



UNIVERSITY OF MINNESOTA
**RURAL HEALTH
RESEARCH CENTER**

Annual Report, 2023-24



We conduct policy-relevant research

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



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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 for all three major grant programs that comprise the University of Minnesota Rural Health Research Center: the Flex Monitoring Team, the Rural Health Program, and the Rural Health Research Center (RHRC) Grant.

This year, the Flex Monitoring Team (FMT, led by Megan Lahr) successfully completed the first year of its new cooperative agreement funding cycle, and continues to support the federal and state Flex Programs and Critical Access Hospitals (CAHs) across the country. The Rural Health Program (co-led by Katy Kozhimannil and Carrie Henning-Smith) successfully supported the third 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 at the University's Duluth and Austin locations, and another Rural Health Equity Postdoctoral scholar was recruited to join our team. The RHRC Grant continued to impact rural health by informing policy through the dissemination of research in policy briefs and case studies, peer-reviewed publications, and broad public engagement.

We look forward to an engaging and productive year ahead. The FMT will be completing projects to support workforce in CAHs and rural communities, as well as providing support for quality measurement and improvement in CAHs, with a focus on improving demographic data and health related social needs data collection to improve health equity. We will welcome five new participants in Project REACH and connect with other rural researchers at planned in-person gatherings across Minnesota through the Rural Collective. Finally, in 2024 we were awarded renewal of the RHRC grant, and are thrilled to continue research on a wide range of important topics that shape rural life, including the health of "homebound" older adults, American Indian/Alaska Native health, access to and quality of care for people with disabilities, and obstetric and neonatal care access. Thank you for engaging with our team and our work!

Katy Backes Kozhimannil, PhD, MPA

Carrie Henning-Smith, PhD, MSW, MPH

Megan Lahr, MPH

Background

The University of Minnesota Rural Health Research Center (RHRC) is a federally-funded cooperative agreement between the Division of Health Policy and Management within the University of Minnesota School of Public Health and the Federal Office of Rural Health Policy (FORHP), a division of the Health Resources and Services Administration (HRSA) within the U.S. Department of Health and Human Services. RHRC staff also participate in another cooperative agreement with FORHP for the Medicare Rural Hospital Flexibility Program Evaluation. Additionally, the RHRC partners with the University's Clinical and Translational Sciences Institute (CTSI) and Office of Academic Clinical Affairs (OACA), who fund the University of Minnesota Rural Health Program. The Rural Health Program has three components: a postdoctoral program, Project REACH, and the University of Minnesota Rural Collective.

VISION

Our dedicated team of experts at the University of Minnesota RHRC conducts research to advance equity and improve health and well-being among those who are frequently absent from policy discussions, but whose lives are deeply impacted by policy decisions. 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. Our work maintains a focus on eliminating inequities based on geography, race, gender, nationality, age, and ability. 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.



Carrie Henning-Smith and Mariana Tuttle at FarmFest in rural Morgan, MN, August 2024.



Julia Interrante and Katy Backes Kozhimannil presenting at the National Rural Health Association (NRHA), May 2023.

CORE PRINCIPLES

1. We conduct research to inform the development, implementation, and evaluation of health policy that impacts rural residents and communities.
2. We study the impacts of policies that affect health care access and quality and population health outcomes across the lifespan, answering questions voiced by rural residents and communities.
3. We focus on groups that experience disproportionate health risks because of structural inequities, including communities of color, Indigenous people, LGBTQ+ individuals, people with disabilities, women and girls, older adults, and people with limited incomes in rural communities.
4. We educate policy-makers about the consequences of their decisions for the communities and population groups we study.



Katie Rydberg alongside other participants meeting with US Senator Amy Klobuchar at the 2023 NRHA Rural Policy Institute.



Megan, Carrie, and Katy at the Minnesota Rural Health Association Conference, June 2024.



Presenting research on the health impacts of medical debt at NRHA, May 2024.



Project REACH Day at the Capitol, April 2024.

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Who We Are, 2023-2024

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 conducts research to inform the development, implementation, and evaluation of policies that improve health during critical times in people's lives, including pregnancy and childbirth. The goal of her scholarly work is to contribute to the evidence base to advance racial, gender, and geographic equity and to collaborate with stakeholders in making policy change to address structural injustice. Katy's work advances progress in the fields of public health and health policy, and her contributions to improving the health of birthing people, recognizing the unique strengths and challenges in rural places, were recognized nationally when she received the 25th annual Heinz Award in the Public Policy category in 2020.

Katy's research, published in major journals such as *Science*, *the New England Journal of Medicine*, *JAMA*, *Health Affairs*, *American Journal of Public Health*, and *Medical Care*, has been widely cited. Media coverage of her research, including feature stories by the *New York Times*, *USA Today*, *Washington Post*, *National Public Radio*, *Wall Street Journal*, and *US News & World Report*, has generated dialogue, interest, and policy action at local, state, and national levels. In addition to conducting research, Katy teaches courses that build skills for effective engagement in the policy process, and works extensively with community organizations and state and federal policy-makers on efforts 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 co-leads the University of Minnesota Rural Health Program.



