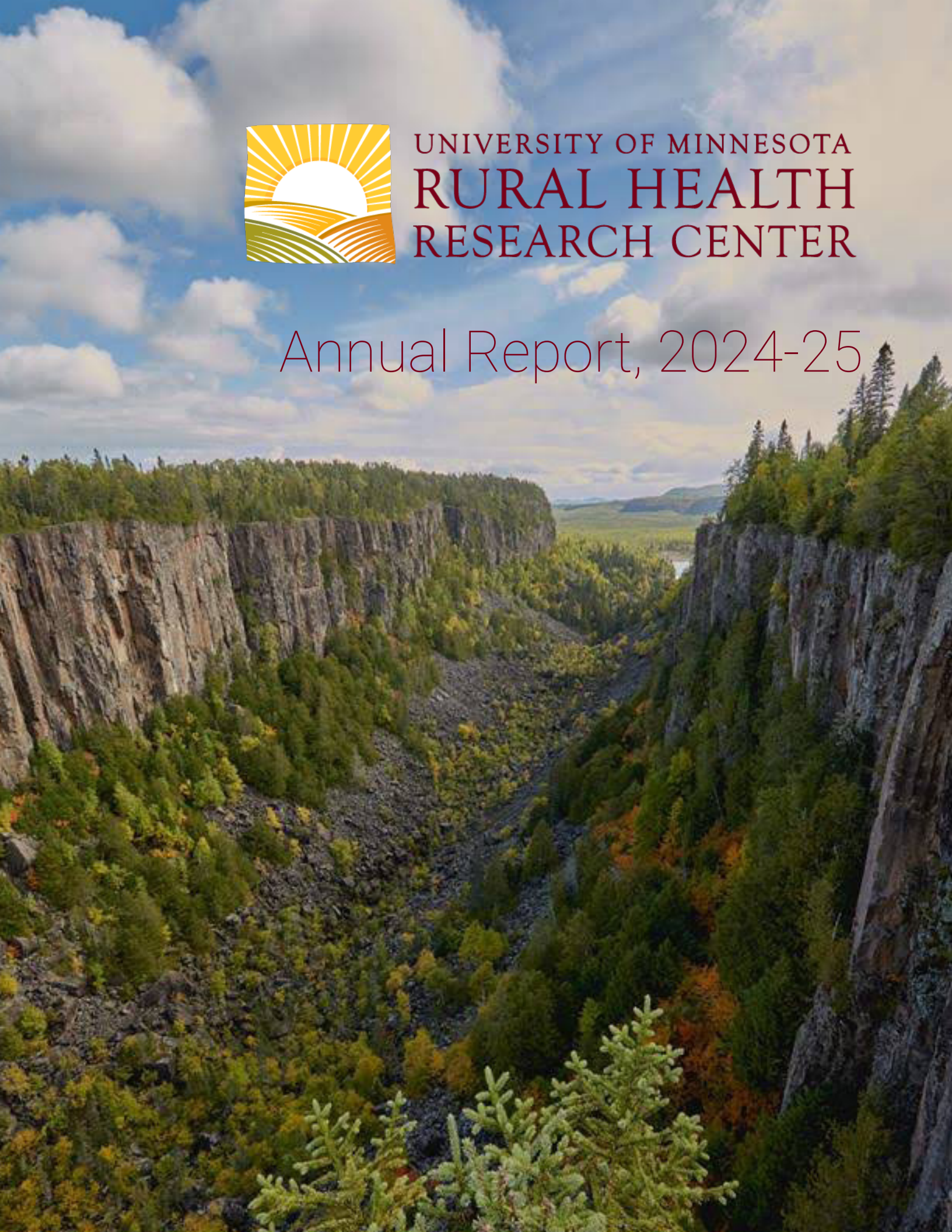

UNIVERSITY OF MINNESOTA
RURAL HEALTH RESEARCH CENTER

Annual Report, 2024-25

We conduct policy-relevant research

to **improve** the **lives** of rural residents and families,
to **advance** population **health**, and
to **enhance** the **vitality** of rural communities.

rhrc.umn.edu

A NOTE FROM LEADERSHIP

We are proud to share the accomplishments of our team over the past year, which again highlight the strengths and challenges inherent in rural communities across Minnesota and the U.S. This annual report describes the work of the past year across the various grant programs focused on rural people and places that comprise the University of Minnesota Rural Health Research Center.

We were successful in competing for a renewal of our Rural Health Research Center (RHRC) cooperative agreement with the Federal Office of Rural Health Policy (FORHP). Since 1992, our center has maintained this program, and we continue to lead research on rural health and share our findings in policy briefs and case studies, peer-reviewed publications, presentations, and broad public engagement. The Flex Monitoring Team (FMT) continues to support the federal and state Flex Programs and Critical Access Hospitals (CAHs) across the country. The University of Minnesota Rural Health Program successfully supported the fourth cohort of Project REACH (Rural Experts Advancing Community Health) in completing the program and making important contributions in their home communities in counties across Minnesota. Additionally, the University of Minnesota's Rural Collective, part of the Rural Health Program, hosted in-person gatherings in Cloquet and Willmar, Minnesota and another Rural Health Equity Postdoctoral scholar was recruited to join our team. We also added several new funding streams. Carrie leads the new Interdisciplinary Network on Rural Population Health and Aging (INRPHA), funded by the National Institute on Aging to support the growth of rural aging research. Katy established the Center's maternity team, with funding from the RHRC grant as well as new funding from the Rural Maternal Health Data and Support program, funded by FORHP, and technical assistance for the Centers for Medicare and Medicaid Services' Transforming Maternal Health Program, via a partnership with NORC.

We look forward to an engaging and productive year ahead. Under the RHRC grant, we will examine rural hospital cybersecurity practices, access to neonatal care, rural Alzheimer's disease and related dementias, and the mental health of rural older adults. The FMT will be completing projects to support quality improvement and measurement in CAHs and rural communities, as well as projects assessing obstetrics care, training, and quality in CAHs. We will welcome six new participants in Project REACH and connect with other rural researchers at planned in-person gatherings across Minnesota through the Rural Collective. Thank you for engaging with our team and our work!

Katy Backes Kozhimannil, PhD, MPA

Carrie Henning-Smith, PhD, MSW, MPH

Megan Lahr, MPH

Overview and Purpose

At the University of Minnesota Rural Health Research Center (RHRC), we are a dedicated team of experts that conducts research and implements programs to improve health and well-being for rural people and communities. Rural residents' lives are deeply impacted by policy decisions, and our work aims to illuminate both the health challenges in rural communities and the health resources in rural places. Our work is informed by the lived experiences of rural people, families, and communities that experience disproportionate health risks and exhibit disproportionate resilience. We study access to and quality of health care and population health outcomes in order to build the evidence base for policymaking. We are committed to the highest standards of excellence in research and to communicating results to academic and policy audiences as well as to the people and communities to which our research pertains.

Our Center includes multiple different programs that focus on rural health:

- The Rural Health Research Center (RHRC) grant, a cooperative agreement for national-level rural health research with the Federal Office of Rural Health Policy (FORHP), a division of the Health Resources and Services Administration within the U.S. Department of Health and Human Services.
- The Medicare Rural Hospital Flexibility Program Evaluation (Flex Monitoring Team), a cooperative agreement for evaluation of the Rural Hospital Flexibility Program, with FORHP.
- The University of Minnesota Rural Health Program, funded by the University's Clinical and Translational Sciences Institute (CTSI) and Office of Academic Clinical Affairs (OACA). The Rural Health Program has three components: the Rural Health Policy Postdoctoral Program, Project REACH, and the University of Minnesota Rural Collective.
- The new Interdisciplinary Network on Rural Population Health and Aging (INRPHA), funded by the National Institute on Aging to support the growth of rural aging research.
- The new Rural Maternal Health Data and Support Program with a focus on rural maternal health data infrastructure and research, funded by FORHP, and implementation support for the Transforming Maternal Health Program, funded by the Centers for Medicare and Medicaid Services.

Maternity Care Team members Emily Sheffield, Julia Interrante, and Co-Director Katy Backes Kozhimannil at the National Rural Health Association Health Access Conference in Atlanta, GA, May 2025.

Group photo at the spring Rural Collective event in rural Willmar, MN, April 2025.

RHRC research staff Mariana Tuttle and Alyssa Fritz before presenting at the American Public Health Association Annual Meeting in Minneapolis, MN, October 2024.

Carrie Henning-Smith presented with a panel of fellow experts at the Minnesota chapter of the American College of Healthcare Executives Annual Conference in Bloomington, MN, November 2024.

FUNDING AND SUPPORT

The work of the University of Minnesota Rural Health Research Center is supported by a wide range of funders. We are grateful for funding support from the University of Minnesota Office of Academic and Clinical Affairs, the University of Minnesota Clinical and Translational Science Institute, the Federal Office of Rural Health Policy (FORHP), the National Institute on Aging, the Eunice Kennedy Shriver National Institute of Child Health and Human Development, NORC, the Robert Wood Johnson Foundation, the McKnight Foundation, the Heinz Family Foundation, and the University of Minnesota Foundation Rural Health Research Center Fund.

To support our work: https://give.umn.edu/giveto/ruralhealth.

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Who We Are, 2024-25

Leadership

KATY BACKES KOZHIMANNIL, PHD, MPA, CO-DIRECTOR

Katy Backes Kozhimannil is a Distinguished McKnight University Professor in the Division of Health Policy and Management, University of Minnesota School of Public Health. Katy is Co-Director of the RHRC and co-leads the University of Minnesota Rural Health Program. Katy lives on Dakota land (Mahto Bde). Her ancestors come from northern Minnesota (Wenji-maajijiwang within Gaa-waabaabiganikaag Anishinaabeg, the White Earth Nation), Germany and France.

Katy conducts research to inform health policy that supports people at critical times in their lives, including pregnancy and childbirth. She contributes to the evidence base for clinical and policy strategies to advance population health, with a focus on rural communities. Katy's research has been widely cited in the media, including feature stories by the *New York Times*, *USA Today*, *Washington Post*, *National Public Radio*, and the *Wall Street Journal*. Referencing her research and recommendations, new local, state, and federal laws have allocated resources to improve access to prenatal, obstetric, and postpartum care. Katy teaches courses that build skills for engagement in public health programs, policy, and research, and she works extensively to engage with and inform leaders with the power to improve the health and well-being of individuals, families, and communities, starting at birth.

CARRIE HENNING-SMITH, PHD, MPH, MSW, CO-DIRECTOR

Carrie Henning-Smith is an Associate Professor in the Division of Health Policy and Management, University of Minnesota School of Public Health and Co-Director of the University of Minnesota Rural Health Research Center. Together with Katy, she also co-leads the University of Minnesota Rural Health Program.

Carrie's work focuses on rural health, with particular attention to structural barriers to health and social well-being. She has published extensively in peer-reviewed manuscripts, commentaries, book chapters, and policy briefs, and her work has been widely cited in federal and state policy documents, as well as in national and international media outlets, including the *New York Times*, *Washington Post*, *National Public Radio*, *NBC News*, *AP*, *CBS*, *CNN*, *ProPublica*, and *Politico*. Carrie has led multiple research projects at the Rural Health Research Center, with a wide range of topics including the social drivers of health, access to and quality of care, and aging and long-term care. She is also the Principal Investigator of the NIA-funded Interdisciplinary Network on Rural Population Health and Aging (INRPHA). She is President-Elect of the National Rural Health Association and serves on the Board of Directors for CentraCare, a large, integrated health system serving central Minnesota.

MEGAN LAHR, MPH, PRINCIPAL INVESTIGATOR

Megan Lahr is a Senior Research Fellow at the RHRC, and the Principal Investigator of the Medicare Rural Hospital Flexibility Program Evaluation, known as the Flex Monitoring Team (FMT).

Megan's research focuses on evaluating the national Flex Program and supporting Critical Access Hospitals (CAHs) across the country. She conducts research on quality, quality improvement, and quality measurement in rural hospitals, as well as on issues impacting access to care in rural communities. During her time with the RHRC, she has also led qualitative work on research projects focusing on older adults in rural communities including topics related to caregiving, the oldest old, and aging in place. Other projects have included those related to the connection between quality and finance in CAHs, quality maternity care in CAHs, and assessing characteristics and quality of CAHs nationally.

Staff

KHADIJA ABDI, BS

Khadija Abdi is a Research Coordinator with the RHRC, where she has been working since October 2024. She contributes administrative and project management support across a range of maternal health-related projects. In addition, she has contributed to research publications for projects on Indigenous health and neonatal care. Khadija also supports some communications and logistical functions for the RHRC grant.

BOBBY BARCLAY, MPH

Bobby Barclay is a Data Analyst with the RHRC. He started working with the RHRC in September 2022 and serves on the Flex Monitoring Team. His work with the FMT centers on the topics of quality and access in Critical Access Hospitals. Bobby has assisted with projects that have explored the provision of hospice care in rural communities and the reporting of antibiotic use data in Critical Access Hospitals.

ALYSSA FRITZ, MPH, RD, CLC

Alyssa Fritz is a Research and Policy Fellow at the RHRC. She began working part-time with the RHRC in 2021, and joined the team full-time in 2022. She contributes to qualitative research, research writing, and administrative support on a variety of projects, with a focus on RHRC's maternal health research. Alyssa also serves as RHRC's policy lead, facilitating connections with and translating research findings for local, state, and federal policymakers.

