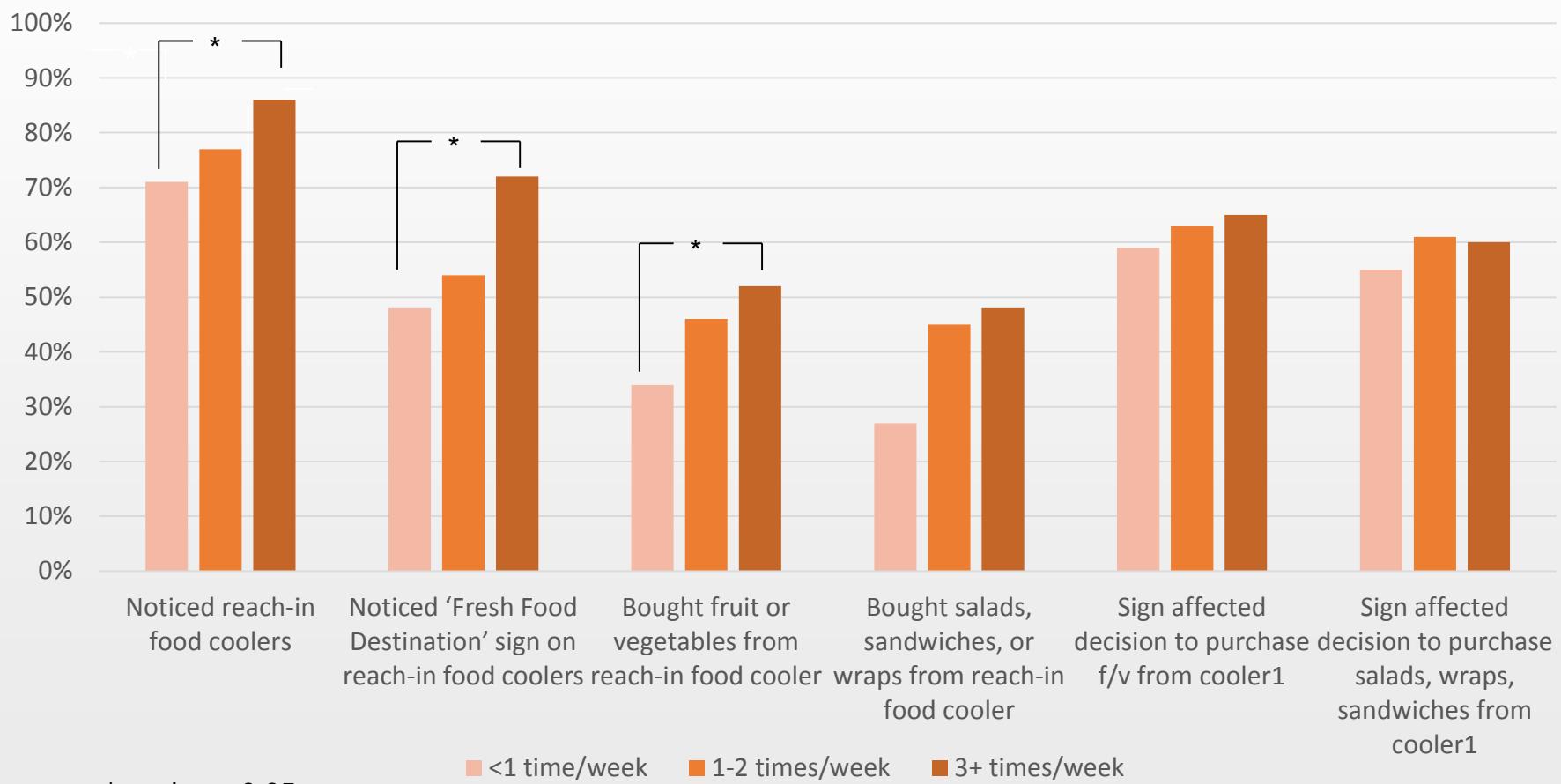
- THRIVE improved objective and perceived measures of tribal food environments³
- Led to changes in purchasing behavior among shoppers
- Study resulted in widespread changes to types of foods vendors offered in both Nations, significantly impacting all tribal programs

³Bird Jernigan, V. B., Salvatore, A. L., Williams, M., et al. (2019). A Healthy Retail Intervention in Native American Convenience Stores: The THRIVE Community-Based Participatory Research Study. *American Journal of Public Health*, 109(1), 132-139.

Store Food Availability,* Pre-Post Intervention, Nation B (n=4)



Trend analysis: purchasing fruits and vegetables



*p-value < 0.05

¹ Among those who made Reach-in cooler purchase; *p-value < 0.05

Challenges, Opportunities, Next Steps

- Structural, policy change takes time
- Need to work with diverse sectors within Native communities and with non-Native communities, to address the social/policy determinants of health
- Climate change threatens indigenous lands and foods
- Equip tribal leadership with information they need to align economic, environmental, and health agendas
- Community members and researchers can work together to advocate for change, use data to leverage power
- Move from survival to thriving