Carrie's research focuses on health equity and structural drivers of health for rural populations, with an emphasis on aging, mental health, and social well-being. In particular, she focuses on the role of geographic and community context in shaping health outcomes. In all of her work, she emphasizes the importance of "health in all policies", identifying how certain living arrangements, environmental contexts, and other social determinants of health impact health equity, or lack thereof. Altogether, she has published more than 200 peer-reviewed manuscripts, commentaries, book chapters, and policy briefs, and her work has been widely cited in federal and state policy documents, in addition to 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 was a 2017 Rural Health Fellow with the National Rural Health Association (NRHA) and currently serves on the NRHA Board of Trustees and as chair of the NRHA Research and Education Constituency Group. She is actively engaged with other service and community engagement activities to improve rural health, including serving on NRHA's Health Equity Council and RHHub's Advisory Council, as well as serving on multiple government and non-profit organization advisory boards to work on better serving older adults and working toward health equity in rural areas. In 2022, she was honored as a University of Minnesota McKnight Presidential Fellow for her work in advancing rural health equity.

Leadership



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. Upcoming projects include those related to the connection between quality and finance in CAHs, quality maternity care in CAHs, and continued work to assess characteristics and quality of CAHs nationally.

Staff



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

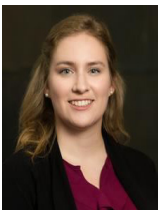
Julia Interrante is a Research Fellow and Statistical Lead at the RHRC. She began work as a graduate research assistant in August 2018 and transitioned to her current full-time role after defending her dissertation in Health Services Research, Policy & Administration in December 2022. Her research focuses 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 quantitative and qualitative data; she uses this expertise to serve as statistical lead, consulting and advising other RHRC researchers on analytic methods.

Staff



INGRID JACOBSON, MPH

Ingrid Jacobson is a Research Fellow with the RHRC, joining full-time in September 2023. During her time, Ingrid's work has ranged from quantitative data analysis to qualitative key informant interviews. She has contributed to projects on understanding the impact of medical debt in rural areas, elder abuse and related issues among older adults, and the Program of All-Inclusive Care for the Elderly (PACE).



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 needs of marginalized populations, including the health and well-being of rural LGBTQ+ residents, housing as a social determinant of rural health, and language interpreter services in Critical Access Hospitals.



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.



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 (including emergency obstetrics, racial equity in childbirth, and postpartum health and access to care), to social drivers of health in rural areas (including living alone, LGBTQ+ well-being, housing, and medical debt). 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



LINDSAY ADMON, MD, MS

Lindsay Admon is an obstetrician-gynecologist and health services researcher at the University of Michigan's Institute of Healthcare Policy and Innovation. She is an Assistant Professor in the Department of Obstetrics and Gynecology at the University of Michigan. Lindsay applies her interdisciplinary training in obstetrics, health services research, and public health to study policy relevant-issues for the childbearing population, and lends her expertise to maternity care projects at the RHRC. She served as a consultant on a project on intimate partner violence in 2022-23.

Affiliates



DORI CROSS, PHD

Dori Cross is an Associate Professor in the Division of Health Policy and Management whose research focuses on understanding and developing solutions to the complex management challenges that impede digital transformation of health care. Her work promotes the value of health information technology both as a tool that supports care delivery and as a novel source of data for organizational learning and improvement. Dori worked with the Flex Monitoring Team on a project that examined how Critical Access Hospitals use electronic health records to support quality reporting and performance management in 2022-23.



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, MDSC

Sara Handley 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 served as a consultant on the 2022-2023 RHRC project on postpartum morbidity and mortality and access to care.



VALERIE LEWIS, PHD

Valerie Lewis is an Associate Professor in Health Policy and Management at the University of North Carolina Gillings School of Global Public Health. She is a sociologist and policy researcher with extensive experience researching health care payment and delivery reform, health care organizations, and racial and socioeconomic disparities in outcomes. She uses a mix of research methods, from sophisticated statistical modeling to in-depth qualitative site visits. She served as a consultant on the 2022-2023 RHRC project on rural-urban differences in domestic violence.

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.



HANNAH NEPRASH, PHD

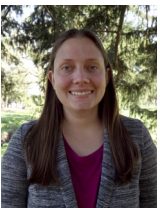
Hannah Neprash is an Associate Professor in the Division of Health Policy and Management whose research focuses on health economics and capacity strain within the health care system. Her research uses quasi-experimental methods and big/novel sources of data to study supply-side drivers of utilization, spending, access, and quality in health care. She led a project studying ransomware attacks on rural hospitals in 2022-2023.



JONATHAN SCHROEDER, PHD

Jonathan Schroeder is a Research Scientist with the Minnesota Population Center and an expert in demographic data analysis. He provides knowledge of a variety of data sets and their rural variables, as well as mapping and other data analysis skills.

Postdoctoral Associates



ALEXIS SWENDENER, PHD

Alexis Swendener joined the Rural Health Equity 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 is 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.



CLARA BUSSE, PHD, MPH

Clara Busse joined the Rural Health Equity 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.

Students



DIONNE BAILEY, MPH

Dionne Bailey works as a graduate research assistant on RHRC projects focused on medical debt and elder abuse. Dionne is a PhD student in the Health Services Research, Policy & Administration (HSRPA) program at the School of Public Health.



HAILEY BAKER, BS

Hailey Baker is a medical student at the University of Minnesota Duluth, and a citizen of Cherokee Nation. She began work with the RHRC in August 2021 and contributes expertise on Indigenous health and obstetric care on projects related to rural maternal health.



PHOEBE CHASTAIN, MPH

Phoebe Chastain worked as a graduate research assistant focusing on projects related to rural obstetrics and maternal and child health. She graduated in 2023 with an MPH in Public Health Administration and Policy (PHAP) at the School of Public 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 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.