ALYSSA FURUKAWA, MPH

Alyssa Furukawa is a Data Analyst with the RHRC's Flex Monitoring Team. Since joining the FMT in July 2022, Alyssa's work has focused on analyzing Critical Access Hospital quality of care data and producing both quarterly and annual reports for the Medicare Beneficiary Quality Improvement Project.

JULIA INTERRANTE, PHD, MPH

Julia Interrante is a Research Fellow and Statistical Lead at the RHRC. She began work as a graduate research assistant in August 2018 and transitioned to her current full-time role after defending her dissertation in Health Services Research, Policy & Administration in December 2022. Her research focuses on rural obstetrics and maternal and child health. Julia also has experience using a wide variety of quantitative methods using data from large complex weighted surveys, administrative and claims databases, national secondary quantitative data, and primary data; she uses this expertise to serve as statistical lead, consulting and advising other RHRC researchers on analytic methods.

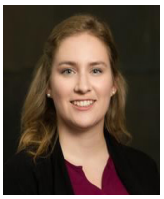
Staff

INGRID JACOBSON, MPH

Ingrid was a Data Analyst with the RHRC, joining full-time in September 2023. Ingrid's work ranged from quantitative data analysis to qualitative key informant interviews. She contributed to projects on understanding the impact of medical debt in rural areas, elder abuse, and the Program of All-Inclusive Care for the Elderly (PACE). Ingrid recently moved on to a policy analyst position at the Minnesota Department of Human Services.

KEVAN O'HANLON, MPH

Kevan O'Hanlon is a Research Coordinator with the RHRC, where she has been working since October 2024. She contributes to project management, and analytic support through the Rural Maternal Health Data Support and Analysis Program (RMHD), in addition to working with two states on the Transforming Maternal Health Model.



MADELEINE PICK, MPH

Madeleine Pick is a Research Fellow with the RHRC, primarily working on the Flex Monitoring Team. She joined the RHRC full-time in March 2020. Madeleine's work has focused on quality of care and best practices in Critical Access Hospitals and access to health care for rural residents. She has also contributed to work addressing the needs of marginalized populations, including access to and quality of care for rural residents with disabilities.

KATIE RYDBERG, MPH

Katie Rydberg is a Program Manager, joining the RHRC in October 2020. During her time, she has managed the operations and development of the University of Minnesota Rural Health Program. She has also contributed to a variety of research projects focused on social drivers of health in rural areas and access to care. In the coming year, she will continue to grow the work of the Rural Health Program and assist on RHRC grant projects.

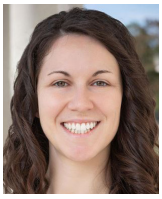
SUSHMA SHANKAR, BS

Sushma Shankar was a Research Coordinator at the RHRC, joining full-time in November 2024. She offered administrative and technical support across a range of grants and projects, in particular the Interdisciplinary Network on Rural Population Health and Aging (INRPHA). She recently began the Master of Public Health (MPH) in Public Health Administration and Policy (PHAP) program, and will serve as a graduate RA working on INRPHA.

MARIANA TUTTLE, MPH

Mariana Tuttle is a Research Fellow at the RHRC, joining full-time in June of 2019. Her research contributions span an array of topics, from maternal and child health to the social drivers of health in rural areas. Mariana also serves as communications lead for the RHRC, which involves disseminating RHRC research, website management and strategic planning. As well as working on research projects and directing communication, she also is the project manager and handles administration for all RHRC grant projects.

Affiliates



CAITLIN CARROLL, PHD

Caitlin Carroll is an Assistant Professor in the Division of Health Policy and Management whose research is focused on health economics and health policy, with a particular interest in the productivity of health care providers. An overarching goal of her work is to understand the appropriate role for public policy in promoting efficiency in health care markets. Caitlin studies hospital and service line closures and served as a consultant on the 2023-24 RHRC project on rural obstetric unit closures.

MARTI DELIEMA, PHD

Marti DeLiema is an Assistant Professor in the School of Social Work. As an interdisciplinary gerontologist, her work is focused on understanding how our society can help every individual age well. An important component of her work surrounds financial abuse and fraud among older adults. Marti uses both quantitative and qualitative approaches to her work, including analyzing large longitudinal data sets as well as leading focus groups and case studies. She served as a consultant on the 2023-24 RHRC project on addressing elder abuse in rural areas.

SARA HANDLEY, MD, MDSCE

Sara Handley, MD, MSCE is a health services researcher and attending physician in the Division of Neonatology at the Children's Hospital of Philadelphia, Assistant Professor of Pediatrics at the Perelman School of Medicine and Associate Fellow at the Leonard Davis Institute of Health Economics at the University of Pennsylvania. Her work focuses on the intersection and interaction of organizational factors in obstetric and neonatal care and the impact on the birth parent-infant dyad. She has collaborated on multiple RHRC projects on maternal, neonatal and postpartum health.

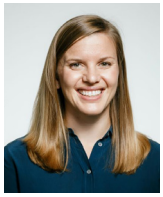
KYLE X HILL, PHD, MPH

Kyle X. Hill is Ojibwe (Turtle Mountain Band; Enrolled Citizen), Dakota (Sisseton-Wahpeton Sioux Tribe), and Lakota (Cheyenne River Sioux Tribe). He is active in community-based participatory research with American Indian and First Nations communities in the US and Canada, focusing on research projects across social, behavioral, and environmental health. His primary line of research considers the social, political, and ecological determinants of Indigenous health, as well as the intersection of climate justice and Land-based healing within Indigenous communities. He lives on his Dakota and Anishinaabe traditional homelands in St. Paul, and is a consultant on the 2024-2025 RHRC project on American Indian health.

LISA IEZZONI, MD, MSC

Lisa Iezzoni, MD, MSc is Professor of Medicine, Harvard Medical School, and based at the Health Policy Research Center, Mongan Institute, Massachusetts General Hospital. From 1990-2006, she was co-director of research in the Division of General Medicine and Primary Care at Beth Israel Hospital/Beth Israel Deaconess Medical Center. Dr. Iezzoni has conducted numerous studies for the Agency for Healthcare Research and Quality, National Institutes of Health, the Medicare agency, and private foundations and is a nationally renowned expert in disability policy. She served as a consultant on the 2024-2025 RHRC project on access to care for rural residents with disabilities.

Affiliates



HANNAH MACDOUGALL, PHD, MSW

Hannah MacDougall is an Assistant Professor at the School of Social Work. Her work examines the integration of health and social services, specifically the role of nonprofit hospitals in communities, with a particular focus on rural communities. Hannah was a Postdoctoral Associate with the Rural Health Equity Postdoctoral Fellowship from 2021-2022 and continues to work with the RHRC and Flex Monitoring Team on projects such as rural medical debt and access to care and Critical Access Hospital hospice services.

CORRIE MCDANIEL, DO, FAAP

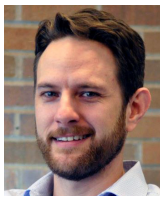
Corrie McDaniel, DO, FAAP is a board-certified pediatric hospitalist with Seattle Children's Hospital and the University of Washington. Corrie's research centers around improving outcomes for children hospitalized in non-children's hospitals, and she is investigating hospital, community, and system-level factors associated with sustainability of inpatient pediatric care in rural hospitals while completing her MPH in Health Policy through the University of Washington. Corrie is a consultant on RHRC projects related to neonatal care access.

ALECIA MCGREGOR, PHD

Alecia J. McGregor, PhD is an Assistant Professor of Health Policy and Politics at the Harvard T.H. Chan School of Public Health. Her research focuses on the political determinants of health inequities, with a focus on maternal health. Her current research explores the relationship between obstetric unit closures and maternal health disparities in the U.S. Alecia has collaborated on RHRC projects related to obstetric unit closures and access to care, bringing particular expertise in urban obstetric unit closures.

HANNAH NEPRASH, PHD

Hannah Neprash is an Associate Professor in the Division of Health Policy and Management whose research focuses on health economics and capacity strain within the health care system. Her research uses quasi-experimental methods and big/novel sources of data to study supply-side drivers of utilization, spending, access, and quality in health care. She has led multiple projects with RHRC, including on team-based primary care, and ransomware attacks on rural hospitals. Currently, Hannah is leading a 2025-26 project on cybersecurity in rural hospitals.



JONATHAN SCHROEDER, PHD

Jonathan Schroeder is a Research Scientist with the Minnesota Population Center and an expert in demographic data analysis. He brings knowledge of a variety of data sets and their rural variables, as well as mapping and other data analysis skills to a range of RHRC projects. As a consultant, he provides expertise in U.S. population geography, map design, and geographic data analysis, with deep knowledge of U.S. census data resources for studying rural populations.

Affiliates

MELISSA WALLS, PHD

Melissa Walls is Eagle Clan and a first-generation descendant of the Couchiching First Nation and Bois Forte Band of Ojibwe (maternal) and of Swedish/German descent (paternal). She grew up in northern Minnesota along the Canadian border and now lives in Duluth, MN where she serves as Director of the Center for Indigenous Health's Great Lakes Hub and a Professor of American Health in the Department of International Health at Johns Hopkins University. Melissa is committed to collaborative, community-driven research. She has been working on health equity research projects with Tribal Nations in the Great Lakes region of the US and Canada since 2002. She is a consultant on the 2024-2025 RHRC project on American Indian health.

Postdoctoral Associates

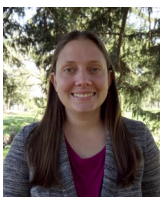
CLARA BUSSE, PHD, MPH

Clara Busse joined the Rural Health Policy Postdoctoral Program in 2024. She is an epidemiologist with a focus on understanding how pregnancy and perinatal health service use impact the health of birthing people throughout their lives. She also has experience conducting research on adolescent contraceptive behaviors and structural barriers to family planning use in low- and middle-income countries. As a Postdoctoral Associate, Clara will collaborate with the RHRC Maternity Care Team, working on topics related to access to and quality of care before, during and after pregnancy.

ANNA SHETLER, PHD

Anna Shetler joined the Rural Health Policy Postdoctoral Program in 2025. She isa sociologist and demographer by training. Her research focuses on health disparities and spatial aspects of community, using quantitative methods. Her dissertation examined exposures to contexts of inequality and health outcomes across the life course, and the relationship between health crises and trajectories of migration. As a postdoctoral associate with RHRC, Anna will be a key contributor to projects on Alzheimer's Disease and Related Dementias (ADRD) and the mental health of older adults in rural areas.

ALEXIS SWENDENER, PHD



Alexis Swendener joined the Rural Health Policy Postdoctoral Program in 2022. She is a sociologist with expertise on how social inequalities shaped by gender, family, and work influence health within varied and often understudied social contexts. Her work extends our understanding of sources of health disparities among marginalized and underserved families including sexual and gender minorities, racial and ethnic minorities, and those at intersections of these groups. Within her role at RHRC, Alexis was a key contributor to work on housing as a social determinant of rural health, geographic and sociodemographic correlates of medical debt, and addressing elder abuse in rural areas.

Students

HAMDI ABAS, BA

Hamdi Abas worked as a graduate research assistant focusing on quality of maternal health in Critical Access Hospitals. Hamdi is a second year Master of Healthcare Administration (MHA) student at the School of Public Health.

ANDREW ABRAM, MPH

Andrew Abram worked as a graduate research assistant focusing on access to and quality of care for people with disabilities in rural areas. Andrew is a MSW Candidate (Clinical Mental Health) at the School of Social Work.

DIONNE BAILEY, MPH

Dionne Bailey works as a graduate research assistant focusing on medical debt, elder abuse, and services for homebound residents. Dionne is a PhD candidate in the Health Services Research, Policy & Administration (HSRPA) program at the School of Public Health.

HAILEY BAKER, MD

Hailey Baker is citizen of Cherokee Nation who graduated from the University of Minnesota Medical School in 2025. She began residency in obstetrics and gynecology in summer 2025. Haily has been working with RHRC since August 2021 and contributes expertise on Indigenous/American Indian/Alaska Native health and on projects related to rural maternal health.

CARSON CRANE, MPH

Carson Crane worked as a graduate research assistant focusing on demographic data and social needs screening in Critical Access Hospitals (CAHs) with the FMT. She graduated in 2024 with her MPH in the Public Health Administration and Policy (PHAP) program at the School of Public Health.

CERON FORD, MPH

CeRon Ford works as a graduate research assistant focusing on projects related to the social drivers of health, including the mental health of older adults in rural communities. CeRon is a PhD candidate in the HSRPA program at the School of Public Health.

Students

REESE HENDRIKSON, BS

Reese Hendrikson worked as a graduate research assistant focusing on Critical Access Hospitals with strong financial and quality characteristics. Reese is a second year MPH student in the PHAP program at the School of Public Health.

ANNIE LEMIEUX, MPH

Annie Lemieux worked as a graduate research assistant focusing on the creation of CAH workforce recruitment and retention toolkits with the FMT. She graduated in 2024 with her MPH in the PHAP program at the School of Public Health.

ZOE PRINGLE, BS

Zoe Pringle worked as a graduate research assistant focusing on Critical Access Hospitals with strong financial and quality characteristics. Zoe is a second year MPH student in the PHAP program at the School of Public Health.

ALONSO QUIJANO-RUIZ, MA

Alonso Quijano-Ruiz is a graduate research assistant working with the maternity team at the RHRC. Alonso is a PhD student in the HSRPA program at the School of Public Health. He has expertise in health economics and data management, and continues to work on dissemination of evidence-based policy in Ecuador, where he is from.

