BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
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NAME: Shawna Beese

eRA COMMONS USER NAME (credential, e.g., agency login): SHAWNA.BEESE

POSITION TITLE: Assistant Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, including postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Spokane Community College	AND	06/1999	Nursing
Gonzaga University, Spokane, WA	BSN	05/2003	Nursing
Washington State University, Spokane, WA	PhD	02/2023	Nursing
University of Washington, Global Health e-Learning	Certificate	12/2023	Implementation Science

A. Personal Statement

After a fulfilling 20-year career as a nurse leader, which included 12 years in hospital administration, I returned to graduate school in 2019 to work towards a PhD in Nursing focusing on population health. I wanted to transition my work to community-based health promotion. My dissertation focused on neighborhood socio-environmental influences on individual-level stress responses. Transferable skills I brought to the academy include strategic planning, complex project execution, project reporting, and team building.

Currently, I serve as the Assistant Professor of Rural Health Promotion and Whatcom County Extension Director at Washington State University. In that leadership role, I am developing an evidence-based rural health promotion program that uses neighborhood-based approaches. In my current role, I have been the principal investigator (PI) on $833,000 in grants. As key personnel on other extramural grants and contracts, I have secured or managed over $2.1 million in additional funds to benefit the community I serve.

I have been successful in my early career stage by participating in and, in some cases, leading interdisciplinary data science teams. These experiences include: the UW/WSU WAFOOD project (please see food systems), the development of WSU CHORDS-Lab (**C**ommunity **H**ealth **O**riented **R**esilience **D**ata **S**cience; in partnership with faculty from the Department of Mathematics and Statistics), and serving as a capstone mentor for WSU Data Analytics program in Spring 2025. Finally, after participating as a trainee in the Environmental Health Research Institute for Nurse and Clinician Scientists (EHRI-NCS) R25ES033452, PI/PD: Castner, in 2023, I was invited to join as a consultant and facilitate the analytics portion of the workshop. In 2024, I was asked to support the NIEHS-funded R25 as the lead analytics faculty and was named a key personnel.

B. Positions, Scientific Appointments, and Honors

2023-present Prevention Science Graduate Faculty
2023-present Affiliate Research Assistant Professor, College of Nursing, Washington State University
2022-present Assistant Professor of Rural Health Promotion and Whatcom County Extension Director, College of Agricultural, Human, and Natural Resource Sciences, Extension, Youth and Family Unit, Washington State University

2/2022-9/2022 Regional Retail and Food Access Coordinator, College of Agricultural, Human, and Natural Resource Sciences, Extension, SNAP-Ed, Washington State University
7/2021-2022 Professional Worker (GIS support), College of Agricultural, Human, and Natural Resource Sciences, Extension, SNAP-Ed, Washington State University
2012-2014 Adjunct Professor, Rural Health Residency Program (for Nurse Leaders), Idaho State University

Honors

2024 National Association of Community Development Extension Professional (NACDEP) *"Cross Program Award"* Western Regional (and runner-up for the National award; WSU Extension Broadband Planning Support Project)
2023 Washington State University, College of Nursing, Outstanding PhD Student
2023 Harriet B. Rigas recipient for Outstanding Graduate Studies
2022 Fellowship- inaugural cohort for the Environmental Health Research Institute for Nurse & Clinician Scientists
2022 Thomas S. Foley Institute of Public Policy and Public Service summer fellowship, Lukins Scott & Betty Graduate Fellow
2022 Carl M. Hansen Foundation Scholarship recipient
2022 University of Washington Biostatistics, Summer Intensive of Statistical Genetics Scholarship
2019 Holy Family Hospital CNO Leadership Award, '*New Knowledge and Clinical Innovation*'
2003 Sigma Theta Tau Honors Society - induction
1999 Awarded a summer research internship at Washington State University Veterinary School of Comparative Anatomy and Pharmacology funded by the National Institute of Heart, Lung, and Blood Institute

Other Experiences and Professional Memberships

2022 - present Washington State Public Health Association (board member since 2023; executive committee member since 2024)
2020 - present National Rural Health Association (member)
2019 - present Alliance of Nurses for Healthy Environments
2003 - present Sigma Theta Tau (member)

C. Contributions to Science

1. Measurement of individual-level stress response, neighborhood-level exposures, and geographic variations

My primary research focus is on data-driven knowledge creation related to individual-level stress responses. This requires a nuanced understanding of allostatic load as a dynamic measure of cumulative wear and tear on the body throughout the life course, and temporally bound perceived stress measures, such as Cohen's Perceived Stress Scale (PSS-10). Additionally, I have specialized in neighborhood-level determinants of health measurement, such as the Social Cohesion Scale and Ross-Mirowsky Neighborhood Disorder Scale, both developed and studied in urban/suburban settings. My research collaborator (Dr. Trey DeJong) and I are conducting a state-wide study testing the validity and reliability of our rurally adapted Rural Neighborhood Development Scale (RNDS). Additionally, I have been invited to be the lead author for the chapter **Exposure Mixture Analysis** in a graduate-level Environmental Health textbook.

