

The Rural Drug Addiction Research (RDAR) COBRE *At-A-Glance Summary*

RDAR CENTER GOALS

The **mission** of the Rural Drug Addiction Research (RDAR) Center is to apply complementary approaches across a variety of disciplines to better understand the causes and consequences of substance use and identify new avenues to address substance misuse, particularly in rural and underserved populations.

CENTER LEADERSHIP TEAM

Rick Bevins - Center Director
Timothy Nelson - Associate Director
Shilpa Buch - Associate Director
Devan Crawford - Center Coordinator

LONGITUDINAL NETWORKS CORE

Kimberly Tyler - Co-Director (Lead)
Patrick Habecker - Co-Director
Bilal Khan - Senior Technology Advisor

MEOW MEMBERSHIP

Anna Dunaevsky, UNMC - Member
Aron Barbey, UNL – Phase 2 Mentor
Arthur (Trey) Andrews, UNL - Graduated PL
David DiLillo, UNL - Phase 1 & 2 Mentor
Gurudutt Pendyala, UNMC - Graduated PL
Janos Zempleni, UNL - Member
Jolene Smyth, UNL - Member
Katie Edwards, UNL - Phase 2 Mentor
Mario Scalora, UNL - Member
Mark Riley – UNL - Member
Mary Emery, UNL - Member
Sophia Perdikaris, UNL - Member
Susan Sheridan, UNL - Phase 1 & 2 Mentor
W. Alex Mason, UNL – Phase 2 Mentor

REGULAR EVENTS

Lunch & Learn Events

Various Fridays at 12:00pm

Sessions engage community members and researchers on topics such as core services, engagement opportunities, and best practices. Open to the public.

Seminar Series

2nd Thursday at 1:30pm

Speakers provide expert insight on a variety of topics related to substance use research. Open to the public.

Business Meetings

4th Thursday at 1:30pm

RDAR Center members meet monthly to discuss project updates and future directions for the Center. Closed for Center members.

MEOW Meetings

4th Thursday at 1:00pm

Center Leadership and the Mentoring, Engagement, and Outreach Workgroup (MEOW) meet monthly to provide updates on progress and receive advice relevant to Center growth. Closed for MEOW members.

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Longitudinal Networks Core

The **Longitudinal Networks Core (LNC)** five main services:

1. Access to a longitudinal cohort of people who use substances (Regional Health Cohort, RHC) from which to recruit study participants;
2. Data describing factors affecting regional patterns of substance use;
3. Use of Core software to collect responsive fine-grained mobile Health (*mHealth*) data from participants;
4. Support for network sampling and analytic approaches; and
5. Consultation in community-engaged research, field-based biospecimen testing, epidemiological data collection, respondent driven sampling, intervention design, and research with hard-to-access populations.

LNC Regional Health Cohort

The **Regional Health Cohort (RHC)** is a longitudinal study with persons who use substances. Individuals are recruited via respondent-driven sampling. Participants have the opportunity to opt-in to a Participant Pool, which is a list of individuals who may be contacted by other researchers via the LNC Service Center.

RHC COHORT 1

Wave 1 data were collected in-person using an online Qualtrics survey and baseline biospecimen testing. Wave 2 data were collected using a paper survey booklet due to COVID in-person precautions.

Wave 1 → N=120 (October 2019 - March 2020)

Wave 2 → N=35 (October 2020 – November 2020)

RHC COHORT 2

Waves 1, 2, 3, and 4 data are being collected in-person using an online Qualtrics survey. We are not currently collecting biospecimen information for Cohort 2. ODIN data was collected using the ODIN app on Android.

Wave 1 → N=1015* (June 2021 – Current)

Wave 2 → N=397* (May 2022 – Current)

ODIN → N=100 (August 2022 – February 2023)

Wave 3 → N=255* (February 2023 - Current)

Wave 4 → N=101* (March 2024 - Current)

* designates number of interviews as of 08/13/24

LNC Software Development

ODIN

Open Dynamic Interaction Network is a cost-effective cellphone platform that enables continuous collection of contextual data about individuals and their interactions.

CURRENT PROJECT LEADERS

Gormley (Y3) - College-aged Drug Use & ADHD

Chan (Y3) - Machine Learning for Drug Use Prediction

Lorenz (Y1) - Sexual Reward, Craving & Stress

Schwarb (Y1) – Drug Use & Hippocampal Dysfunction

CURRENT PILOT PROJECTS

Garcia (Pilot NCE) - Serotonin & Opioid Use Disorder

McChargue (Pilot Y2) - ePlatform for SUD Recovery

Ponce (Pilot Y2) – Omega 3 & Drug-Induced Inflammation

Cochran (Pilot Y1) – Transportation Barriers to Treatment

Brock (Pilot Y1) – Child Emotion Socialization

PROJECT LEADER GRADUATES

Pendyala - Sex Differences PEBP1

Andrews - Violence Exposure

Brock - Child Emotional Socialization & Alcohol Use

PAST PROJECTS

Hubbard (Project Leader) - Brain Imaging & Drug Use

Wakabayashi (Project Leader) - Nutrient-Sensing Neurons

Johnson (Project Leader) - Cognitive Disruptions

Smith (Project Leader) – Injection Risk Networks & EMA

Gauthier (Pilot) - Interpersonal Conflict & Drug Use

Periyasamy+ (Pilot) - Microglial Activation

Lorenz (Pilot) - Sex Linked Drug Use in Women

Abadie (Pilot) - Opioid Agonist Treatment Barriers

Yelamanchili (Pilot) - Extracellular Vesicle Markers

Chiao+/Hughes (Pilot) – Auditory Vestibular Function

Anderson Berry (Pilot) - Neonatal Withdrawal

Henson (Pilot) - Somatic Expression in Recovery

Smith (Pilot) - World-building for Well-being

Periyasamy (Pilot) - N-Acetylcysteine & MG Activation

Hasan (Voucher) - Proximal & Distal ODIN Data Clusters

FUTURE PHASE 2 PROJECTS

Barrett (2025) – Nicotine & Artificially Sweetened Alcohol

Kemp (2025) – Residential Modifiers of Substance Misuse

+ designates pilot or voucher awardee graduating