JODI TERVO ROBERTS, MS

Jodi Tervo Roberts is a graduate research assistant supporting Project REACH and the Rural Health Program at the RHRC. Jodi is also a PhD student in the School of Nursing, and was a member of the second cohort of Project REACH as a participant in 2022-23.

EMILY SHEFFIELD, MPH

Emily Sheffield is a graduate research assistant focusing on intimate partner violence and related maternal and child health research at the RHRC. Emily is also a PhD student in the HSRPA program at the School of Public Health.

Rural Health Research Center Grant

PROJECT HIGHLIGHTS, 2024-25

Monitoring Obstetric Unit Closures and Measuring Closure Impacts to Support Rural Maternity Care Access

Team: Katy Backes Kozhimannil, PhD, MPA; Julia Interrante, PhD; Emily Sheffield, MPH; Khadija Abdi, BS; Kevan O'Hanlon, MPH; Caitlin Carroll, PhD; Alyssa Fritz, MPH; Alecia McGregor, PhD; Sara Handley, MD, MSCE

Goals: Access to obstetric services continues to decline in rural communities in the United States, with only 44% of rural counties having access to hospital-based obstetric care in 2018. Moreover, some rural communities are particularly vulnerable – including remote rural communities and lower income communities, and highly rural states. The process of timely and accurate identification of obstetric unit closure is highly complex, and the goal of this project was to update available and publish data on obstetric unit closures through 2022, and to describe maternity care access across hospitals, counties, and states.

Highlights: We complied and published information on measurement of rurality in studies of maternity care, and we published a community-relevant synthesis of research on rural maternity care access and outcomes. Our team updated and implemented the enhanced algorithm we developed to identify hospital-based obstetric care, and we published manuscripts in two top journals describing rural-urban and state differences in obstetric unit closures. We are completing reports that compare rural and urban hospitals and document state differences in obstetric care access.


PRACTICAL IMPLICATIONS
January 2025

UNIVERSITY OF MINNESOTA RURAL HEALTH RESEARCH CENTER

Resources for Measuring Rurality in Research on Maternity Care


Obstetric Care Access Declined In Rural And Urban Hospitals Across US States, 2010–22

Neonatal Care at Rural Hospitals: Describing Access, Closures and Levels of Childbirth-Related Care

Team: Katy Backes Kozhimannil, PhD, MPA; Sara Handley, MD, MSCE; Emily Sheffield, MPH; Julia Interrante, PhD, MPH; Clara Busse, PhD, MPH; Corrie McDaniel, DO, FAAP; Kevan O'Hanlon, MPH; Khadija Abdi, BS

Goals: Infant mortality increases with rurality. Most childbirth-related and infant deaths are preventable, and risks are elevated for people living in rural communities, where access to childbirth-related care is limited. Neonatal care access at birth is lifesaving for higher-risk infants, but there is no current research on access to and closures of neonatal units in rural communities, which are suffering the widespread loss of health care services. This project's goal is to describe access to higher level neonatal care for families living in rural and urban communities.

Highlights: Using data from the AHA annual survey, we have created a measure of whether hospitals that provide obstetrics services (inclusive of basic neonatal care) also provide higher-level neonatal care (inclusive of intermediate – level II – or intensive – levels II or IV – neonatal care services). Our team is completing analyses of access to higher level neonatal care in rural US counties and at both rural and urban US hospitals.

American Hospital Association™
Advancing Health in America

Maternity Team members pausing their vital work for a smile during a virtual project team meeting.

PROJECT HIGHLIGHTS, 2024-25

Rural-Urban Differences in Access to and Quality of Care for People with Disabilities

Team: Carrie Henning-Smith, PhD, MPH, MSW; Andrew Abram, MPH; Bobby Barclay, MPH; Lisa Iezzoni, MD, MSc; Ingrid Jacobson, MPH; Madeleine Pick, MPH; Katie Rydberg, MPH; Sushma Shankar, BS; Alexis Swendener, PhD; Mariana Tuttle, MPH

Goals: There is abundant evidence that rural residents face unique barriers to accessing high-quality care; it is also well documented that individuals with disabilities face reduced access to high-quality care. Despite these largely known realities, and some evidence that rural people with disabilities have higher out-of-pocket costs than their urban counterparts, very little research exists that specifically examines rural-urban differences in access to or quality of care for individuals with disabilities. The purpose of this project is to address these gaps, identifying rural-urban differences in access to and use of health care services for people with disabilities.

Highlights: Using multiple national data sources, we have identified significant differences in access to and quality of care by disability status for rural residents. We have also identified exemplar programs to help rural residents with disabilities access transportation for health care and will be releasing those as a case study series.

Improving Health for "Homebound" Older Adults in Rural and Urban Areas

Team: Carrie Henning-Smith, PhD, MPH, MSW; Dionne Bailey, MPH; Megan Lahr, MPH; Katie Rydberg, MPH, Sushma Shankar, BS

Goals: The U.S. population is aging, especially in rural areas, and most older adults would prefer to age at home. However, age is sometimes accompanied by changes in mobility and physical and mental functioning, and, in some cases, such functional limitations cause an older adult to be classified as "homebound"; that is, not able to leave their home without help, or at all. Being homebound is associated with poorer health outcomes, higher rates of hospitalization and emergency department use, and greater risk of social isolation, functional decline, and mortality. Despite the growing population of homebound older adults, little is known about how geographic and social context contributes to one's risk of being homebound. The purpose of this project is to address the current gap in understanding of how social and geographic context contributes to older adults' risk of being homebound in rural and urban areas.

Highlights: Using a nationally representative survey of older adults, we have identified rural-urban differences in the health and socio-demographic characteristics of people who are homebound. We also partnered with USAging, the national organization of Area Agencies on Aging (AAA), to hold a roundtable at their July 2025 national conference in order to get perspectives from rural-serving AAAs on challenges and successes serving rural residents who are homebound.

Katie and Carrie before the July roundtable event at the 2025 USAging conference in Chicago.

PROJECT HIGHLIGHTS, 2024-25

Measuring Rural-Urban Differences in Indigenous American Indian and Alaska Native Health

Team: Katy Backes Kozhimannil, PhD, MPA; Khadija Abdi, BS; Hailey Baker, MD; Alyssa Fritz, MPH; Kyle X. Hill, PhD, MPH; Julia Interrante, PhD, MPH; Ingrid Jacobson, MPH; Mariana Tuttle, MPH; Melissa Walls, PhD

Goals: In the United States, there are 574 federally recognized tribes and approximately 9.7 million Indigenous American Indian and Alaska Native (AI/AN) people. Many AI/AN people in the United States are rural residents, with 40% of AI/AN people living in rural areas, both on and off tribal land (13% live on reservations). AI/AN people also have lower life expectancy and face persistent challenges in access to and quality of health. AI/AN people living in rural areas may experience particular health risks. Among AI/AN people, rural residents tend to suffer worse health outcomes and have more challenges accessing care than urban AI/AN people, partly due to residing in remote locations. This project describes rural-urban differences in the health of AI/AN people and measures differences in health care access for AI/AN people in rural communities, identifying promising practices and opportunities to improve health for rural AI/AN people.

Highlights: Our team has completed a policy brief describing reasons that AI/AN residents experience delayed or forgone health care, a manuscript analyzing rural-urban differences in access to and outcomes of care among AI/AN adults in the US, and conducted a site visit of the Cherokee Indian Hospital, the culturally-centered health system that serves the Eastern Band of Cherokee Indians. A forthcoming case study will describe their model of care.

POLICY BRIEF
September 2025

UNIVERSITY OF MINNESOTA RURAL HEALTH RESEARCH CENTER

Reasons for Experiencing Delayed or Forgone Health Care among Rural American Indian/Alaska Native and Rural Non-Hispanic White Individuals, 2022

Ingrid Jacobson, MPH
Julia Interrante, PhD, MPH
Hailey A. Baker, BS
Mariana Tuttle, MPH
Katy B. Kozhimannil, PhD, MPA

Key Findings

- Almost one-fifth of rural American Indian/Alaska Native (AI/AN) people without access to Indian Health Service (IHS) care report experiencing delayed or forgone health care, a significantly higher percentage than rural AI/AN people with access to IHS care and rural white non-Hispanic people (18.0% vs 11.4% and 11.4%, p<0.05; Figure 1).
- Rural AI/AN people both with and without access to IHS care are more likely than rural non-Hispanic white people to cite issues with reliable transportation as reasons for experiencing delayed or forgone health care (13.2% and 10.9% vs 4.6%, p<0.001; Figure 2).
- Rural AI/AN people with access to IHS care are most likely to cite issues with health care appointment availability as reasons for experiencing delayed or forgone health care (15.4%), followed by rural AI/AN people without access to IHS care (11.4%) and rural non-Hispanic white people (7.9%, p<0.05; Figure 2).
- Rural AI/AN people with access to IHS care are more likely than rural non-Hispanic white people to cite issues with competing time commitments (15.2% vs 8.1%, p<0.05) as reasons for experiencing delayed or forgone health care (Figure 2).

rhrc.umn.edu

Purpose

Rural residents and American Indian/Alaska Native (AI/AN) people both experience challenges in health care access.[1–3] The Indian Health Service, a federally operated health system intended to fulfill the trust responsibility of the United States to Native nations, is a source of health care for approximately 2.8 million AI/AN people;[4] just under 30% of the 9.7 million AI/AN people alive today.[4,5] The purpose of this policy brief is to show reported reasons for experiencing delayed or forgone health care and how this differs between rural AI/AN and rural non-Hispanic white people as well as by Indian Health Service (IHS) care access among rural AI/AN people.

Approach

Data came from the 2022 National Health Interview Survey (NHIS), an annual survey conducted by trained interviewers through computer-assisted personal interviewing, face-to-face in respondents' homes.[4] We used NHIS-provided person-level sampling weights in all analyses to produce nationally representative estimates. Only rural residents, defined as living in a non-metropolitan county using the National Center for Health Statistics (NCHS) Urban-Rural classification scheme,[4] were included in this study. Individuals self-reporting AI/AN race or ethnicity, alone or in combination with other races and ethnicities, were categorized as AI/AN (N = 1,044), consistent with Indigenous-led recommendations for measuring AI/AN identity in research.[6] These were further stratified by those who reported access to IHS care (N=507) vs those who did not report access to IHS care (N=537). The mutually exclusive comparison group included individuals self-reporting as non-Hispanic white and non-AI/AN (N = 22,586).

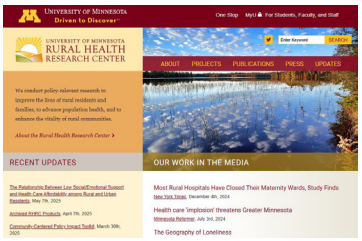
Individuals answered yes/no to survey questions on whether they had experienced delayed or forgone

Cherokee Indian Hospital, photo courtesy of Brittney Lofthouse, Cherokee Indian Hospital Authority

WHERE TO FIND OUR WORK

We strive to maintain an accessible, user-friendly website where people of all abilities and backgrounds can engage with our research. This effort resulted in metrics we are proud of for January 2024-June 2025.

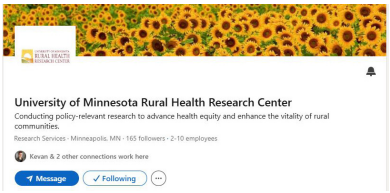
- **Overview**
  - Total # of website users: 19,918
  - Total # of sessions (single visit to the website): 27,325 (1.4 per user)



- **Content**
  - Total number of products downloaded: 3,441
  - Top 5 publications downloaded (number of downloads):
    - **"Loss of Hospital-Based Obstetric Services in Rural Counties in the United States, 2010-2022" (369)**
    - **"Information for Rural Stakeholders About Access to Maternity and Obstetric Care: A Community-Relevant Synthesis of Research" (331)**
    - **"Health Care Affordability and Medical Debt: Differences by Rurality, Region, and Socio-Demographic Characteristics" (142)**
    - **"Rural-Urban Differences in Midwifery Care During Childbirth in the US" (128)**
    - **"Risk Factors for Poor Health Among U.S. Older Adults in Rural and Urban Areas: Injury, Food Insecurity, and Lack of Social and Emotional Support" (114)**

Social Media

We are active on LinkedIn as a way to share our research (and research from other RHRCs) in an ever-changing social media landscape. Find us by searching for the University of Minnesota Rural Health Research Center on LinkedIn.



Rural Health Research Gateway

Our products from our RHRC grant are housed alongside the products of all other federally funded Rural Health Research Centers on the Rural Health Research Gateway (Gateway): www.ruralhealthresearch.org. Our work is also regularly highlighted through the Gateway's research recaps, and on an annual basis, we have an opportunity to share our research on their platform through webinars. UMNRHRC webinars are typically well attended, and this year was no exception. Our webinar, "Understanding Housing as a Social Driver of Health for Rural Residents" was the most viewed presentation on the Gateway from January through June 2024; our webinar "Access to Maternity Care in Rural U.S. Communities" was the most viewed from July through December 2024.

Expert Work Group

We have an Expert Work Group (EWG) for the RHRC grant, comprised of national stakeholders that help us identify urgent and emerging issues in rural health and provide feedback on the projects we undertake each year. The goal of the EWG is to provide our team with strategic guidance on RHRC grant projects, input on research questions and project design, connections to rural communities and stakeholders, advice on troubleshooting, feedback on research findings and implications, and support for effective dissemination and policy impact.

Expert Work Group Meeting, St. Paul, MN, February 2019.