CLAIRE MCGLAVE, MPH

Claire McGlave is a graduate research assistant focusing on ransomware attacks in rural hospitals at the RHRC. In addition to working at the RHRC, Claire is a PhD student in the HSRPA program at the School of Public Health.



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.



HAWKING YAM, MS

Hawking Yam worked as a graduate research assistant focusing on housing and rural health at the Rural Health Research Center. Hawking is also a PhD student in the HSRPA program at the School of Public Health.



Rural Health Research Center Grant

PROJECT HIGHLIGHTS, 2023-24

Rural Obstetric Unit Closures

Team: Katy Backes Kozhimannil, PhD, MPA; Caitlin Carroll, PhD; Alyssa Fritz, MPH; Sara Handley, MD, MSCE; Julia Interrante, PhD; Emily Sheffield, MPH

Goals: The goal of this project was to calculate and report updated information on the loss of hospital-based obstetric services in rural U.S. counties, 2010-2022. Updated information on obstetric care access in rural communities and obstetric unit closures at rural hospitals is essential to inform clinical and policy efforts to address persistent maternal and infant health concerns.

Highlights: We merged data from multiple sources and identified hospital obstetric unit closures using an enhanced algorithm we developed, and used this to publish an infographic entitled “**Loss of Hospital-Based Obstetric Services in Rural Counties in the United States, 2010-2022.**” Based on feedback and questions from rural clinicians, administrators and community leaders, we created a **practical resource synthesizing current research.** We drafted a manuscript describing declining obstetric care access at rural and urban hospitals in the US from 2010 to 2022. Finally, our RHRC Maternity Care Team consulted with policymakers to inform federal legislation on rural maternity care access, including the “Keep Obstetrics Local Act” and the “Rural Obstetrics Readiness Act.”

INFOGRAPHIC
July 2024

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Loss of Hospital-Based Obstetric Services in Rural Counties in the United States, 2010-2022

Key Findings:

- In the United States, access to hospital-based obstetric services declined from 46.4% of counties in 2010 to 32.4% in 2022.
- 1,114 hospital-based obstetric units were closed between 2010 and 2022.
- 1,114 hospital-based obstetric units were closed between 2010 and 2022.

Method:

Data from the 2010-2022 American Hospital Association (AHA) Annual Survey, the Centers for Medicare & Medicaid Services (CMS) Provider of Services File, and the Health Resources and Services Administration (HRSA) Area Health Resource File. Identification of hospital providing obstetric care follows an enhanced algorithm using data on services and staff-19th validation checks. Rural (non-metropolitan) counties were categorized based on population characteristics, with a score of 10 (low) to 50 (high) and a score of 100 (very high) to 150 (very high).

References:

1. Kozhimannil KB, Carroll C, Handley SC, and Kozhimannil KB. An Enhanced Algorithm for Identifying Hospital-Based Obstetric Units. *Journal of Obstetrics, Gynecology, and Women's Health*. 2023; 13(2): 100-108.
2. Centers for Disease Control and Prevention. *Maternity Care in Rural Areas: A Practical Resource Synthesizing Current Research*. 2023.

Access to and Use of Midwifery Care for Rural Residents

Team: Katy Backes Kozhimannil, PhD, MPA; Alyssa Fritz, MPH; Julia Interrante, PhD, MPH; Emily Sheffield, MPH

Goals: Rural obstetric unit closures and health care workforce shortages limit access to care for pregnant rural residents. The goal of this project was to describe the current midwifery workforce at rural hospitals that provide obstetric care and to assess rural-urban differences in midwifery care at the time of childbirth.

Highlights: Our manuscript, “**The availability of midwifery care in rural United States communities,**” was published at the *Journal of Midwifery and Women's Health*. We also published an infographic entitled “**Rural-urban differences in midwifery care during childbirth in the US.**” We interviewed key informants about unique and exemplary rural midwifery practices in Montana and California, and will publish case studies on these examples. Lastly, we are collaborating with colleagues at the American College of Nurse-Midwives on an analysis of the relationship between state midwifery laws and rural-urban disparities in midwifery access.

Journal of Midwifery & Women's Health

The Availability of Midwifery Care in Rural United States Communities

Key Findings:

- 1,114 hospital-based obstetric units were closed between 2010 and 2022.
- 1,114 hospital-based obstetric units were closed between 2010 and 2022.

Method:

Data from the 2010-2022 American Hospital Association (AHA) Annual Survey, the Centers for Medicare & Medicaid Services (CMS) Provider of Services File, and the Health Resources and Services Administration (HRSA) Area Health Resource File. Identification of hospital providing obstetric care follows an enhanced algorithm using data on services and staff-19th validation checks. Rural (non-metropolitan) counties were categorized based on population characteristics, with a score of 10 (low) to 50 (high) and a score of 100 (very high) to 150 (very high).

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2. Centers for Disease Control and Prevention. *Maternity Care in Rural Areas: A Practical Resource Synthesizing Current Research*. 2023.

INFOGRAPHIC
July 2024

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Rural-Urban Differences in Midwifery Care During Childbirth in the US

Key Findings:

- 1,114 hospital-based obstetric units were closed between 2010 and 2022.
- 1,114 hospital-based obstetric units were closed between 2010 and 2022.

