POPULATION HEALTH INITIATIVE
UNIVERSITY of WASHINGTON

Tier 1 Pilot Grant Application: Laying the Foundation
Autumn 2025 Cover Sheet

Project Information
Please provide the following information.

Project Title	A bioethnographic approach to devising culturally tailored diabetes care strategies in an Indigenous community
Budget Request from Initiative	$20,060
Budget Match (if applicable)	In-kind support (UW Center for Studies in Demography & Ecology)
Total Project Budget	$20,060

Project Information

Melanie Martin (Lead Co-Investigator): Associate Professor, UW Dept of Anthropology; Co-PI UW Biodemography Lab (Center for Studies in Demography & Ecology, CSDE); Co-Director Chaco Area Reproductive Ecology (CARE) Program, Formosa, Argentina **(**martinm7@uw.edu)
Finance point of contact at lead investigator's department: Jaime White CSDE
Sofia Olmedo (Co-PI Assistant Investigator, Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina**;** Affiliate faculty, Instituto de Lengua, Sociedad y Territorio, Universidad de Formosa, Argentina**;** Co-Director CARE Program **(**sofiaireneolmedo@gmail.com)
Roberto Orellana (Co-PI): Professor, UW School of Social Work, Affiliated Faculty, Indigenous Wellness Institute **(**popolvuh@uw.edu)
Claudia Valeggia (Co-PI): Professor, Yale Dept. of Anthropology; Director, CARE Program (claudia.valeggia@yale.edu)

Abstract:

Type 2 Diabetes (T2D) disproportionately affects Indigenous and marginalized communities globally due to intersecting historical, ecological, and sociopolitical factors. In Namqom, a Qom/Toba community in Argentina's rural Formosa province, clinical care is available but adherence is inconsistent due to cultural barriers. This pilot proposes a novel integration of continuous glucose monitoring (CGM) with ethnographic methods to explore diabetes experiences and therapeutic itineraries. Using a bioethnographic approach, CGM data will be visualized and discussed with participants to co-create knowledge linking glucose variability to lived experiences. Community workshops will further interpret anonymized CGM outputs in relation to environmental and social factors. As a secondary aim we will assess CGM feasibility in local high heat/humidity conditions. Situated within the long-standing Chaco Area Reproductive Ecology (CARE) program, this project aims to generate culturally grounded insights and educational materials for the community and the local health clinic. Findings will inform future scaled-up research on diabetes etiology, management, and culturally tailored care in this and other provincial Indigenous communities.

Project Research Plan (1 page)

Project Aims: The prevalence of Type 2 Diabetes (T2D) is rising globally, with Indigenous and marginalized populations disproportionately affected due to continuing historical, ecological, and sociopolitical factors. In Argentina's rural Formosa province, the Indigenous Qom/Toba community of Namqom is increasingly burdened by T2D related morbidities. While free clinical care is available to community members through a community clinic, a 2024 exploratory study conducted by our research team revealed inconsistent metformin adherence and biomedical communication between health care providers and patients. Clinical care and public health interventions that compliment and are culturally tailored to local knowledge systems and therapeutic itineraries have been shown to optimally support Indigenous health (de Bourmont et al., 2020; Hoyler et al., 2018; Musante, 2019), and have been applied to T2D community interventions (Scarton et al., 2023; Vrany et al., 2023). Growing evidence also suggests that continuous glucose monitoring (CGM) is an effective tool for T2D management at the individual and community level, though wider adoption among Indigenous and other marginalized communities has been limited due to cost, technological barriers, provider bias, and lack of integration with culturally relevant education (Ehrhardt et al., 2023; Hachem et al., 2024; Vrany et al., 2023).

This pilot study proposes a **bioethnographic approach** to studying diabetes causes and consequences in Namqom using CGM as a method for identify points of coordination between Indigenous knowledge and clinical biomarkers. Bioethnographic approaches explicitly coordinate biological and ethnographic data as co-constitutive, rather than treating ethnographic data as background context, or biological data as authoritative knowledge that must be adapted to a specific cultural lens (Roberts, 2021; Roberts & Sanz, 2018). *A novel innovation of this study is using visualized outputs from individual CGM data as an explicit medium for co-creating knowledge about participants lived experiences of diabetes illness, symptomology, and therapeutic itineraries.* A secondary aim of the study is to assess feasibility of CGM use in the high heat/humid conditions of the environment, in order to determine logistical needs and protocols for prescribed clinical use or future scaled-up research and interventions.

The proposed study is situated within the Chaco Area Reproductive Ecology (CARE) program (co-directed by Co-PIs Martin, Olmedo, and Valeggia), which has worked in the Namqom community for nearly 30 years. A current team, led by Co-PIs Olmedo, Valeggia, and three Qom collaborators, has begun gathering ethnographic data on T2D situated within the frameworks of **situated biologies** (Niewöhner & Lock, 2018)— recognizing individual experiences of disease as shaped by evolutionary, environmental, and social dimensions of life history—and **two-eyed seeing** (Cyr & Riediger, 2021; Marshall et al., 2018) to integrate Indigenous and biomedical knowledge systems. This project, supported through institutional affiliations (CONICET, Yale) will support community-wide educational campaign (H*aiem sanoelec ,qalagaye ,shectá,* "Despite my illness, I continue). We propose this pilot study to expand that work by integrating CGM data into the ethnographic process, enabling a more precise and culturally grounded understanding of complex diabetes etiologies and experiences.