JENNIFER BACANI MCKENNEY, MD

Physician Owner, Bacani/McKenney Clinic

Dr. Jennifer Bacani McKenney is a practicing Family Physician and serves as the Wilson County health officer in her hometown of Fredonia, a community of approximately 2500 people in southeast Kansas. She provides outpatient, inpatient, emergency department, surgical, and endoscopic services to her community. She serves on the local school board, on the Kansas Health Foundation Board, and as the President of the Kansas Academy of Family Physicians. She is Associate Dean for Rural Medical Education at the University of Kansas School of Medicine and is the founder of the Remote Scribe Company.

LISETTE BROWN, RN, BSN, PHN, CRHCP

Directory of Ambulatory Services, Plumas District Hospital

Lisette Brown is a public health nurse with a passion for rural medicine and a background in serving high risk maternal and newborn patients. In the last 27 years at Plumas District Hospital, she has served in multiple capacities, including Chief Nursing Officer and Chief Clinical Officer. She currently works as the Director of Ambulatory Services, overseeing two Rural Health Clinics and the Dental Clinic. Lisette is actively engaged in the promotion of the Plumas Model, to gain support for legislative change to allow continued access to maternity delivery services in underserved rural areas.

TOPHER JENTOFT, MD

Clinical Director, Chinle Comprehensive Health Care Facility

Dr. Topher Jentoft currently serves the Diné as Clinical Director at Chinle Comprehensive Health Care Facility after 10 years serving the White Mountain Apache Tribe at the Whiteriver Indian Hospital. While at Whiteriver, he served as Acting and then Deputy Director of the Emergency Department, Medical Director of the local EMS agency, and the made-up job of "Covid Czar", which included Coordinating the High-Risk Team during Alpha and Delta COVID-19 surges and Deputy Infection Control Officer during Omicron. His professional interests include blunting morbidity and mortality resulting from man-made inequities in health while working towards their ultimate resolution.

JENNIFER LUNDBLAD, PHD, MBA

President & CEO, Stratis Health

Dr. Jennifer Lundblad has served as President and CEO of Stratis Health for nearly 20 years. Dr. Lundblad has an extensive background in leadership, organization development, and program management in both non-profit and education settings. She has expertise in change management, dissemination of innovation, process and workflow analysis and redesign, rural-specific quality measurement, and organizational culture improvement across the continuum of care. Jennifer is a member of the national RUPRI (Rural Policy Research Institute) Health Panel, the NRHA Age-Friendly Interest Group, the Partnership for Quality Measurement Pre-Rulemaking Measure Review (PRMR) Hospital Committee, and serves on various other national and local boards and in committee leadership positions. She has an adjunct assistant professor appointment at the University of Minnesota School of Public Health.

BROCK SLABACH, MPH

Chief Operations Officer, National Rural Health Association

Brock joined NRHA in 2008 and currently serves as Chief Operating Officer. He was a rural hospital administrator for more than 21 years and has served on the board of the National Rural Health Association and the regional policy board of the American Hospital Association. Brock specializes in rural health system development that encompasses population health and the varied payment programs moving rural providers into value based purchasing models. Brock is the 2015 recipient of the Calico Quality Leadership Award of the National Rural Health Resource Center, received the American Society of Healthcare Pharmacists (ASHP) Board of Directors' Award of Honor for 2018 and the NRHA's President's Award in 2023. Brock earned a master of public health degree in health administration from the University of Oklahoma and is a fellow in the American College of Healthcare Executives.

PEGGY BROUSSARD WHEELER, MPH

Vice President, Policy, California Hospital Association

Peggy Broussard Wheeler serves as Vice President of Policy at the California Hospital Association (CHA). She is responsible for developing, advocating and executing public policies, legislation and regulations on behalf of CHA member hospitals at the state and national levels. Peggy serves as the Issue Manager for Health Equity, Workforce, Housing and patients experiencing Homelessness, Social Determinants of Health, Telehealth, Language Access, Criminal Justice and Hospital-Prison issues. In addition to the topical focus areas listed above, Ms. Wheeler has an extensive background and knowledge of rural healthcare and is the lead staff of the California Critical Access Hospital Network (CCAHN). Peggy holds a master's of public health degree in program/clinic administration from the University of California, Berkeley.

KINA WHITE, DRPH

Office of State Health Planning & Research Director, Mississippi State Department of Health

Dr. Kina White is the Director of the Office of State Health Planning & Research at the Mississippi State Department of Health. Dr. White is the principal investigator for multiple federal grant programs and serves as the state lead for the Age-Friendly Public Health Systems Initiative with Trust for America's Health. Dr. White is a published author and serves on the National Rural Age-Friendly Initiative Interest Group, the National Center to Reframe Aging Advisory Board, and the Global Alzheimer's Platform Foundation Inclusive Research Initiative Advisory Committee. She is a board-certified fellow in the American College of Healthcare Executives (FACHE) and currently serves as Regent for the state chapter of the ACHE of Mississippi.

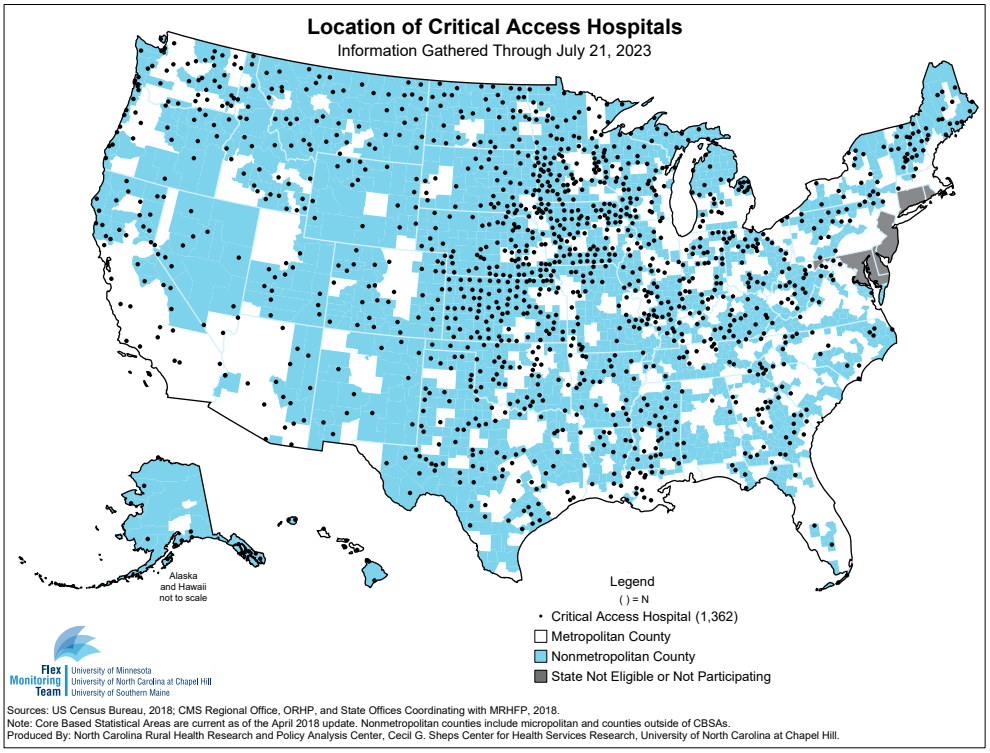
Flex Monitoring Team

FLEX MONITORING TEAM

The Flex Monitoring Team (FMT) is a partnership of the Rural Health Research Centers at the University of Minnesota (UMN), the University of North Carolina-Chapel Hill, and University of Southern Maine, led by the team at UMNRHRC. This team has led the Medicare Rural Hospital Flexibility Program Evaluation cooperative agreement for over 20 years and focuses on evaluation of core areas of the federal Flex Program providing support for Critical Access Hospitals (CAHs) across the country: Quality Improvement, Operational and Financial Improvement, and Community Impact, including population health and Emergency Medical Services (EMS). The UMNRHRC FMT staff complete a variety of projects in various topics each year, often focused on quality improvement in CAHs.

The FMT manages a website, **flexmonitoring.org**, that provides access to all FMT products, including policy briefs, data reports, and briefing papers. The FMT is also responsible for maintaining **a full list and map** of all CAHs across the country.

Additionally, the FMT operates the **Critical Access Hospital Measurement and Performance Assessment System (CAHMPAS) website**, which includes tools for exploring CAHs' performance on financial, quality, and community benefit measures.



Flex
Monitoring
Team
University of Minnesota
University of North Carolina at Chapel Hill
University of Southern Maine

SELECTION OF FMT PROJECTS

National CAH Quality Inventory and Assessment

Team: Megan Lahr, MPH; Robert Barclay, MPH; Madeleine Pick, MPH; Alyssa Furukawa, MPH

Goals: This project is entering the third year of collecting, analyzing, and disseminating nationally standardized information on CAH quality improvement (QI) processes, data tracking, and quality reporting from the CAH Quality Inventory and Assessment ("Assessment"). The Assessment will include questions related to QI infrastructure in CAHs, service provision details, and related quality measurement efforts.

Highlights: Our team released the national report from Year 2 of the Assessment in May 2025, and has been updating the Assessment based on CAH and State Flex Program feedback to prepare for fielding of Year 3 in Fall 2025.

Characteristics of CAHs with Strong Quality and Financial Indicators

Team: Megan Lahr, MPH; Robert Barclay, MPH

Goals: The goal of this project was to investigate the characteristics of CAHs with strong quality and financial indicators. This project will investigate CAHs that fit into four categories: 1) Strong Quality and Strong Finance; 2) Strong Quality and Low Finance; 3) Low Quality and Strong Finance; 4) Low Quality and Low Finance, and assess CAH characteristics of each group. Our team also interviewed CAHs in the strong quality and finance category to identify process and strategies related to connecting quality and finance in their facilities.

Highlights: This project resulted in two products. The first provided a quantitative analysis of characteristics associated with CAHs that have strong quality and finance metrics, and the second is a qualitative analysis of interviews with CAH leadership regarding their strengths in both quality and finance.

Quality of Maternity Care in CAHs

Team: Madeleine Pick, MPH; Megan Lahr, MPH

Goals: The objectives of this project were to 1) describe the quality of maternity care in CAHs, 2) identify relationships between maternity care quality performance and CAH characteristics such as system affiliation, size, volume, and location, and 3) identify quality measures related to maternity and birth outcomes that are most feasible and relevant for CAHs and rural hospitals. We also conducted case studies with several CAHs to learn more about maternity care in their communities, including challenges they face and successes they have achieved.

Highlights: Three products have been completed as a part of this project. The first is an environmental scan of obstetric training available across the country, allowing CAHs to more readily find available trainings near them. The second contains analyses of CAH quality data on maternal health-related measures. And the third is a case series documenting experiences of eight CAHs with strong quality metrics from across the country and their experiences in providing labor and delivery services as well as working with perinatal quality collaborative.

Use of AIM Patient Safety Bundles for OB Quality in CAHs

Team: Madeleine Pick, MPH; Megan Lahr, MPH

Goals: The objective of this project is to build on previous FMT work and provide information about which CAHs are and are not using AIM Patient Safety Bundles, the challenges and successes CAHs have experienced with these bundles, and how they could be adapted to better suit CAH and other rural facilities.

Highlights: This project has just started, and we anticipate using CAH Quality Inventory and Assessment data related to AIM bundles, as well as qualitative interviews with CAHs, to provide an in-depth look at CAH use of AIM bundles.

University of Minnesota
Rural Health Program

UNIVERSITY OF MINNESOTA RURAL HEALTH PROGRAM

In fall 2020, we launched the **University of Minnesota Rural Health Program** to provide training and support for addressing public health challenges in rural Minnesota, and to connect local experts with one another and with national research and policy work. Katy Backes Kozhimannil and Carrie Henning-Smith co-lead this program, alongside lead staff person Katie Rydberg. With funding from the Office of Academic and Clinical Affairs and Clinical and Translational Science Institute at the University of Minnesota, the Rural Health Program has three main components:

Rural Health Equity Postdoctoral Program

The primary goal of this **program** is to train scholars who will become innovative research leaders in rural health. Our postdoctoral associates receive mentorship and support from the RHRC leadership and staff and closely collaborate on projects. The postdoctoral associates also have an opportunity to develop and implement an independent rural health policy research project specifically focused on rural Minnesota.

Alexis Swendener joined us as a postdoctoral associate in 2022, bringing expertise in farm families, LGBTQ health, and the social determinants of health for rural residents. Alexis contributed to RHRC projects on rural housing, including Minnesota-specific analyses of rural/urban differences in housing quality.

Clara Busse joined us as a postdoctoral associate in 2024. She brings expertise in epidemiologic methods and analyses to the RHRC Maternity Care Team. Clara's research interests include postpartum health and rural maternity care access.

Anna Shetler completed her PhD at Pennsylvania State University and joined us as a postdoctoral associate in August 2025. She brings expertise in demography and population health sciences. Anna will be an active collaborator on multiple RHRC research projects in the upcoming year.

Project REACH (Rural Experts Advancing Community Health)

Project REACH (Rural Experts Advancing Community Health) is a year-long program that provides diverse community leaders in rural Minnesota with health policy and leadership training. Participants will learn to frame health policy challenges and how to communicate effectively with state legislators and other policy-makers.