Method:

Data from the 2010-2022 American Hospital Association (AHA) Annual Survey, the Centers for Medicare & Medicaid Services (CMS) Provider of Services File, and the Health Resources and Services Administration (HRSA) Area Health Resource File. Identification of hospital providing obstetric care follows an enhanced algorithm using data on services and staff-19th validation checks. Rural (non-metropolitan) counties were categorized based on population characteristics, with a score of 10 (low) to 50 (high) and a score of 100 (very high) to 150 (very high).

References:

1. Kozhimannil KB, Carroll C, Handley SC, and Kozhimannil KB. An Enhanced Algorithm for Identifying Hospital-Based Obstetric Units. *Journal of Obstetrics, Gynecology, and Women's Health*. 2023; 13(2): 100-108.
2. Centers for Disease Control and Prevention. *Maternity Care in Rural Areas: A Practical Resource Synthesizing Current Research*. 2023.

PROJECT HIGHLIGHTS, 2023-24

Extent and Coverage of Rural PACE Services

Team: Carrie Henning-Smith, PhD, MPH, MSW; Julia Interrante, PhD, MPH; Ingrid Jacobson, MPH; Madeleine Pick, MPH; Mariana Tuttle, MPH

Goals: Supporting independent living and aging in place for rural residents is more important than ever. This project provided information on the extent and coverage of rural Program of All-Inclusive Care for the Elderly (PACE) programs, along with insights into the unique challenges and opportunities faced by PACE programs operating in rural areas.

Highlights: We have been partnering with the National PACE Association (NPA) to access and analyze data on rural-serving PACE organizations. We produced a policy brief awaiting publication that shows the coverage of rural PACE organizations by state and community. To further our knowledge, we completed a site visit to Siouxland PACE in Sioux City, Iowa. Lastly, we have ongoing work which includes analysis of NPA data on rural PACE organization service areas and analysis of key informant interviews with rural-serving PACE organization representatives.



Carrie and Julia on a site visit to Siouxland PACE, based within UnityPoint Health.


Addressing Elder Abuse in Rural Areas

Team: Carrie Henning-Smith, PhD, MPH, MSW; Dionne Bailey, MPH; Marti DeLiema, PhD; Alyssa Fritz, MPH; Ingrid Jacobson, MPH; Megan Lahr, MPH; Alexis Swendener, PhD

Goals: Elder abuse, including financial, physical, and emotional abuse, as well as self-neglect, is widespread and impacts both individual and population health outcomes. However, despite the fact that rural residents are older, in poorer health, and more financially vulnerable, little is known about rural/urban differences in the prevalence of and resources to address elder abuse. This project aimed to address those gaps.

Highlights: We published a policy brief on the risk factors for poor health among older adults and produced two others awaiting publication. One policy brief is based on key informant interviews of rural Triads (partnerships between law enforcement, older adults, and community groups) and the other looks at variation in elder abuse state statutes by state level of rurality. In addition, multiple abstracts were accepted for podium presentations at the American Public Health Association's annual meeting in Minneapolis in October 2024. Finally, we have ongoing work including analysis of qualitative interview data, state-level policy analysis, and analysis of national survey data.

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 and Emotional Support

Authors: Ingrid Jacobson, MPH; Alexis Swendener, PhD; Megan Lahr, MPH; Alyssa Fritz, MPH, MS, CLU; Carrie Henning-Smith, PhD, MPH, MSW

Key Findings:

- Nearly 30% of rural (US) and urban (US) older adults reported experiencing a level of self-neglect that was at least moderate, and 10% reported a lack of social or emotional support.
- Of the three risk factors, lack of social and emotional support was the most common, reported over 50% of rural (US) and urban (US) older adults.
- Food insecurity was experienced by 15% of rural and 8% of urban older adults.

Purpose: Research on rural urban health disparities among older adults often focuses on physical outcomes, providing a limited understanding of rural differences in older adults' social, emotional, and physical well-being and safety for healthy aging. We address this by first by examining these risk factors for poor health outcomes: injury, food insecurity, and lack of social and emotional support among rural-urban older adults.

Background and Policy Context: Rural areas of the United States (U.S.) have a longer proportion of older adults compared to other areas, and older adults are the fastest growing age group within rural areas. Rural older adults face unique challenges, including limited access to health and social services and the potential for diverse health-related outcomes. A holistic understanding of the social, emotional, and physical well-being and safety of older adults in rural areas is necessary to inform effective policy to address health disparities among rural older adults.

Notes: While physical injury is a health risk, rural areas do experience risk of injury increases with age, and older adults face unique challenges, and long-term consequences after suffering a health injury. One in three older adults falls every year. "making falls the leading cause of injury among adults age 65 and older." Rural residents also have higher rates of both more severe injuries and death from an unassisted fall. "Physical injuries from these commonly fall and injury incidents translate on to the most serious issues such as catastrophic brain injuries, fractures, and long-term disability among older adults."

Food Insecurity: Food insecurity, defined as the lack of consistent access to an adequate amount and variety of nutritious food, is an important dimension of poor health. Low food security among older adults is an area of public health concern given its link to poorer cognitive functioning, increased health care utilization, and metabolic chronic diseases. "A 2021 survey estimates that 5.5 million

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PROJECT HIGHLIGHTS, 2023-24

Geographic and Socio-Demographic Correlates of Medical Debt among Rural Residents

Team: Carrie Henning-Smith, PhD, MPH, MSW; Dionne Bailey, MPH; Ingrid Jacobson, MPH; Hannah MacDougall, PhD, MSW; Katie Rydberg, MPH; Jonathan Schroeder, PhD; Alexis Swendener, PhD; Mariana Tuttle, MPH

Goals: Medical debt is widespread and impacts financial well-being and access to care. While research suggests that medical debt is higher among rural residents compared to urban residents, more work is needed to conclusively demonstrate rural/urban differences in medical debt and within-rural risk factors for greater medical debt by geography and socio-demographic characteristics. This project sought to address those gaps.

