



Nashville Children Eating Well (ChEW) for Health

Principal Investigator:

Baqar Husaini, Ph.D.

Tennessee State University

Co-Principal Investigators:

Janice Emerson, Ph.D. (TSU)

Pamela Hull, Ph.D. (Vanderbilt University)

Courtney Kihlberg, M.D. (Meharry Medical) College)

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Long-term Goal

- Reduce childhood obesity among ethnically-diverse, low-income children participating in the USDA WIC (Women, Infants & Children) supplemental nutrition program
- Using science-based strategies at multiple levels
 - Individual/family (WIC families)
 - Institutional (WIC program, academic programs)
 - Environmental (WIC-authorized grocers)
 - Human capital (students and healthcare providers)



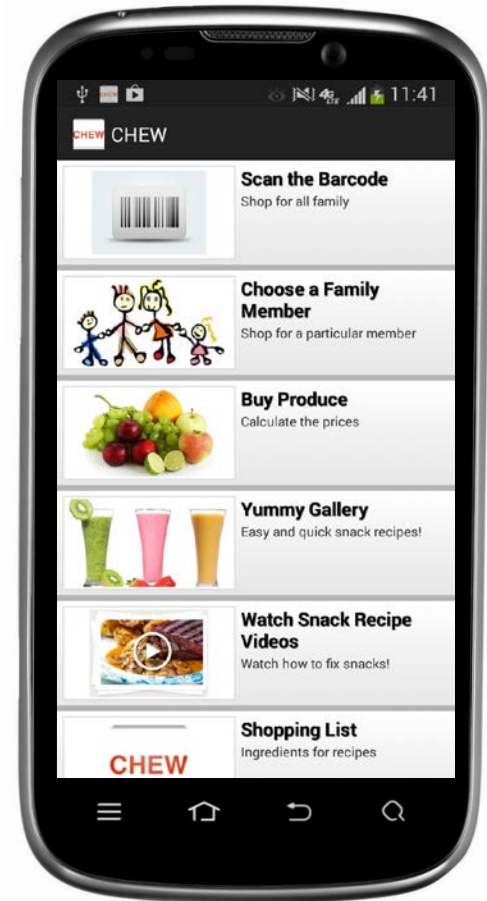
Three Components

- Research
- Extension (Outreach)
- Education

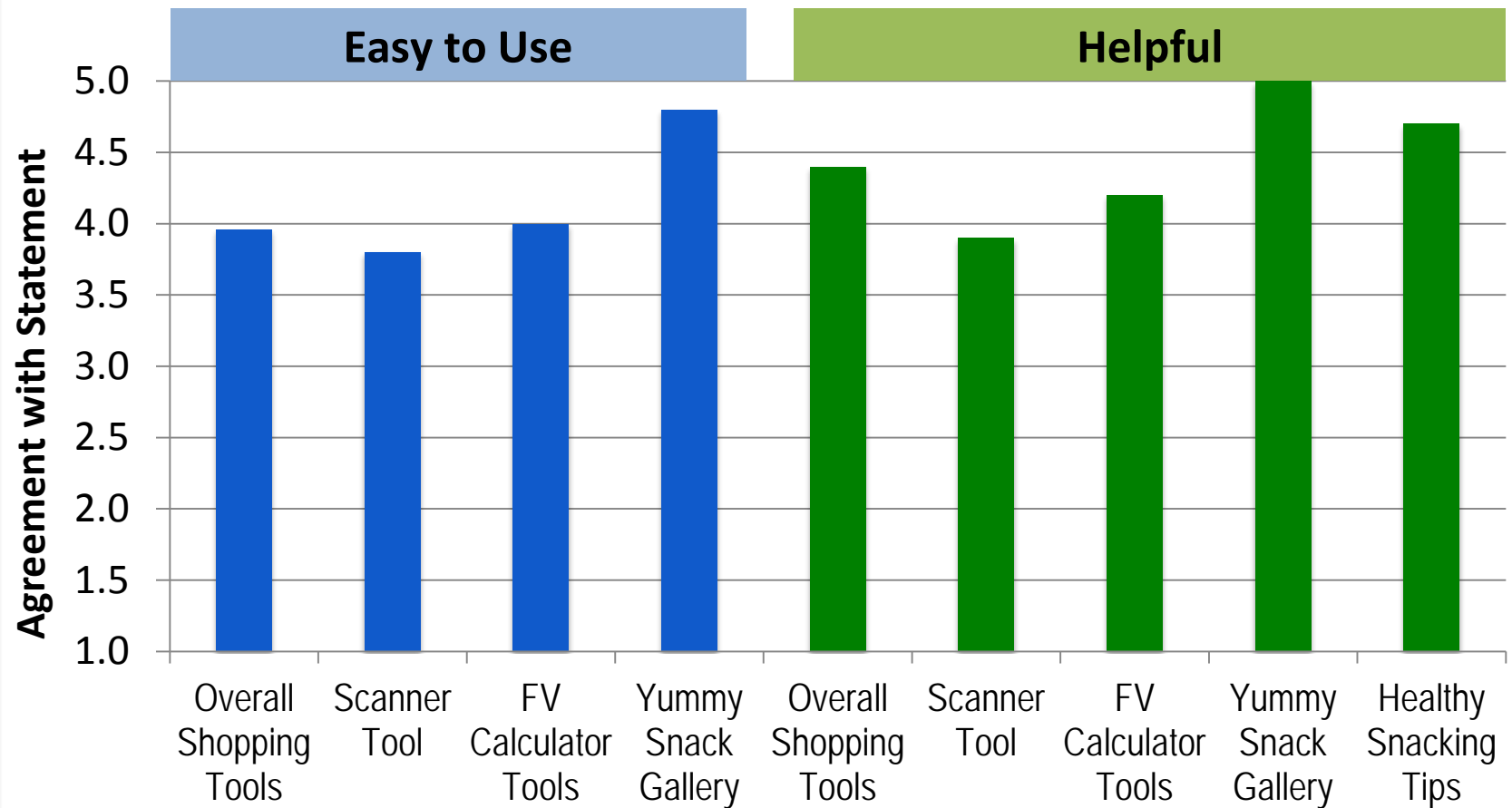


Research: Outputs

- Developed a prototype version 1.0 of the **CHEW smartphone application**
 - Culturally-appropriate nutrition education intervention for our target population (English & Spanish)
- Main features:
 - **WIC shopping tools:** make easier, maximize vouchers
 - **Nutrition education:** healthy snacks & beverages
- Pilot tested feasibility, usability, and effects with 80 WIC families



Usability and Perceived Benefits of WIC Shopping Tools (N=64)



Research: Outcomes

- **Demonstrated feasibility** of using with ethnically-diverse WIC families with preschool-aged children
- **Usage:** 89% used the app features, on average 3.7 times per month, 4.8 min per session
- **Usability:** High ratings of ease and benefits related to WIC shopping and feeding practices, almost all would recommend