a. Beese, S., Postma, J., & Graves, J. M. (2022). Allostatic Load Measurement: A systematic review of reviews, database inventory, and considerations for neighborhood research. International Journal of Environmental Research and Public Health, 19(24), 17006. PMID: 36554888
b. Beese, S., Abshire, D. A., DeJong, T. L., & Carbone, J. T. (2024). An evaluation of the All of Us Research Program database to examine cumulative stress. *Journal of the American Medical Informatics Association: JAMIA*, *31*(12), 2968–2973. https://doi.org/10.1093/jamia/ocae201 PMID: 39058629
c. Graves, J. M., Beese, S. R., Abshire, D. A., & Bennett, K. J. (2024). How Rural is *All of Us*? Comparing characteristics of rural participants in the National Institute of Health's *All of Us* Research Program to

other national data sources. *The Journal of rural health: official journal of the American Rural Health Association and the National Rural Health Care Association*, *40*(4), 745–751. PMID: 38683037

d. Graves, J. M., Beese, S. R., & DeJong, T. L. (2024). Mental health services utilization by rurality: Evidence from the National Institutes of Health *All of Us* Research Program. *Journal of Rural Mental Health*.

2. Food systems and local food environments

In my previous position as the Regional Retail Access Coordinator with the WSU Extension, I led the geographic assessment of online grocery delivery access for Washington state SNAP participants during the COVID-19 pandemic. The cross-sectional observational analysis of grocery delivery access was conducted in 2021 and repeated in 2022. Findings have been disseminated at the NIH Food Insecurity, Neighborhood Food Environment, and Nutrition Health Disparities: State of the Science workshop and through publication in Preventing Chronic Diseases.

In 2022-2025, I collaborated with Drs. Otten and Spiker from the University of Washington and their team are on the fourth wave of a state-wide food survey (WAFOOD4). This research culminated in ***five research briefs***: a) Food Security and Food Assistance in the Wake of COVID-19: A 4th Survey of Washington State Households; b) Washington State Food Security Surveys. Food Access and Economic Well-being: Additional findings from a 4th survey of Washington State households; c) Washington State Food Security Surveys: Cross-sectional findings from survey waves 1-4, 2020-2023; d) Washington State Food Security Surveys: Longitudinal findings across survey waves 1-4, 2020-2023; and e) Food Security and Food Assistance in the Wake of COVID-19: A 5th Survey of Washington State Households, published through the University of Washington School of Public Health. WA State legislators used our findings to inform their sessions.

a. Beese, S., Amram, O., Corylus, A., Graves, J.M., Postma, J., Monsivais, P. (2022). Expansion of Grocery Delivery and Access for Washington SNAP Participants During the COVID-19 Pandemic. *Preventing Chronic Diseases*, 19(210412). PMID: 35772037

b. Beese, S., Zambrana, A., Postma, J., & Monsivais, P. (2021, September). *Access to online grocery purchase and delivery among SNAP recipients in WA state*. [Poster], Food Insecurity, Neighborhood Food Environment, and Nutrition Health Disparities: State of the Science (NIH), virtual event.

c. Buszkiewicz, J. H., Tseng, A. S., Dai, J., Ismach, A., Beese, S., Collier, S. M., Spiker, M. L., & Otten, J. J. (2025). Association between early-pandemic food assistance use and subsequent food security trajectories among households in Washington State during the first three years of the COVID-19 pandemic. *PloS one*, *20*(5), e0321585. PMID: 40367134

3. Community resilience development in rural neighborhoods and in small towns

The theory of change that underpins the neighborhood-level influences of individual-level stress response studied in the proposal builds on my Four Stages of Neighborhood Trust, which details the socially driven process of perceived neighborhood trust and safety (conceptualized jointly as neighborhood collective efficacy). This theory of change is also influenced by my experience co-authoring the ***Public Health*** and ***Community-Based Settings*** chapters of **Integrative Nursing 3rd Edition (Oxford Academy Press)**. In our chapters, Dr. Walton and I present an integration of conceptual understanding and practical approaches to how neighborhood environments are potentially biologically embodied by the residents and offer health promotion strategies.

a. Beese, S., Graves, J. M., Postma, J., & Oneal, G. (2024). The four stages of neighborhood trust: Classic grounded theory. *Public health nursing (Boston, Mass.)*, *41*(4), 768–780. PMID: 38639194

b. Beese, S, Drumm, K, Wells-Yoakum, K, Postma, J, Graves, JM (2023). Flexible Resources Key to Neighborhood Resilience for Children: A Scoping Review. Children, 10, 1791. PMID: 38002882