Methods: CGM data will be integrated with ethnographic work at multiple levels of data collection and analysis: (1) Ethnographic interviews will be conducted with approximately 40 Qom adults diagnosed with T2D, recruited via snowball sampling by our community-based research team. Each participant will wear a blinded CGM sensor (FreeStyle Libre Pro IQ), for 14 days. After data collection, researchers will share visualizations of glucose variability with participants, prompting them to interpret glucose variability in relation to their illness narratives, daily routines, household dynamics, and community events. (2) Community mapping workshops will use anonymized CGM outputs to engage the community in interpretations of externalities

influencing glucose patterns. (3) Data analysis through a collaborative, emergent process, with the research team meeting regularly from the onset of collection to iteratively develop shared tools (e.g. themes, coding schemes, categorical definitions) using accessible, team-friendly workflows (IRaMuTeQ, REDCap). The team wil identify points of coordination between biological and ethnographic data, and relationality among core concepts and categories.

Tier 1 Project Evaluation Plan

1. What are your measures of success for this project? Success will be measured by the ability to coordinate CGM and ethnographic data to generate actionable insights into Qom experiences of diabetes. Tangible outcomes will include co-created terminology and educational materials for clinic health care providers and future research and community campaigns. These results will be shared with the Namqom Health Clinic and community via reports, radio discussions, and visual materials. We will also assess CGM feasibility in the high heat/humidity conditions of Namqom, documenting sensor performance and participant engagement across the 2-week period of wear.

2. How are you planning to utilize the results of your work to pursue a future project to generate proof-of-concept once the eight-month project is complete? Findings will inform future grant proposals (e.g., NSF Cultural Anthropology, Wenner-Gren Foundation) to support scaled-up culturally tailored research on diabetes prevalence, causes, barriers, and perceived and measured efficacy of different therapeutic itineraries in Namqom.

Project Timeline

Jan–Feb 2026: Preliminary survey and database construction; CGM training. Mar–Aug 2026: Participant interviews and CGM pilot with iterative qualitative analysis. Sep-Dec 2026: final analysis and reports, community dissemination of results through local channels (*informes*, radio reports, social media), generation of surveys, protocols for future research

Biographies

Melanie Martin (MA/PhD Anthropology, University of California Santa Barbara) has expertise in field research and biomarker methods. She has collaborated on large-scale population health studies in the U.S. and globally for nearly 20 years, and joined the CARE Program in 2016. She will apply her biomarker and project management expertise to ensure successful execution of the pilot study and generation of results for future grant applications.

Sofia Olmedo (Lic. Nutrición, PhD, Ciencias de la Salud, Universidad de Córdoba) has worked with the CARE program since 2012, leading research on child nutrition, water security, and metabolic health in Indigenous communities in Formosa province. Her expertise in community-based and mixed-methods research, and her professional associations (U. of Formosa, CONICET) are critical to the implementation of the pilot study, local dissemination of results, and future expansion of the study.

Roberto Orellana **(**MPH, UW, PhD Social Work, Columbia University**)** is an internationally renowned global health researcher who has led initiatives supporting Indigenous health and health of underrepresented, high-risk minority groups in the U.S. and Latin America. He contributes vital expertise in the implementation and execution of community-based and culturally-grounded global health projects.

Claudia Valeggia (PhD, U Buenos Aires, ARG) has expertise in medical anthropology, hormonal mechanisms, and biocultural theory and methods. She founded the CARE Program in 1997. Her community knowledge and longstanding relationships are critical to the success of the

ongoing program and adherence to community-engaged principles underpinning this project.

Budget proposal and justification (1 page)

	Requested from Initiative	Funding Match
Salaries		
Faculty	N/A	
Staff	$9600 (non-UW staff)	(in-kind CSDE)
Student		
Benefits Based on Payroll Load Rate in Effect	N/A	
Supplies and Materials Supplies, Equipment Under $2,000, etc.	$5700	
Equipment Equipment Over $2,000	NA	
Tuition	N/A	
Other *(travel & lodging)*	$4726	
Total Direct Costs (PHI-requested funding cannot exceed $25K)	$20,026	

Budget Justification: *Salaries* for field research team conducting data collection, analysis, and dissemination of results: salary stipends for Co-I Olmedo and three community research partners ($200 USD per month for 12 months). *Supplies and materials* for CGM data collection: FreeStyle LibrePro IQ (professional use) plus sensors (50 x $110 = $5550) and readers ($75 x 2 = $150). We will purchase 10 additional sensors and one extra sensor to buffer against malfunction related to ecological conditions or user issues. *Other* encompasses travel costs for PI Martin to travel to and stay in Formosa to implement CGM pilot over two weeks: RT airfare Seattle-Buenos Aires ($1700), RT airfare Buenos Aires-Formosa ($400), per diem M&I and lodging in Buenos Aires ($275 x 2 days = $550), per diem M&I and lodging in Formosa ($165 x 12 days = $1980), U.S. travel day per diem ($48 x 2 days = $96). It is established CARE program practice to compensate participants and the community through non-monetary household gifts and donations (e.g. food, supplies) to regular community events (costs subsumed within per diem).

Funding Match: The Center for Studies in Demography and Ecology will provide in-kind matching support in the form of40 hours of support from CSDE scientific staff to assist with REDcap database construction and analysis of CGM data exports

References

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