- **Outcomes:** Prototype demonstrated potential impacts on food environment (# fruits/veggies in home) and parental snack feeding (offering variety)
- Future plans to enhance/expand app

Extension: Grocery Store Tastings 2013-2015

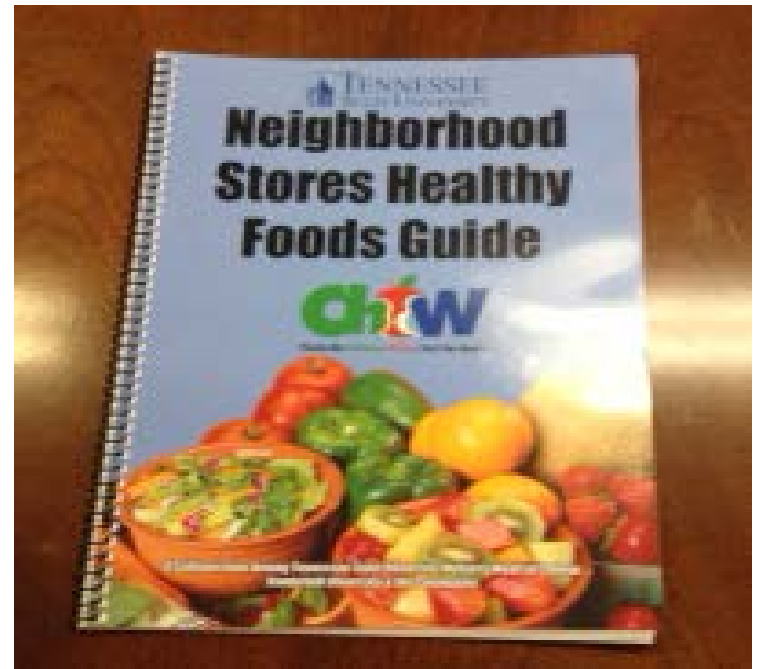
- Partners stores: 19 small- to mid-sized non-chain WIC vendors
- On-site food tastings reached 3,065 customers
- 216 total number of contact hours with the stores
- 110 total number of visits to the grocery stores
- 90% of participating store owners reported that CHEW food tastings increased healthy snack purchases



Extension Output: Stores Healthy Foods Guide

Neighborhood Stores Healthy Food Guide:

1. Making Good Food Choices Related to Your Customers
2. Display of Produce
3. Value Added Product
4. Food Tastings
5. Nutrition Education



CHEW Extension Video:

1. Interviews with participating store owners
2. Interviews with community health promoters
3. Interviews with community advisory board members
4. Available at NashvilleCHEW.org

Education: Outputs

- Undergraduate curriculum modules for nutrition classes developed and available at NashvilleCHEW.org
- Medical students and residents' nutrition curriculum developed with anticipation of continuation at Meharry Medical College
- Nutrition and Physical Activity Toolkit created and disseminated statewide through workshops and available on CHEW & ASTHO (Assoc. State & Territorial Health Officials) websites

Education: Trainee Hours

Objective 1: Implement curriculum for Meharry medical students, residents and practicing physicians on childhood obesity prevention.