Highlights: We gave the plenary presentation at the National Rural Health Association (NRHA) Health Equity Conference in New Orleans, May 2024. We produced four policy briefs awaiting publication: one on rurality and regional differences in medical debt and health care affordability; one on medical debt in collections by rurality and race-ethnicity; one on differences in health care affordability issues among American Indian/Alaska Native people by rurality and use of the Indian Health Service; and one based on the analysis of key informant interview data with rural safety-net hospital administrators. We submitted a manuscript describing associations between health care affordability issues and chronic health conditions among working-age adults in the U.S. Finally, our work continues, with analysis of county-level medical debt data, and analysis of national survey data.



Above: Ingrid shares results from some quantitative work we completed on health care affordability and medical debt while Carrie, Alexis, and Katie look on.

Below: Katie presents qualitative findings from key informant interview data to an engaged audience during the plenary presentation.



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 user metrics we are proud of for January 2023-July 2024.

• Traffic

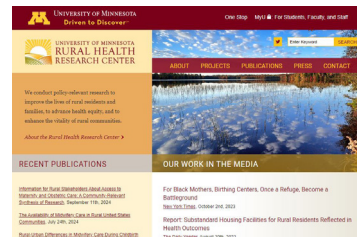
- Total # of sessions (single visit to the website): 16,873 (1.5 per user)
- Total # of pageviews (single visit to a page on the site): 30,262 (1.8 per session)
- Some users access our site by typing our URL directly (28.5%); others use a search engine (34.4%); some are referred from other sites (34.4%); and still others from social media or email (2.6%)

• People

- Total # of users: 11,518
- 86.9% new, 13.1% returning

• Content

- Total number of products downloaded: 3,448
- Top 5 publications downloaded (number of downloads):
 - * “Key Informant Perspectives on Rural Housing and Health” (211)
 - * “Loss of Hospital-Based Obstetric Services in the US, 2010-2022” (210)
 - * “Intimate Partner Violence in Rural Communities: Perspectives from Key Informant Interviews” (202)
 - * “Risk Factors for Poor Health Among U.S. Older Adults in Rural and Urban Areas: Injury, Food Insecurity, and Lack of Social Support” (142)
 - * “Rural-Urban Differences in Housing Cost Burden Across the U.S.” (92)



Social Media

We are active on X (formerly known as Twitter) as a way to share our research (and research from other RHRCs) with nearly 1500 followers and the general public. Follow us at @UMNRHRC. We also recently created a **profile on LinkedIn** in order to expand our reach 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 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 regularly highlighted through the Gateway’s research recaps, and we have an annual opportunity to share our research on their platform through webinars. Our webinar, “**Supporting the Health and Well-Being of Rural LGBTQ Adults**,” was the most viewed presentation on their platform from January through June 2023. Our webinar “**Understanding Housing as a Social Driver of Health for Rural Residents**” was the most viewed from January through June 2024.

WHO INFORMS OUR WORK

Expert Work Group

At the University of Minnesota Rural Health Research Center, we have an Expert Work Group (EWG) 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 center with strategic guidance, 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. The following individuals have served on our current four-year RHRC grant cycle, which concluded at the end of August, 2024. We are grateful for their time and expertise.



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 Assistant Dean for Rural Medical Education at the University of Kansas School of Medicine.

MARCUS BERNARD, PHD



Chair & Associate Professor, Kentucky State University, Frankfort, KY

Dr. Marcus Bernard is Chair for the School of Agriculture, Communities, Environment, and the Sciences and Associate Professor of Agriculture Economics and Rural Sociology at Kentucky State University. Prior to this appointment, he served as director of the Rural Training and Research Center for the Federation of Southern Cooperatives/Land Assistance Fund in Epes, Alabama. He completed his doctoral studies at the University of Kentucky in Rural Sociology and Medical Sociology. Throughout his career, he has integrated working for and researching rural-based organizations and communities.

JENNIFER LUNDBLAD, PHD, MBA



President & CEO, Stratis Health

Dr. Jennifer Lundblad is President and CEO of Stratis Health, an independent non-profit organization that leads collaboration and innovation to improve health. Stratis Health leads or partners in a wide array of rural health programs nationally, including Rural Health Value, the Rural Healthcare Provider Transition Project (RHPTP), and the Rural Northern Border Healthcare Technical Assistance Center. Stratis also influences rural-relevant measure development, and informs rural health policy. Jennifer is a member of the RUPRI (Rural Policy Research Institute) Health Panel and did her doctoral dissertation on “Teamwork and Safety Climates in Small Rural Hospitals.”



LESLIE MARSH, BS, MSN, MBA, RN

CEO, Lexington Regional Health Center

Since 2010, Leslie Marsh has presided over Lexington Regional Health Center as the Chief Executive Officer through a transformational time. Under her tenure, Leslie has recruited four (4) MDs and fourteen (14) APPs, and expanded access to patient care through the addition of four Rural Health Clinics. Leslie is a past President of the Nebraska Hospital Association; and formerly served on the American Hospital Association's Region 6 Policy Board. Leslie is also a past President of the National Rural Health Association's (NHRA) Board of Trustees.



