

A Participatory Systems Approach to Understanding WIC Participation in Rural Native American Communities

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Objectives: Participation of eligible Native American women and children in the Special Supplemental Nutrition Program for Women Infants and Children (WIC) has been declining for over a decade. The objective of this research was to identify the complex system of constraints and facilitators contributing to this decline in WIC enrollment among Native women and children.

Methods: In-person community level engagement was not possible with COVID-19 restrictions, so we developed causal loop diagrams (CLDs) by adapting a novel methodology of participatory system dynamics modeling based on key stakeholder interviews. Semi-structured in-depth interviews ($n = 35$) were conducted via Zoom or phone with current and former WIC participants, eligible non-participants, WIC staff, tribal/health administrators, and WIC food store vendors. A codebook was developed based on open coding by four different researchers, and interviews were coded by identifying causal relationships and polarity between factors. Kumu software was used to

merge interview results, resulting in three CLDs, one per community. CLDs were shared with tribal WIC staff for member checking and additional feedback.

Results: Despite similar enrollment declines across the three communities, the CLDs reveal important differences in systems-level enrollment obstacles to WIC participation. Cross-cutting key themes included the following structural elements: transportation, connectivity, and local policy/protocol barriers. Transportation feedback loops incorporated the accessibility of WIC offices and grocery stores, vehicle sharing practices, and travel times. Connectivity feedback loops incorporated virtual WIC services, re-enrollment certification processing, and generational technology gaps. While similar themes emerged across each community, the degrees to which and pathways through which the variables impacted enrollment varied significantly.

Conclusions: This is one of the first studies to map systems of constraints and facilitators influencing WIC participation in rural Native American communities. The application of systems thinking in this context is an important step towards addressing structural and systems level factors that are more likely to support WIC enrollment in rural Native American communities.

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