Types of Trainees	Number of Trainees	Trainee Hours
Medical Students (Third Years)	399	598.5
Graduate Physicians (Residents)	25	2,266.25
Practicing Physicians and Nurses	320	489.25
Total for Objective 1	744	3,354

Objective 2: Implement curriculum for TSU students and post-doctoral fellows on obesity prevention, nutrition-related chronic diseases and non-pharmacologic approaches to their prevention and management.

Types of Trainees	Number of Trainees	Trainee Hours
Undergraduates in Health Sciences	410	1,515
Post-Doctoral Fellows	2	1,200
Other Students	128	127.25
Total for Objective 2	540	2,842.25

GRAND TOTAL	1,284 Trainees	6,196.25 Trainee-Hours
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Education: Highlights of Outcomes

- **Third year medical students showed significant pre-post training increases in the following areas:**
 - **Knowledge of when to suggest lifestyle modifications for patients (P<.05)**
 - **Knowledge of dietary recommendations needed for appropriate weight maintenance (P<.0001)**
 - **Comfort level discussing and providing advice on nutrition topics (P<.0001)**

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[Recetas Saludables en Español](#)

[CHEW Administrative Core](#)

[CHEW Education](#)

[CHEW Extension](#)

[CHEW Research](#)

[Community Advisory Board](#)

[CHEW Conference 2015](#)

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Funded by AFRI-USDA

Baqar Husaini, Ph.D., Principal Investigator (Tennessee State University)

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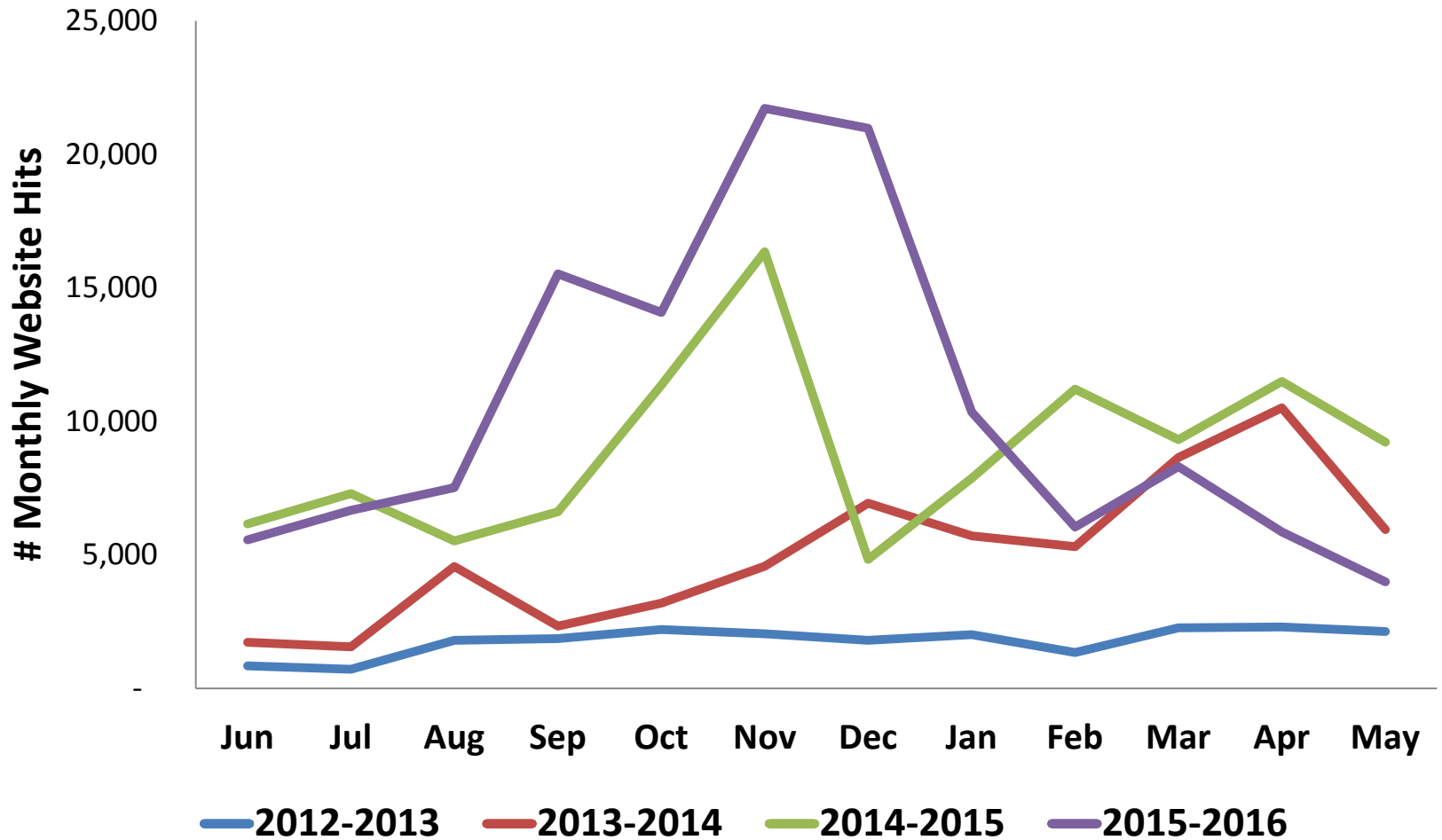
Pamela Hull, Ph.D., Co-Principal Investigator (Vanderbilt University Medical School)