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. He is a member of the National Quality Forum's Measures Application Partnership (MAP) Hospital and Rural Health Workgroup and serves on the Board of Directors of Accreditation Commission for Health Care (ACHC). 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 WHEELER, MPH

Vice President, Rural Health Care and Governance, California Hospital Association

Peggy Broussard Wheeler serves as Vice President of Rural Health Care and Governance at the California Hospital Association. In her role, she advocates for small and rural hospitals and other members of the sponsoring organizations who provide service to rural populations in the State of California. Her portfolio also includes issues of workforce, telehealth and diversity, equity, and inclusion (DEI). Ms. Wheeler is responsible for developing, advocating and executing public policies, legislation and regulations on behalf of rural hospitals at the state and national levels.



SAM WILSON, MA

Regional Vice President, AARP

Sam has spent the past 20+ years with AARP in both advocacy and senior leadership roles. He is the Regional Vice President for AARP's Central Region states (ND, SD, NE, KS, OK, AR, MN, IA and WI) and serves as enterprise strategy lead on health care issues impacting states and local communities, including access, affordability, and public/private health benefits and programs. Sam has been a regular co-host of "Rural America Live," a television program on RFD-TV that focuses on health, finances, fraud prevention, and other aging-related concerns for rural families and communities.



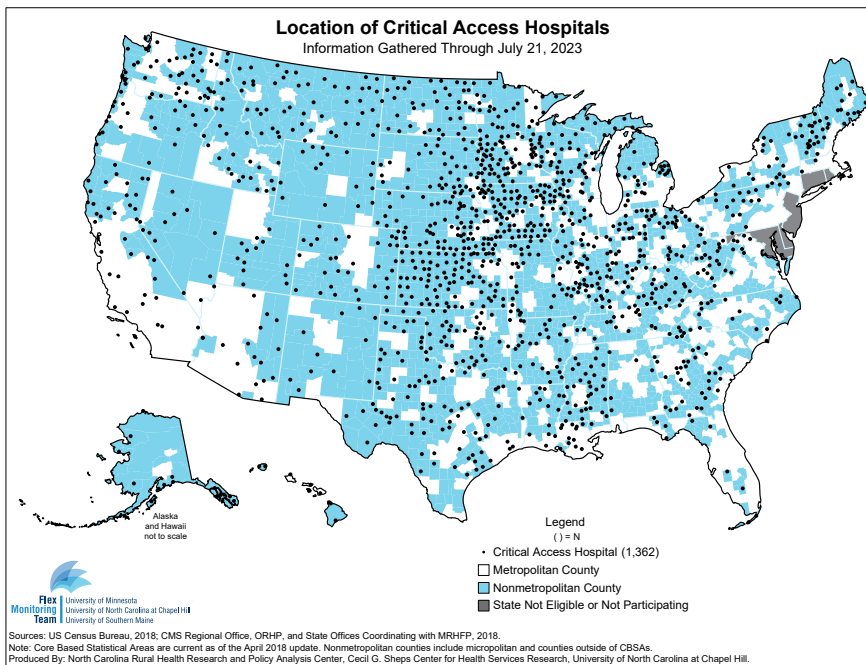
Flex Monitoring Team

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 UMNHRHC. 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 UMNHRHC 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.



SELECTION OF FMT PROJECTS

Practical Strategies to Engage CAHs in Health Equity Improvement

Team: Madeleine Pick, MPH; Megan Lahr, MPH; Alyssa Furukawa, MPH; Carson Crane, BA

Goals: This project leveraged the work of CMS and HRSA on health equity to describe demographic and social needs data that are currently being collected by CAHs and quantify the number of CAHs collecting these data; explore and compile information on state-level policies concerning hospital reporting of patient demographic data to improve health equity; and provide examples of best practices for how CAHs use these data to improve health equity in their communities.

Highlights: We have completed two of three policy briefs for this project, including one summarizing state requirements for demographic data and another on screening for health related social needs in CAHs. A final policy brief including qualitative data from key informant interviews will be released later this fall.

Providing Best Practices to Address Workforce Issues in CAHs

Team: Megan Lahr, MPH; Robert Barclay, MPH; Hannah MacDougall, PhD, MSW

Goals: The objectives of this project were: 1) to identify the areas of need for workforce-related best practices in CAHs, and 2) to develop a workforce toolkit for State Flex Programs and CAHs to use to improve CAH recruitment and retention in these areas of need. This project assessed CAHs' most pressing workforce needs by engaging with State Flex Program staff and other rural stakeholders to develop a toolkit with modules focused on improvement in organizational culture and leadership, community partnerships, Emergency Medical Services (EMS) workforce, and support and technician staffing needs.

Highlights: We are in the process of finalizing a Workforce Toolkit for Critical Access Hospitals that will include modules on organizational culture and leadership, leveraging partnerships, Emergency Medical Services (EMS), and administration and support staff. This toolkit will be available later this Fall.

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 second 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 the Assessment in April 2024, and has been updating the Assessment based on CAH and State Flex Program feedback to prepare for fielding of Year 2 in Fall 2024.

Characteristics of CAHs with Strong Quality and Financial Indicators

Team: Megan Lahr, MPH; Robert Barclay, MPH

Goals: The goal of this project is 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 will also interview CAHs in the strong quality and finance category to identify processes and strategies related to connecting quality and finance in their facilities.

Highlights: The data analyses for this project has just begun, and we are eager to see what the data will show.