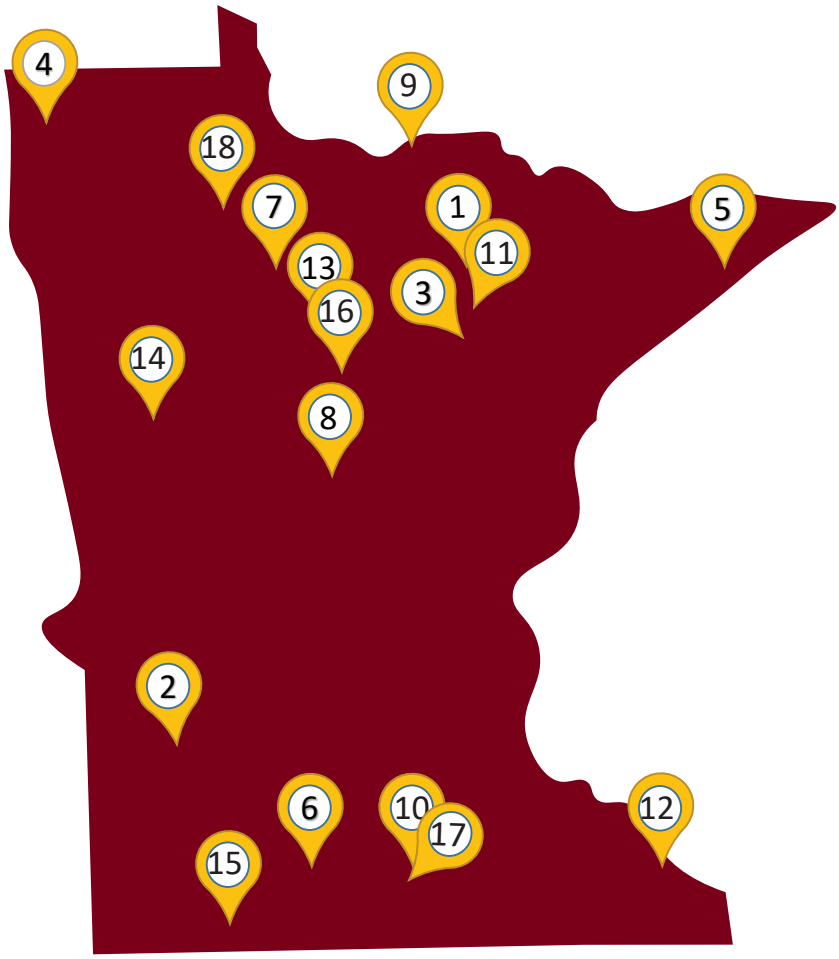
The **fourth cohort** began the year-long program in August 2024:

- Christina Daniel-McKee is the executive director of a hunger relief organization in International Falls, Minnesota. During Project REACH, she focused on addressing high rates of type 2 diabetes in Koochiching County. Her policy work aims to increase access to healthy food through the establishment of a food access land trust.
- Ana Garza, CHW, is a community health worker from St. Peter, Minnesota. During Project REACH, she focused on addressing high rates of type 2 diabetes in Nicollet County. Her policy work aims to create a state-wide mandate for a front-of-package warning labels on ultra-processed food.
- Shawn Savolainen is a dialysis technician from Hibbing, Minnesota. During Project REACH, she focused on addressing high rates of hospitalization and mortality among dialysis patients in St. Louis County. Her policy work aims to expand access to medical transportation.
- Dan Wilson is a farmer from Winona County. During Project REACH, he focused on reducing nitrate contamination in water in Winona and Fillmore Counties. His policy work aims to utilize community health workers to do well water testing and provide health education on the impact of nitrates on health.
- Fatuma Youb, MPH, is a public health advocate from Central Minnesota. Through Project REACH, she focused on addressing high rates of neonatal abstinence syndrome in Cass County. Her policy work aims to increase medical transportation for pregnant individuals by reducing barriers to transportation.

A **fifth cohort** began the program in August 2025:

- Siham Amedy is a community project leader in Northwest Minnesota. Through Project REACH, she will focus on developing policies to improve youth mental health services in Becker and Otter Tail Counties.
- Luke Ewald is a public health specialist from Jackson County. Through Project REACH, he will improve food access policy in Jackson County.
- Andrew Kotz is an electrical engineer from Pine River, Minnesota. Through Project REACH, he will focus on improved access to energy assistance and home weatherization programs in Cass County.
- Deisy Cañón Lovera is a regional manager for a non-profit in Southern Minnesota. Through Project REACH, she will work to improve access to cancer screenings and related care in rural Southern Minnesota.
- Juleigh Prosser is a retired entrepreneur from Clearbrook, Minnesota. Through Project REACH, she will work to create dementia friendly communities in Clearwater County.

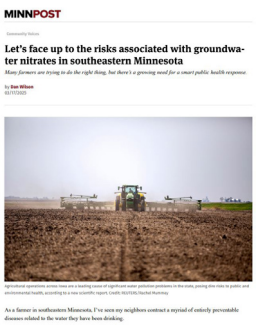
PROJECT REACH PARTICIPANTS, 2021-25



1. Side Lake *Ann Bussey, MS* Cohort 1 	**7. Bemidji** *Ben Cahill, CHW* Cohort 3 	**13. Walker** *Fatuma Youb, MPH* Cohort 4 
2. Montevideo *Leah Lehtola, BS* Cohort 1 	**8. Brainerd** *Shelly Muñoz, MS* Cohort 3 	**14. Frazee** *Siham Amedy* Cohort 5 
3. Grand Rapids *Adam Pavek, PharmD* Cohort 1 	**9. International Falls** *Christina Daniel-McKee* Cohort 4 	**15. Jackson** *Luke Ewald* Cohort 5 
4. Hallock *Jeanna Kujava, RN, BA* Cohort 2 	**10. St. Peter** *Ana Garza, CHW* Cohort 4 	**16. Pine River** *Andrew Kotz* Cohort 5 
5. Grand Marais *Jodi Tervo Roberts, MS* Cohort 2 	**11. Hibbing** *Shawn Savolainen* Cohort 4 	**17. Mankato** *Deisy Cañón Lovera* Cohort 5 
6. New Ulm *Erin Schwab, BS* Cohort 2 	**12. Winona** *Dan Wilson* Cohort 4 	**18. Clearbrook** *Juleigh Prosser* Cohort 5 

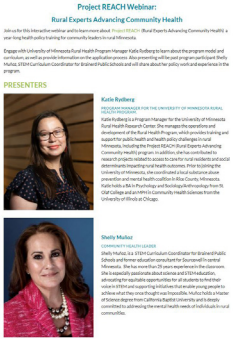
The alumni from the Project REACH program have continued to make an impact in their rural Minnesota communities and across the state:

- Jodi Tervo Roberts utilized the Project REACH Alumni Fund in March 2025 to travel to the 2025 National Early Hearing Detection and Intervention Conference in Pittsburgh, PA. At this conference, she presented research focused on rural-urban differences in access to early intervention resources, which stems from her policy work in the Project REACH program.
- Dan Wilson wrote an op-ed in MinnPost related to his policy work about nitrate contamination in private wells and also presented his work to the Minnesota Department of Health Southeast Minnesota Health Equity Network in February 2025. In June 2025, he was also selected to participate in the Community Advocates Program at the UMN Masonic Cancer Center.
- Shelly Muñoz presented about her work in the Project REACH program during a webinar with 100 Rural Women in February 2025. In June 2025, she was selected to participate in the Policy Fellows Program at the UMN Humphrey School of Public Affairs.
- Jeanna Kujava has continued her work from the program focused on reducing substance use in Kittson County through her leadership of the Kittson County Substance Abuse Prevention Task Force. This Task Force is leveraging opioid settlement funds for substance abuse prevention activities within the Kittson County.


MINNPOST

Let's face up to the risks associated with groundwater nitrates in southeastern Minnesota

Many farmers are trying to do the right thing, but there's a growing need for a smart public health response.


Project REACH Webinar:
Rural Experts Advancing Community Health

PRESENTERS


Kittson County Enterprise

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Substance abuse prevention task force gains traction

By Editor | February 6, 2024 | 0

By Anna Jachola

The Kittson County Substance Abuse Prevention Task Force has been working hard to establish a presence since the county received opioid settlement funds in early 2021.

In late 2021, there was a nationwide settlement regarding the opioid crisis and each state received money, which is doled out to each county. Kittson County was originally set to receive $10,000 each year over 18 years. As of the end of 2022, the task force had received $35,294.33. Of that, the group placed $20,000 into a long-term CD.

With opioid payments received in 2023, the total funding received is up to $44,695.68. Expenses so far have been just over $2,000 leaving the available funds at $22,674.55.

During Project REACH, there are monthly sessions via Zoom that feature various lecturers and guest speakers who discuss aspects of the policy process and best practices in advocacy and creating equitable policy change. We have had a wide range of experts in rural health and policy present in these sessions, including the following:

- Erica Barnes, MS, CCC-SLP Executive Director, MN Rare Disease Council
- Ann Bussey, MS, former Project REACH participant
- Alyssa Fritz, MPH, RD, CLC, Research Fellow, RHRC
- Betsy Haugen, MLIS, and Molly Niehls, MLIS, Minnesota Legislative Library
- Jeff Howison, PhD, Senior Research Analyst at the Minnesota State Demographic Center
- Isabel Huot-Link, MHR, Jenifer McGuire, PhD, and Joe Rand, PhD, Educators with the University of Minnesota Extension
- Monica Hurtado, Policy Director for Voices for Racial Justice
- Teresa Kittridge, Executive Director of 100 Rural Women
- Allison Liuzzi, PhD, Research Manager and Project Director of Minnesota Compass at Wilder Research
- Molly Malone, MBA, County Commissioner, Murray County, Minnesota
- Joan Naymark and Michael Jon Olson, Directors of Minnesotans for the American Community Survey (MACS)
- Anita Provinzino, District Administrator, Northern St. Louis County Soil and Water Conservation District
- Pablo Obregon, Director of Community Growth for Willmar, Minnesota
- Senator Aric Putnam, Senator, Minnesota Senate District 14
- Sarah Sandgren, Health Care and Aging Outreach Director, Office of Senator Tina Smith

Each Project REACH participant is paired with two University of Minnesota based learning partners. These learning partners help the participants apply what they have learned in the program's monthly group session to the health policy issue in their rural community. They also connect participants to additional resources and information that are valuable for each person in their advocacy work.

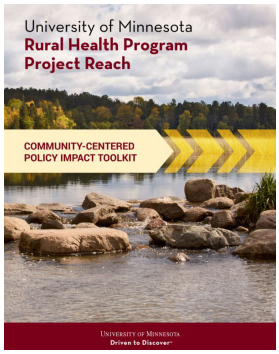
We are greatly appreciative to the following Project REACH learning partners for their contributions to the program for Cohorts 4 and 5:

- Zobeida Bonilla, PhD, MPH, School of Public Health (Ana Garza)
- Kirsten Cruikshank, MSW, Memory Keeper Medical Discovery Team (Juleigh Prosser)
- Kiara Ellis, MSW, Masonic Cancer Center (Deisy Cañón Lovera)
- Alyssa Fritz, MPH, RD, CLC, RHRC (Christina Daniel-McKee)
- Abby Gold, PhD, UMN Extension (Luke Ewald)
- Joel Haskard, UMN Extension (Andrew Kotz)
- Carrie Henning-Smith, PhD, MPH, MSW, RHRC (Dan Wilson and Juleigh Prosser)
- Julia Interrante, PhD, MPH, RHRC (Shawn Savolainen and Luke Ewald)
- Mary Jo Katras, PhD, UMN Extension (Christina Daniel-McKee)
- Katy Backes Kozhimannil, PhD, MPA, RHRC (Fatuma Youb and Siham Amedy)
- Eric Lind, PhD, Center for Transportation Studies (Shawn Savolainen)
- Madeleine Pick, MPH, Rural Health Research Center (Deisy Cañón Lovera)
- Jodi Tervo Roberts, MS, Rural Health Research Center (Andrew Kotz)
- Megan Schossow, MPH, UMASH (Dan Wilson)
- Kyle Shelton, PhD, Center for Transportation Studies (Fatuma Youb)
- Mariana Tuttle, MPH, RHRC (Ana Garza)
- Lindsey Weiler, PhD, College of Education and Human Development (Siham Amedy)

Project REACH alumni, staff, and leaders at the Minnesota Rural Health Association Conference in Duluth, MN.

Project REACH participant Dan Wilson and Katie Rydberg presented at the July 2025 Engaged Summer Scholars Institue.

This year we published the **Community-Centered Policy Impact Toolkit**. The Community-Centered Policy Impact Toolkit is a framework designed to help guide individuals through the policy process to make an impact on health issues in their communities. While initially designed for Project REACH and based on a policy curriculum taught at the University of Minnesota School of Public Health, the strategies outlined in the toolkit may be broadly useful to rural community leaders who aim to effectively communicate with policymakers about local health problems. The toolkit follows an example of the policy work completed by Ann Bussey, member of the first cohort of the Project REACH program, presented as it was written and has been shared in her advocacy work.



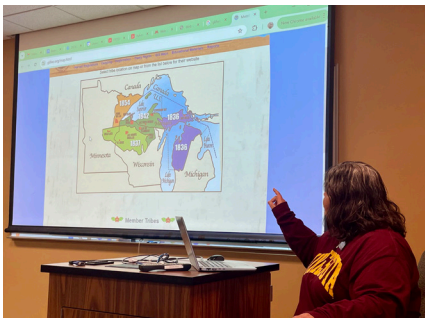
Rural Collective

The **University of Minnesota Rural Collective** provides a forum for networking, learning, and collaborating across the University of Minnesota system with the ultimate aim of improving health, quality of life, and community resources for rural people and places throughout Minnesota and across the US. The Collective has an active and growing membership directory, and began regular meetings in spring 2021. As of July 2025, the Collective has a membership of more than 180 University of Minnesota staff, postdocs, and faculty, along with 35 affiliated centers and institutions from across all University campuses and the Extension.