**Courtney Kihlberg, M.D, MSPH, FACPM, Co-Principal Investigator
(Meharry Medical College)**

**The CHEW Annual Conference for 2015
was a Great Success**

**Check out the CHEW Conference 2015 Link
for This Year's Conference Summary,
Abstracts, and Presentations
CHEW Conference 2015**

NashvilleCHEW.org



Scientific Dissemination

- **2016** Mejia deGrubb M, Salemi J, Gonzalez S, Kihlberg C, Zoorob R, Levine R. “Disparities in Accuracy of Maternal Perceptions of Obesity among Hispanic Children”, submitted in January 2016 and under review in *International Journal of Obesity*.
 - **2015** Emerson, Janice S., Hull, Pamela C.; Kihlberg, Courtney; Briley, Chiquita. Husaini. ; Baqar A. “Community Care: Nashville Children Eating Well (CHEW) for Health.” *International Innovation*, 182, www.internationalinnovation.com.
 - **2015** Emerson, Janice S; Townes, Darnell; Jones, Jessica L.; Cain, Van A.; Hull, Pamela C. “Racial/ethnic and weight status differences in food preparation among WIC participants.” *Journal of Healthcare for Poor and Underserved*, 26(2).
 - **2014** Levine RS, Kilbourne B, Kihlberg C, Aliyu M, Emerson J, Goldzweig I, Zoorob R. *Military and civilian responses to the US obesity epidemic*. Brennan V. Editor. Obesity: Problems and Solutions. Johns Hopkins University Press.
 - **2014** Zhou, Y, Emerson, J, Levine R, Husaini, B., Hull, P. Association of infant feeding with adiposity in early childhood in a WIC sample. *Journal of Health Care for the Poor and Underserved*, 25(4).
 - **2013** Zhou Y, Emerson J, Levine R, Kihlberg C, Hull P. Childhood obesity prevention interventions in childcare settings: systematic review of randomized and non-randomized controlled trials. *American Journal of Health Promotion*, 28(4), e92-e103.
- **Three manuscripts in process of completion and submission before December 2016.**

CHEW Team Members

Tennessee State University:

- Baqar Husaini, PhD (PI)
- Janice Emerson, PhD (Co-PI)
- Chiquita Briley, PhD (Extension Lead)
- Barbara Canada, PhD (Extension)
- Van Cain, MA (IT Manager)
- Jessica Jones, MS (Research Assoc.)
- Corrine Vaughn, MBA (Fiscal Analyst)
- Meghan Quirk, PhD (Post-Doc)
- Jacquelyn Favours, MPH
- Calvin Harris, BS
- Princess Gordon-Patton, M.Ed.
- Graduate Students: 50+ trained in Research Methods including data collection & analysis

Community Partner:

- Juan Canedo (Progreso Community Ctr.)

Meharry Medical College:

- Courtney Kihlberg, MD (Co-PI)
- Robert Levine, MD
- Muktar Aliyu, MD, MPH, DrPH
- Preventive and Occupational Medicine Resident Physicians

Vanderbilt University:

- Pamela Hull, PhD (Co-PI)
- Students: Violetta Vylegzhanina & Pankaj Chand
- Doug Schmidt, PhD, & Shelagh Mulvaney, PhD, Collaborators

Consultants:

- David Schlundt, PhD, Vanderbilt
- Bettina Beech, PhD, University of Mississippi