Quality of Maternity Care in CAHs

Team: Madeleine Pick, MPH; Megan Lahr, MPH

Goals: The objectives of this project are 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; 3) identify quality measures related to maternity and birth outcomes that are most feasible and relevant for CAHs and rural hospitals. We will also conduct case studies with several CAHs to learn more about maternity care in their communities, including challenges they face and successes they have achieved.

Highlights: Data analyses for this project are just beginning, and our team is looking forward to identifying key characteristics and quality measures related to maternity care in CAHs.



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 equity research project specifically focused on rural Minnesota.



Alexis Swendener joined the 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. Alexis has been a key contributor to work on housing as a social driver of rural health, geographic and sociodemographic correlates of medical debt, and addressing elder abuse in rural areas.



Clara Busse joined the 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. Clara 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.

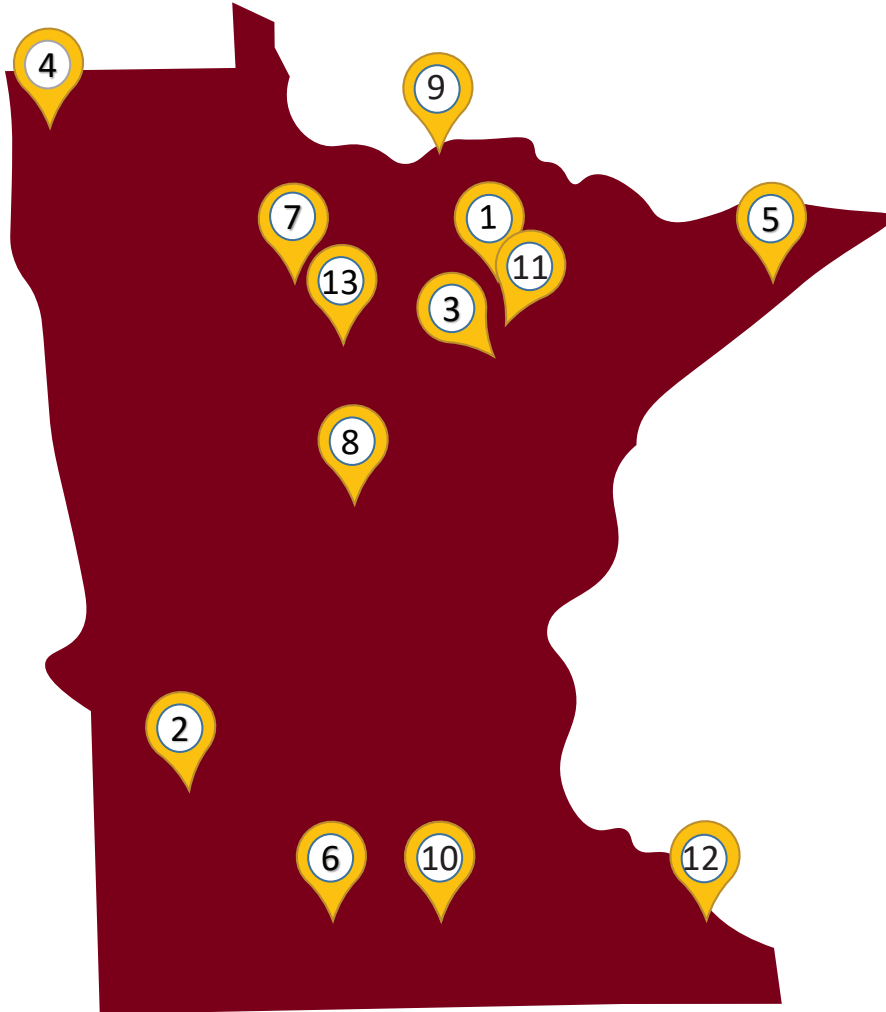
Project REACH (Rural Experts Advancing Community Health)










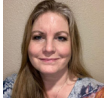


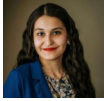
Project REACH (Rural Experts Advancing Community Health) is a year-long program that provides diverse community leaders in rural Minnesota with health policy and leadership training. Participants will learn to frame health policy challenges and how to communicate effectively with state legislators and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

The **third cohort** began the year-long program in August, 2023:

- Ben Cahill, CHW, is a community health worker from Bemidji, Minnesota. Through Project REACH, he focused on **housing policy in his community**. His policy work aims to create local ordinances banning housing discrimination, as well as the creation of landlord risk mitigation funds.
- Shelly Muñoz, MS, is an educational consultant and former teacher living in Brainerd, Minnesota. During Project REACH, she focused on **reducing men's suicides in Crow Wing County**. Her policy work aims to improve access to mental health services and expand the rural mental health workforce.