This past year, the Rural Collective hosted two in-person events. In October 2024, the Rural Collective gathered at the Cloquet Forestry Center for a gathering focused on the work of the Forestry Center and the efforts of the University of Minnesota Extension in tribal communities in Northern Minnesota. The Rural Collective gathered again at the Mid-Central Research and Outreach Center in Willmar in April 2025. In addition to time for networking for Rural Collective members, this meeting provided opportunities to learn about the community-centered work conducted by the University of Minnesota Extension in Southwest Minnesota.

The Rural Collective also holds biannual virtual meetings. In September 2024, the virtual meeting featured a presentation by Kiara Ellis and Rebekah Pratt about the work of the Masonic Cancer Center. In April 2025, the virtual Rural Collective meeting featured a presentation by Laurie Van Egeren, Vice Provost for Public Engagement at the University of Minnesota.

Carrie and Katy enjoying the sunshine outside the Cloquet Forestry Center before the Rural Collective gathering.



Learning about efforts of the UMN Extension in tribal communities in northern Minnesota.

Stopping for a pick-me-up at MiigWitches Brew, a Native-owned drive-thru coffee shop on the nearby Fon du Lac reservation.

Carrie kicking off the April, 2025 gathering of the Rural Collective in Willmar, MN.

Learning about the community-centered work conducted by the UMN Extension in Southwest Minnesota.

Group photo of members after a successful Rural Collective gathering in Willmar, April 2025.

Other Rural Health Research and Programs

OTHER RURAL HEALTH RESEARCH AND PROGRAMS

Rural Maternal Health Data and Support Program (RMHD)

Team: Katy Backes Kozhimannil, PhD, MPA; Julia Interrante, PhD, MPH; Kevan O'Hanlon, MPH; Khadija Abdi, BS; Clara Busse, PhD, MPH; Caitlin Carroll, PhD; Emily Sheffield, MPH; Alonson Quijano-Ruiz, MA

The RHRC maternity team collaborates with our partners at Mission Analytics Group, Inc. on the Rural Maternal Health Data Support and Analysis Program (RMHD), a cooperative agreement funded by the Federal Office of Rural Health Policy (FORHP). Mission Analytics takes the lead on monitoring and technical assistance to support rural maternal health networks, and RHRC is leading the analysis and research tasks. In the initial year of the RMHD program, the RHRC maternity team is leading two research projects:

- Financial status of rural hospitals and obstetric service status
    - Finances are frequently cited as a primary reason for obstetric unit closure. As financial distress persists as a challenge for rural hospital viability, it is important to understand the financial situation of hospitals with and without obstetric services and the financial context for maternity care in rural communities. This project describes the financial stability and hospital longevity of rural and urban hospitals with and without obstetric care, and it will describe financial decisions around obstetric service provision in rural communities in order to better understand the factors that lead to—or could prevent—obstetric unit closures within health care systems and networks currently providing maternity care in rural communities.
    - Highlights: The team has conducted a mixed methods analysis of survey data from rural hospital administrators, focusing on the financial challenges they face in providing obstetric care. We have also added multiple key financial variables to our prior dataset which identifies hospital obstetric status using an enhanced algorithm; we will use these data to study the relationship between obstetric care status and hospital finances.
- Rapid response project on rural maternal health: public data infrastructure on hospital-based obstetric care in US counties
    - The rapid response project is designed to support analyses to enhance public awareness and understanding of the unique considerations associated with providing obstetric care in rural areas and opportunities for improving rural maternal health care. The goal of this year's project was to build a public health database with information on hospital-based obstetric care status, by state and county.
    - Highlights: In summer 2025, we published a publicly available county-level dataset with information on whether each US county had hospital-based obstetrics care in each year 2010-202. We also contributed information to a data repository compiled by our colleagues at Mission Analytics to support technical assistance to rural maternity care networks across the US.

Transforming Maternal Health (TMaH) Implementation Support

Team: Julia Interrante, PhD, MPH; Kevan O'Hanlon, MPH; Katy Backes Kozhimannil, PhD, MPA; Khadija Abdi, BS; Clara Busse, PhD; Caitlin Carroll, PhD

Women enrolled in Medicaid, including those in underserved communities and rural areas, often experience worse maternal and infant health outcomes. To address this critical issue, the Centers for Medicare & Medicaid Services (CMS) launched the Transforming Maternal Health (TMaH) Model. The RHRC maternity team is partnering with NORC, who is leading the implementation team for TMaH, with a focus on development and implementation of value-based care programs that help achieve the goals of TMaH. Our role in supporting model implementation across participating state Medicaid agencies is focused on providing expert input on considerations that are relevant for rural patients and health care providers, safety-net providers, and Indigenous people/tribal communities. Julia Interrante serves as lead coach providing technical assistance for two TMaH states that serve a high portion of rural and/or Indigenous patients.

INRPHA

Team: Carrie Henning-Smith, PhD, MPH, MSW; Leif Jensen, PhD (Penn State); Shannon Monnat, PhD (Syracuse University); John Green, PhD (Mississippi State University); Lori Hunter, PhD (University of Colorado Bolder); Sushma Shankar, BS

Interdisciplinary Network on Rural Population Health and Aging (INRPHA). INRPHA is a multi-institution collaboration led by Carrie Henning-Smith (as principal investigator) that draws together researchers from across the United States with interests in rural population health and aging. This network is funded by the National Institute on Aging and facilitates innovative research on health and aging trends among different rural populations and regions in the United States.

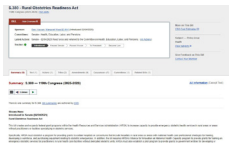
Results and Impact on Rural Health, 2024-25

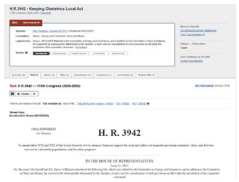
POLICY AND PUBLIC IMPACT

Policy Engagement

We are proud of the impact of our work on programs, legislation, and policy discussions at the local, state, and federal levels.

Over the past year, RHRC experts received frequent invitations to share our research findings and relevant insights with key individuals and organizations, and our work has been cited in major policies and reports – at the federal, tribal, regional, state, and local levels. Several examples are described below:

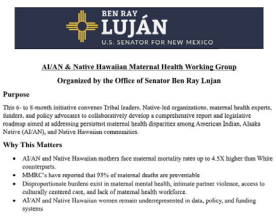




- Katy Kozhimannil and Julia Interrante regularly consult with federal legislators and staff on efforts to improve equitable access to obstetric services in rural areas. Recent contacts include those with the U.S. Senate Finance Committee, the U.S. House Ways and Means Committee, and the offices of Senators Tina Smith (MN), Maggie Hassan (NH), Ron Wyden (OR), Ben Cardin (MD) and Representatives Lauren Underwood (IL), Jason Smith (MO), and Matt Cartwright (PA). These conversations and RHRC research informed two recent pieces of federal legislation: the Keeping Obstetrics Local Act (re-introduced in 2025) and the Rural Obstetrics Readiness Act (re-introduced in 2025).

Hannah MacDougall at the Capitol Rotunda speaking in support of legislation that aims to address medical debt on behalf of rural Minnesotans.

- Carrie Henning-Smith, Hannah MacDougall, and Mariana Tuttle consulted with staff at the Minnesota Attorney General's Office on several occasions from 2024-2025 on the issue of medical debt especially from the perspective of rural residents. They drafted a letter of support for the Medical Debt Reset Act (introduced in the 94th Minnesota Legislature), and Hannah spoke at a Rally at the Rotunda on behalf of the potential impact of the act to rural communities.



- Katy Kozhimannil received an invitation in May 2025 to join a working group through the office of U.S. Senator Ben Ray Luján on Improving American Indian, Alaska Native, and Hawaiian Native Maternal Health. The group will write a Congressional Report on the topic, and Katy and Alyssa Fritz will lead the writing on the section on rural Native American maternal health.

Emily (third from right), and other Minnesota advocates, after meeting with U.S. Senator Amy Klobuchar (center) at the NRHA Rural Health Policy Institute.

- In February 2025, Katy Kozhimannil and Emily Sheffield attended the NRHA Rural Health Policy Institute in Washington, D.C., where they met with several federal legislators and staff — including U.S. Representative Brian Finstad (MN) — to share recent RHRC research findings.

- Carrie Henning-Smith was an invited speaker at the meetings of various rural-relevant policy and leadership groups, including the providing the plenary address at the 2025 Illinois Institute for Rural Affairs and Illinois Governor's Rural Affairs Council Annual Rural Community Economic

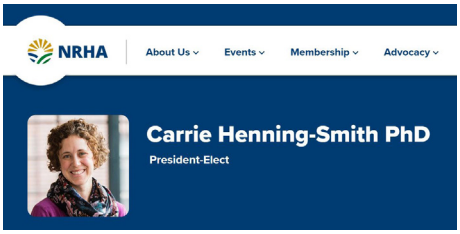
Development Conference in Springfield, Illinois. Carrie was also the keynote speaker for the 2024 University of Minnesota Extension Department of Family, Health and Wellbeing Annual Conference and gave the 2025 Annual Chesley Lecture for the Minnesota State University Mankato Chesley Center on Aging.

- Carrie participated in the 10th annual meeting of the Aspen Institute's Health Strategy Group in June 2025. The focus of the meeting was on rural health and Carrie wrote the first of three commissioned papers. The meeting was co-chaired by former U.S. Health and Human Services (HHS) Secretary Kathleen Sebelius and former U.S. Senate Majority Leader William Frist. Other participants included additional former HHS Secretaries, a former U.S. Surgeon General, current and former Presidents of the National Academy of Medicine, and other leaders in government, business, health care, and philanthropy.

Carrie, alongside former U.S. Senate Majority Leader William Frist, and former HHS Secretary Kathleen Sebelius at the Aspen Institute's Health Strategy Group.

- Megan Lahr, Julia, Katy, and Carrie provided input upon request to Senator Jerry Moran (KS) and Senator Tina Smith (MN) on the recently introduced Rural Emergency Hospital Improvement Act (2024).

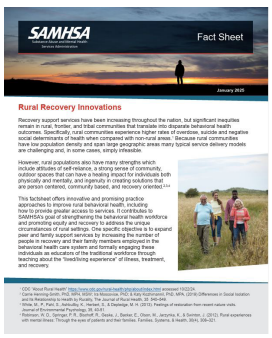
- Carrie is the President Elect of the National Rural Health Association (NRHA), the leading professional organization in rural health, with approximately 20,000 members. Carrie's presential term will be in 2026.



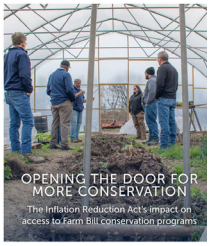
- Katie Rydberg consulted with National Alliance to End Homelessness on the housing needs of rural older adults on a report for the U.S. Senate Special Committee on Aging.

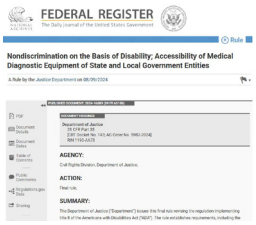
- Hannah Neprash served on the U.S. Department of Health and Human Services Hospital Cyber Resiliency Project.

- RHRC research has been recently cited in numerous government and policy stakeholder documents, including:
  - Substance Abuse and Mental Health Services Administration (SAMHSA). January 2025. *Rural Recovery Innovations: Fact Sheet* (2025)
  - U.S. Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA) Fiscal Year 2025 Justification of Estimates for Appropriations Committees (2024)
  - U.S. Department of Health and Human Services Assistant Secretary for Planning and Evaluation (ASPE). October 2024. *Access to Health Care in Rural America: Current Trends and Key Challenges*. (2024)



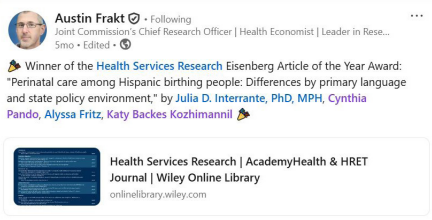
- *Opening the door for more conservation: The Inflation Reduction Act's impact on access to Farm Bill conservation programs report* (2024), Institute for Agriculture and Trade Policy
- U.S. Department of Health and Human Services. May 2024. *Final Rule: Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance.* (2024)
- U.S. Department of Justice. January 2024. *Nondiscrimination on the Basis of Disability; Accessibility of Medical Diagnosis Equipment of State and Local Government Entities.* Final rule. (2024)
- Numerous National Rural Health Association (NRHA) policy briefs and white papers, including on the topics of rural hospital cybersecurity, obstetric readiness in rural hospital lacking maternity units, rural maternal health, and the role of broadband in rural health





Honors and Awards

RHRC researchers Julia Interrante, Katy Kozhimannil, and Alyssa Fritz, with colleague Cynthia Pando were honored to receive the 2025 John M. Eisenberg Article of-the-Year Award from the top-in-our-field journal, Health Services Research. Their article, entitled *"Perinatal care among Hispanic birthing people: Differences by primary language and state policy environment"* was honored as the top article of the year published in the journal.



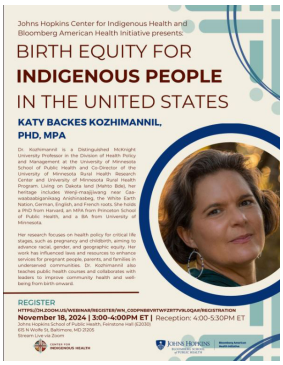
In 2024, Katy Kozhimannil was invited to serve on the Women's Health committee for the National Academy of Medicine Initiative on Vital Directions for Health and Health Care. Katy was sought out for her expertise on rural women's health, Indigenous maternal health, and maternity care access.

Carrie Henning-Smith was honored with a University of Minnesota McKnight Presidential Fellowship for 2022-2025 in recognition of her work on rural health. Carrie was also appointed to the Board of Directors for CentraCare, a major health care system serving central and western Minnesota. She was chosen for her rural health expertise, and her term began in September 2023.

Alyssa Fritz, Alexis Swendener, and Carrie Henning-Smith won Rural and Environment Research Award Honorable Mention in 2025 for their presentation entitled, "A Policy Analysis of Elder Abuse Laws: Examining Differences in Abuse Type Coverage and Reporting Laws by Rurality" from the American Public Health Association (APHA) Aging & Public Health section.

*Attendees at the ribbon-cutting event for the **CentraCare Regional Campus St. Cloud**, a new medical school campus collaboration between the UMN Medical School and CentraCare.*

In November 2024, Katy Kozhimannil was invited to present the Keynote Address for Native American Heritage month at Johns Hopkins Bloomberg School of Public Health, in collaboration with the Center for Indigenous Health. Her presentation was entitled "Birth Equity for Indigenous People in the US."



RHRC staff have received many commendations, including spring 2024 "Spot Awards" from the School of Public Health presented to Katie Rydberg and Mariana Tuttle for their exceptional work on the Rural Health Program and the growing scope of the RHRC, respectively. Mariana also received a Spot award in April 2025 and was awarded a major School-wide honor: the Judy C. Peterson Staff Excellence Award, in June 2025. She received this at the June 2025 Faculty and Staff Recognition Ceremony, at which Carrie was also honored for 10 years of service to the School of Public Health.

Above: Mariana receiving her award from Dean Pettigrew. Below: Carrie, alongside others celebrating 10 years of service to SPH.

From 2024-2025, RHRC research assistants have demonstrated success at the University of Minnesota School of Public Health in school-wide competitions. In 2024, FMT research assistant Carson Crane, MPH, won "Best Poster" at Research Day and "Best Presentation" in the Public Health Administration and Policy (PHAP) program. In 2025, RHRC research assistant Emily Sheffield, MPH, won "Best Poster" in the Staff/Community Member Category at the UMN Women's Health Research Conference.

RHRC research assistant Emily Sheffield presenting her poster, for which she won an award at the UMN Women's Health Research Conference.

FMT research assistant Carson Crane presenting her masters project, for which she won a program-wide award in May 2024.

Press Coverage, 2024-25

Our researchers maintain working relationships with media contacts and recent work has been covered by local media in rural communities as well as national media like *NPR*, *KFF Health News*, *USA Today*, *Vox*, and more. Additionally, our staff works with offices from the broader University of Minnesota media relations, University of Minnesota School of Public Health's media relations office, and the OACA and CTSI media teams, to produce research summaries and media-oriented news releases to help amplify our products, and also to make direct connections with additional local & national reporters who cover rural health.

From January 2024 through July 2025, our research was cited in 129 different press pieces, including news articles, radio interviews, and television interviews. These range in reach from smaller local newspapers (e.g. *Alexandria Echo Press*) to state-level (e.g. *Minnesota Star Tribune*, *Arkansas Advocate*) and large national media outlets (e.g. *New York Times*, *Axios*). We also leverage opportunities to share our research further in timely commentaries and op-eds published in major media outlets. In 2024-25, our research was featured in 90 unique media outlets, from local to national, including:

- The 19th
- Alexandria Echo Press
- Arkansas Advocate
- Axios Twin Cities
- Ball State Daily News
- Becker's Health IT
- Charleston Post and Courier
- The Daily Montanan
- The Daily Yonder
- Duluth News Tribune
- El Obsevador
- Farm Week Now
- Fierce Healthcare
- Forbes
- Greater Dakota News Service
- Healio
- Hometown Source
- ICT News
- InForum
- Isanti-Chisago County Star
- JAMA Clinical Reviews
- KFF Health News
- Kiowa County Press
- Lamar Ledger
- Lansing City Pulse
- Lexington Herald Leader
- Medical Xpress
- Medscape
- Michigan News Channel
- Minnesota Daily
- Minnesota News Network
- Minnesota Public Radio
- Minnesota Reformer
- Minnesota Star Tribune
- MinnPost
- Minot Daily News
- Mirage News
- Missouri Independent
- Modern Healthcare
- MSN
- The New York Times
- Newsweek
- Next Avenue
- North Carolina Health News
- NPR
- Owatonna People's Press
- Park Rapids Enterprise
- Physicians Weekly
- Pipestone County Star
- Plumas Sun
- Public News Service
- Santa Fe New Mexican
- ScienceNews
- Sierra Nevada Ally
- St. Paul Pioneer Press
- TPT Almanac
- US News & World Report

Presentations, 2024-25

Members of our team have presented at an array of unique events, from academic conferences to policy panels, including:

- 100 Rural Women, Webinar, Feb 2025
- AcademyHealth Annual Research Meeting: Baltimore, MD Jul 2024; Minneapolis, MN Jun 2025
- Age-Friendly Minnesota Council, Virtual, Mar 2025
- American College of Healthcare Executives, Nov 2024, Bloomington, MN
- American Public Health Association Annual Conference, Oct 2024, Minneapolis, MN
- Association for Public Policy Analysis and Management Research Conference, Nov 2024, National Harbor, MD
- Citizens League Mind Opener, Nov 2024, Virtual
- Colorado Hospital Association Maternal Health Summit, Apr 2025, Virtual
- Dancing Sky Area Agency on Aging Webinar, February 2024, Virtual
- DONA International Summit, October 2024, Virtual
- EduCivic Speaker Series, March 2025, Hopkins, MN
- The Foundation for Social Connection Webinar, December 2024, Virtual
- Georgetown University McCourt School of Public Policy Webinar, January and May 2025, Virtual
- IGNITE the Spark Annual Conference, October 2024, Minneapolis, MN
- Illinois Institute for Rural Affairs and Illinois Governor's Rural Affairs Council Annual Rural Community Economic Development Conference, February 2025, Springfield, IL
- Johns Hopkins Center for Indigenous Health Native American Heritage Month Keynote Address, November 2024, Virtual
- Minnesota Rural Health Conference, Duluth, MN, Jun 2024 and Jun 2025
- Minnesota State University Mankato Chesley Center on Aging, Apr 2025, Mankato, MN
- MIT AgeLab Aging & Equity Series Webinar, May 2025, Virtual
- National Rural Health Association (NRHA) Annual Meeting and NRHA Health Access Conference: New Orleans, LA, May 2024; Atlanta, GA May 2025
- New York State Association for Rural Health and New England Rural Health Association Rural Health Webinar Series, Webinar, Jan 2024
- Obstetric Life Support Virtual Conference, February 2025, Virtual
- Osher Lifelong Learning Institute OLLI At-the-U Lecture Series, April 2025, Virtual
- Oregon CAH Quality Workshop, Bend, OR, Jun 2024
- Partnership HealthPlan of California Conference, Fairfield, CA, Feb 2024
- Rural Health Research Gateway, Webinar, May and November 2024
- Southern Sociological Society Annual Meeting, New Orleans, LA, Apr 2024
- Stanford Health Policy Maternal and Child Health Research Institute Seminar, Stanford, CA, Feb 2024
- University of California San Francisco Institute for Health Policy Studies Grand Rounds Lecture Series, February 2025, Virtual
- University of Minnesota (UMN) Board of Regents Lunch & Learn, Minneapolis, MN, Mar 2024
- UMN Extension Department of Family, Health, and Wellbeing Annual Conference Keynote Address, Willmar, MN, May 2024
- UMN Public Engagement Conference, March 2025, Minneapolis, MN
- UMN School of Public Helth Research Day, April 2025, Minneapolis, MN
- UMN Women's Health Research Conference, February 2025, Minneapolis, MN
- University of Nevada Reno Health Equity Series, Webinar, Sept 2024
- University of Virginia Summer Medical Leadership Program, June 2024, Virtual
- Vanderbilt University MEADOW Webinar, March 2025, Virtual
- West Virginia University CED Ability Grand Rounds Webinar, April 2025, Virtual

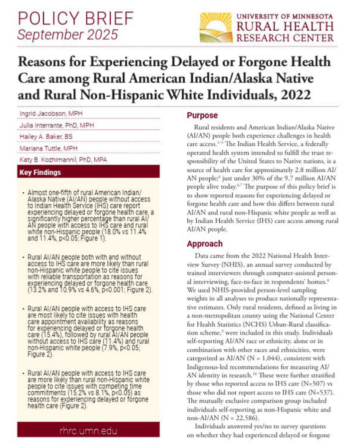
RHRC research staff, research assistants, and collaborators presented at a wide range of conferences and events in 2024-25, including the following: AcademyHealth Annual Research Meeting, American Public Health Association Annual Meeting, Minnesota Rural Health Conference, University of Minnesota School of Public Health Research Day, and League of Women Voters of Willmar, MN.

UNIVERSITY OF MINNESOTA
RURAL HEALTH
RESEARCH CENTER

PUBLICATIONS, 2024-25

These publications come from current, recent, and affiliated research projects, fculty, and staff.

Research Products


POLICY BRIEF
September 2025

UNIVERSITY OF MINNESOTA RURAL HEALTH RESEARCH CENTER

Reasons for Experiencing Delayed or Forgone Health Care among Rural American Indian/Alaska Native and Rural Non-Hispanic White Individuals, 2022

Ingrid Jacobson, MPH
Julia Interrante, PhD, MPH
Hailey A. Baker, BS
Mariana Tuttle, MPH
Katy B. Kozhimannil, PhD, MPA

Key Findings

Purpose

Approach

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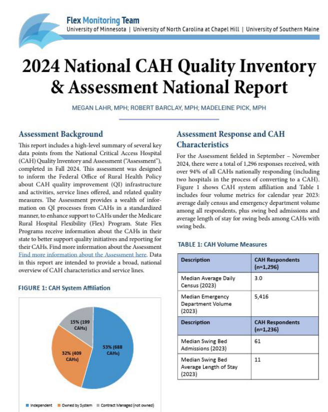

Flex Monitoring Team

2024 National CAH Quality Inventory & Assessment National Report

MEGAN LAHR, MPH; ROBERT BARCLAY, MPH; MADELEINE PICK, MPH

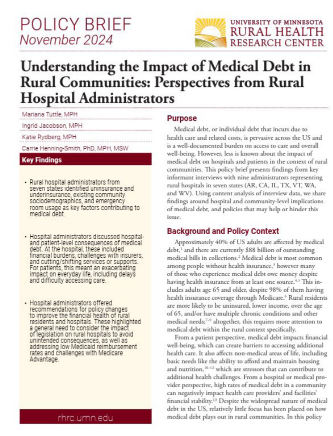
Assessment Background

Assessment Response and CAH Characteristics

FIGURE 1: CAH System Affiliation

TABLE 1: CAH Volume Measures

Description	CAH Respondents (n=1,296)
Median Average Daily Census (2023)	3.0
Median Emergency Department Volume (2023)	5,416
Description	CAH Respondents (n=1,296)
Median Swing Bed Admissions (2023)	61
Median Swing Bed Average Length of Stay (2023)	11


POLICY BRIEF
November 2024

UNIVERSITY OF MINNESOTA RURAL HEALTH RESEARCH CENTER

Understanding the Impact of Medical Debt in Rural Communities: Perspectives from Rural Hospital Administrators

Mariana Tuttle, MPH
Ingrid Jacobson, MPH
Katie Rydberg, MPH
Carrie Henning-Smith, PhD, MPH, MSW

Key Findings

Purpose

Background and Policy Context

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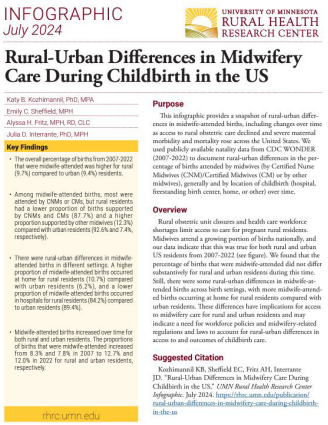
- **"Reasons for Experiencing Delayed or Forgone Health Care among Rural American Indian/Alaska Native and Rural Non-Hispanic White Individuals, 2022,"** *RHRC Policy Brief*, September 2025
- **"Rural Resource: Availability of Obstetric Simulation Training by State,"** *FMT Resource*, September 2025
- **"Rural/Urban Differences in Health, Health Care Use, and Barriers to Care for Postpartum and Parenting Women, 2006-2018,"** *RHRC Policy Brief*, August 2025
- **"2010-2022 County-Level Hospital-Based Obstetric Care Status,"** *RHRC Data Resource,* July 2025
- **"Geographic and Demographic Correlates of Living in Manufactured Homes: Implications for Health,"** *RHRC Policy Brief*, July 2025
- **"Preventing Medical Debt among Rural Residents: Example Programs from Hospitals in Minnesota and Montana,"** *RHRC Case Series,* June 2025
- **"2024 National CAH Quality Inventory & Assessment Report,"** *FMT Report*, May 2025
- **"Resources for Measuring Rurality in Research on Maternity Care,"** *RHRC Practical Implications,* January 2025
- **"Rural-Urban Differences in PACE Organization and Enrollee Characteristics,"** *RHRC Policy Brief*, January 2025
- **"Midwifery Care at Rural Hospitals in Montana and California,"** *RHRC Case Series*, December 2024
- **"Variation in Elder Abuse State Statutes by State Level of Rurality,"** *RHRC Policy Brief*, December 2024
- **"Triad Program Perspectives on Preventing and Addressing Elder Abuse in Rural Communities,"** *RHRC Policy Brief*, November 2024
- **"Understanding the Impact of Medical Debt in Rural Communities: Perspectives from Rural Hospital Administrators,"** *RHRC Policy Brief*, November 2024

Research Products

- **"Workforce Toolkit to Support Critical Access Hospitals and Rural Providers,"** *FMT Resource,* September 2024
- **"Health Care Affordability and Medical Debt: Differences by Rurality, Region, and Socio-Demographic Characteristics,"** *RHRC Policy Brief,* September 2024
- **"States and Rural Communities With and Without the Program of All-Inclusive Care for the Elderly (PACE),"** *RHRC Policy Brief,* September 2024
- **"Information for Rural Stakeholders About Access to Maternity and Obstetric Care: A Community-Relevant Synthesis of Research,"** *RHRC Practical Implications,* September 2024
- **"Rural-Urban Differences in Midwifery Care During Childbirth in the US,"** *RHRC Infographic,* July 2024
- **"Loss of Hospital-Based Obstetric Services in Rural Counties in the United States, 2010-2022,"** *RHRC Infographic,* July 2024
- **"Understanding the Rise of Ransomware Attacks on Rural Hospitals,"** *RHRC Policy Brief,* June 2024
- **"Risk Factors for Poor Health Among U.S. Older Adults in Rural and Urban Areas: Injury, Food Insecurity, and Lack of Social Support,"** *RHRC Policy Brief,* June 2024
- **"Rural/Urban Differences in Housing Quality and Adequacy: Findings from the American Housing Survey, 2019,"** *RHRC Policy Brief,* May 2024
- **"Housing for Rural Residents Recovering Substance Use Disorders,"** *RHRC Case Series,* May 2024
- **"2023 National CAH Quality Inventory & Assessment National Report,"** *FMT Data Report,* April 2024
- **"Intimate Partner Violence in Rural Communities: Perspectives from Key Informant Interviews,"** *RHRC Policy Brief,* March 2024
- **"Rural-Urban Differences in Housing Cost Burden Across the U.S.,"** *RHRC Policy Brief,* March 2024
- **"EHR Capabilities and Interoperability in Critical Access Hospitals,"** *FMT Policy Brief,* January 2024


INFOGRAPHIC
July 2024
UNIVERSITY OF MINNESOTA RURAL HEALTH RESEARCH CENTER
Rural-Urban Differences in Midwifery Care During Childbirth in the US
Katy B. Kozhimannil, PhD, MPA
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Alyssa H. Fritz, MPH, RD, CLC
Julia D. Interrante, PhD, MPH
Key Findings
Purpose
Overview
Suggested Citation
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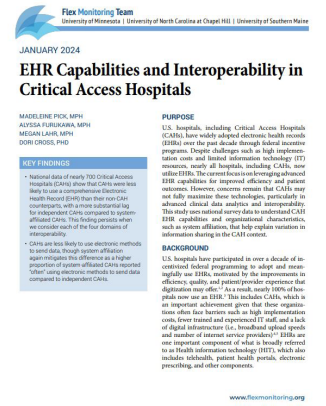
Flex Monitoring Team
University of Minnesota | University of North Carolina at Chapel Hill | University of Southern Maine
JANUARY 2024
EHR Capabilities and Interoperability in Critical Access Hospitals
MADELEINE PICK, MPH
ALYSSA FURUKAWA, MPH
MEGAN LAHR, MPH
DORI CROSS, PHD
KEY FINDINGS
PURPOSE
BACKGROUND
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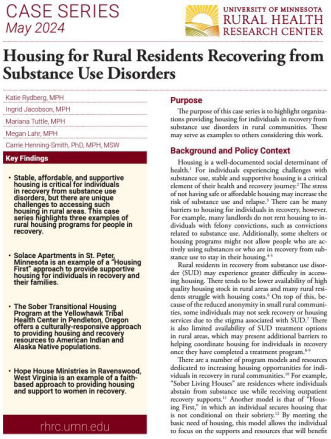
CASE SERIES
May 2024
UNIVERSITY OF MINNESOTA RURAL HEALTH RESEARCH CENTER
Housing for Rural Residents Recovering from Substance Use Disorders
Katie Rydberg, MPH
Ingrid Jacobson, MPH
Mariana Tuttle, MPH
Megan Lahr, MPH
Carrie Henning-Smith, PhD, MPH, MSW
Key Findings
Purpose
Background and Policy Context
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Journal Articles

- **"Rural–Urban Differences in Health Care Access for Postpartum Parent and Infant Dyads,"** *Journal of Rural Health*, August 2025
- **"Obstetric Care Access Declined In Rural And Urban Hospitals Across US States, 2010-22,"** *Health Affairs*, July 2025
- **"Self-Reported Versus County-Based Rurality of People Who Gave Birth in 6 US States, 2020,"** *American Journal of Public Health,* July 2025
- **"Scoping Review: Perceived Needs, Barriers, Facilitators, and Satisfaction with Access and Utilization of Mental Health Services among Rural Adolescents and Parents in the United States,"** *Journal of the American Academy of Child and Adolescent Psychiatry Open,* July 2025
- **"Establishing a University-based Collaborative for Research and Engagement with Rural Communities,"** *Health Promotion Practice*, July 2025
- **"Rural-Urban Differences in Maternal Syphilis Trends in the United States, 2016-2023,"** *Obstetrics & Gynecology.* June 2025
- **"Author Response: Policy Context Matters for Midwifery,"** *Journal of Midwifery & Women's Health***,** June 2025
- **"The Landscape of Farmer Mental Health Programs in the US Midwest,"** *Journal of Agromedicine***,** June 2025
- **"Social Well-Being among Rural County Fair Attendees: Results from a Pilot Study,"** *Journal of Rural Mental Health***,** June 2025
- **"Recruitment and Retention of Rural Health Professionals in Minnesota,"** *Health Services Research,* June 2025
- **"Context Matters: Geographic and Age Differences Explain High Heterogeneity in Social Isolation,"** *Wellbeing, Space and Society,* May 2025
- **"The Relationship between Low Social/Emotional Support and Health Care Affordability among Rural and Urban Residents,"** *Journal of Rural Health,* May 2025
- **"Switching between Medicare Advantage and Traditional Medicare for Individuals Newly Diagnosed with Cancer 2015-2019,"** *Journal of the National Cancer Institute*, May 2025
- **"Gender Differences in Factors Associated with Rural Health Care Practice in Minnesota,"** *Journal of Rural Health***,** March 2025
- **"The Indian Health Service Is Associated With Higher-Quality Perinatal Care For American Indian And Alaska Native People,"** *Health Affairs,* March 2025
- **"Obstetric Care Access at Rural and Urban Hospitals in the United States,"** *JAMA***,** December 2024

Journal Articles

- **"Health Insurance Type and Access to the Indian Health Service Before, During, and After Childbirth Among American Indian and Alaska Native People in the United States"** *Womens Health Issues*, November 2024
- **"Access to Maternity Care: Challenges and Solutions for Improving Equity Across US Communities,"** *Current Opinion on Obstetrics and Gynecology*, November 2024
- **"Perinatal Care among Hispanic Birthing People: Differences by Primary Language and State Policy Environment,"** *Health Services Research*, October 2024
- **"The Availability of Midwifery Care in Rural United States Communities,"** *Journal of Midwifery & Women's Health*, July 2024
- **"Decisions to Practice in Rural Areas among Mental Health Care Professionals,"** *JAMA Network Open*, June 2024
- **"Social Infrastructure and Health among Mid-Life and Older Adults in Rural America: An Environmental Scan of Existing Data,"** *Aging and Health Research*, June 2024
- **"Health Insurance Coverage and Experiences of Intimate Partner Violence and Postpartum Abuse Screening Among Rural US Residents Who Gave Birth 2016-2020,"** *Journal of Rural Health*, May 2024
- **"Effects of Breastfeeding Peer Counseling on County-Level Breastfeeding Rates Among WIC Participants in Greater Minnesota,"** *Womens Health Issues*, May 2024
- **"Rural-Urban Differences in Meeting Physical Activity Recommendations by Sun Exposure and Protection Behaviors in the United States,"** *Preventive Medicine*, April 2024
- **"Rural-Urban Differences in Sun Exposure and Protection Behaviors in the United States,"** *Cancer Epidemiology, Biomarkers & Prevention*, April 2024
- **"What Happens to Rural Hospitals During a Ransomware Attack?"** *Journal of Rural Health*, March 2024
- **"Rural-Urban Differences in Health Care Unaffordability During the Postpartum Period,"** *Medical Care*, March 2024
- **"Virtual Obstetric Hospitalist Support for Obstetric Emergencies and Deliveries: The Mayo Clinic Experience,"** *Telemedicine and e-Health*, February 2024
- **"Policy Solutions to Eliminate Racial and Ethnic Child Health Disparities in the USA,"** *The Lancet Child and Adolescent Health*, February 2024

OTHER COLLABORATIONS AND PARTNERSHIPS, 2024-25

Our team is actively engaged in other rural-relevant research collaborations and partnerships designed to address and improve rural health. Examples of this work include:

- **Upper Midwest Agricultural Safety and Health Center** (UMASH). UMASH is a multi-institution collaboration funded by the National Institute for Occupational Safety and Health (NIOSH) with the goal of promoting health and safety for agricultural workers and their families. Carrie Henning-Smith is a co-principal investigator on a current UMASH **five-year project** focused on identifying contextual factors associated with help-seeking behavior for mental health.

- **Multi-Institution Collaboration to Identify Factors Associated with Rural Health Care Practice**. Carrie Henning-Smith is a core collaborator in a partnership with researchers at the Minnesota Department of Health and multiple University of Minnesota schools of colleges (e.g., Medical School, School of Public Health, College of Education and Human Development) designed to identify factors associated with choosing to practice in a rural setting across types of health care professionals. This work has resulted in two *JAMA Network Open* publications, most recently focused on factors associated with mental health care professionals' choice of location, as well as publications in *Health Services Research* and *The Journal of Rural Health*. Hannah MacDougall (former Rural Health Program postdoc) presented this work at a June 2024 Minnesota Rural Health Conference plenary presentation.

- The **Policies for Action Research Hub** – Katy Backes Kozhimannil is Principal Investigator of the Hub, which aims to identify, analyze and share policy strategies and develop a body of evidence that can improve health equity and well-being in all communities. One project, led by Julia Interrante and Katy Backes Kozhimannil examines intersectional identities and risk in postpartum health, with a focus on Hispanic and Indigenous people in rural and urban U.S. communities.

Snapshots of Our Team, 2024-25



We love it when we get to see our Expert Work Group (EWG) members and other real-life rural experts at conferences! Above left: Carrie and EWG member Kina White. Above middle: EWG member Brock Slabach, Katy, and Alan Morgan (CEO of the National Rural Health Association). Above right: Katy with Diane Hall, Director of the CDC Office of Rural Health.



RHRC summer parties, where we invite everyone who lives locally in Minnesota to gather for food, fun, and to celebrate all we've accomplished in the prior year, have become a highly anticipated annual tradition.

RHRC teammates will take any excuse to connect with one another: over food, sight-seeing, and at conferences between presentations. We enjoy working and playing together!

Acknowledgements

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We are grateful for generous funding support from the Federal Office of Rural Health Policy (FORHP). Part of the Health Resources and Services Administration, FORHP coordinates activities related to rural health care within the U.S. Department of Health and Human Services. For more information about all of the Rural Health Research Centers funded by FORHP, visit **http://www.ruralhealthresearch.org/**

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To support our work: **https://give.umn.edu/giveto/ruralhealth**

Acknowledgment of Native Lands

The University of Minnesota Rural Health Research Center acknowledges the Dakota people, who are the First People of Mni Sota Makoce. The Dakota people have a historical, spiritual, and ongoing connection to the land that the University of Minnesota Twin Cities was built and remains on. We commit ourselves to actions and practices that address the injustices from which our school benefits.

Today, the state of Minnesota is home to twelve federally and non-federally recognized Indigenous nations, including five Dakota Nations and seven Ojibwe Nations. Those nations include the Prairie Island Indian Community, Shakopee Mdewakanton Indian Community, Lower Sioux Indian Community, Upper Sioux Community, Mendota Mdewakanton Tribal Community, Bois Forte Band of Chippewa, Red Lake Nation, Leech Lake Band of Ojibwe, Mille Lacs Band of Ojibwe, White Earth Nation, Fond du Lac Band of Ojibwe, and Grand Portage Band of Lake Superior Chippewa.

University of Minnesota Environment

Our Center is located within the University of Minnesota, and we benefit from the breadth of expertise available among our colleagues at the University. Our Center's home is the Division of Health Policy and Management in the School of Public Health.

Photography

Kathleen Henning is a photographer who beautifully captures the awe-inspiring nature of rural places. Her work is reproduced with her permission on our website, and on the cover of this report.

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