PROJECT REACH PARTICIPANTS, 2021-24



1. Side Lake <i>Ann Bussey, MS</i> Cohort 1 	6. New Ulm <i>Erin Schwab, BS</i> Cohort 2 	11. Hibbing <i>Shawn Savolainen</i> Cohort 4 
2. Montevideo <i>Leah Lehtola, BS</i> Cohort 1 	7. Bemidji <i>Ben Cahill, CHW</i> Cohort 3 	12. Winona <i>Dan Wilson</i> Cohort 4 
3. Grand Rapids <i>Adam Pavek, PharmD</i> Cohort 1 	8. Brainerd <i>Shelly Muñoz, MS</i> Cohort 3 	13. Walker <i>Fatuma Youb, MPH</i> Cohort 4 
4. Hallock <i>Jeanna Kujava, RN, BA</i> Cohort 2 	9. International Falls <i>Christina Daniel-McKee</i> Cohort 4 	
5. Grand Marais <i>Jodi Tervo Roberts, MS</i> Cohort 2 	10. St. Peter <i>Ana Garza, CHW</i> Cohort 4 	

A **fourth cohort** began the program in August 2024:

- Christina Daniel-McKee is the executive director of a hunger relief organization in International Falls, Minnesota. During Project REACH, she will focus her policy work on food access in Koochiching County.
- Ana Garza, CHW, is a community health worker from St. Peter, Minnesota. During Project REACH, she will focus her policy work on access to mental health care for immigrants.
- Shawn Savolainen is a dialysis technician from Hibbing, Minnesota. During Project REACH, she will focus her policy work on improving medical transportation in the Hibbing area.
- Dan Wilson is a farmer from Winona County. During Project REACH, he will focus his policy work on reducing nitrate contamination in water in Winona and Fillmore Counties.
- Fatuma Youb, MPH, is a public health advocate from Central Minnesota. Through Project REACH, she aims to impact transportation policy in Cass County, Minnesota.



Left: Ann Bussey (Cohort 1) receiving the Minnesota Rural Health Policy Hero Award, June 2024.



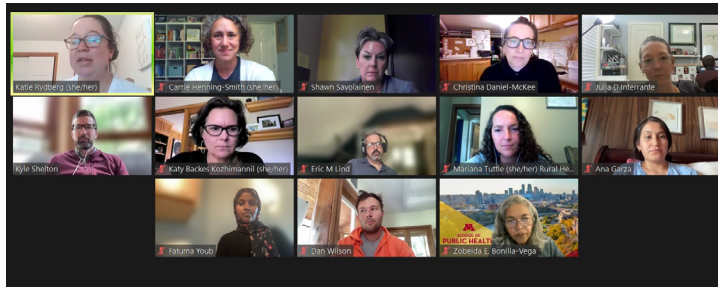
Right: Erin Schwab (Cohort 2) meeting up with Program Manager Katie Rydberg at the South Central Minnesota Mental Health Conference, May 2024.

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

- Ann Bussey (Cohort 1) received the **2023 Minnesota Rural Health Hero Policy Award** as a result of her advocacy and policy work. In March 2024, Ann was the **guest of Senator Amy Klobuchar at the State of the Union Address**.
- Jodi Tervo Roberts (Cohort 2) testified at the Minnesota Newborn Screening Advisory Committee in August 2023. During this testimony, she shared her family's personal experiences and barriers to accessing healthcare and educational supports for her child, as well as her policy recommendations from Project REACH.
- In the past year, we have created a Project REACH Alumni Fund to continue to support Project REACH alumni with any special projects or events related to their policy work. Two events were supported through the Alumni Fund during this program year. Adam Pavak (Cohort 1) held a maternal and child health summit on the Leech Lake Reservation in April 2024. This event brought together tribal and public health partners to discuss systems and policy change needed to improve access to maternal and child health services for Indigenous people living around the Leech Lake Reservation. In May 2024, Erin Schwab (Cohort 2) organized the South Central Minnesota Mental Health Conference in Sleepy Eye, Minnesota. This conference brought together stakeholders from Brown County and surrounding rural areas to discuss systems and policy change related to mental health in that region.

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:

- Jennifer Aranda, PhD, Educator, UMN Extension
- Erica Barnes, MS, CCC-SLP Executive Director, MN Rare Disease Council
- Ann Bussey, MS, former Project REACH participant
- Alyssa Fritz, MPH, RD, CLC, Research & Policy Fellow, RHRC
- Betsy Haugen, MLIS, and Molly Niehls, MLIS, Minnesota Legislative Library
- Molly Malone, MBA, County Commissioner, Murray County, Minnesota
- Anita Provinzino, District Administrator, Northern St. Louis County Soil and Water Conservation District
- Senator Aric Putnam, Senator, Minnesota Senate District 14
- Sarah Sandgren, Health Care and Aging Outreach Director, Office of Senator Tina Smith
- Ellen Wolter, MPH; Lisa Hinz, MA; and Isabel Huot-Link, MHR, Educators, UMN Extension



Project REACH Cohort 4 Kickoff Meeting, where participants and learning partners got to know one another and started the year off on an exciting foot.

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 3 and 4:

- Ryan Allen, PhD, Humphrey School of Public Affairs (Ben Cahill)
- Zobeida Bonilla, PhD, MPH, School of Public Health (Ana Garza)
- Alyssa Fritz, MPH, RD, CLC, RHRC (Christina Daniel-McKee)
- Carrie Henning-Smith, PhD, MPH, MSW, RHRC (Shelly Muñoz and Dan Wilson)
- Julia Interrante, PhD, MPH, RHRC (Shawn Savolainen)
- Mary Jo Katras, PhD, UMN Extension (Christina Daniel-McKee)
- Katy Backes Kozhimannil, PhD, MPA, RHRC (Fatuma Youb)
- Eric Lind, PhD, Center for Transportation Studies (Shawn Savolainen)
- Madeleine Pick, MPH, RHRC (Ben Cahill)
- Megan Schossow, MPH, UMASH (Shelly Muñoz and Dan Wilson)
- Kyle Shelton, PhD, Center for Transportation Studies (Fatuma Youb)
- Mariana Tuttle, MPH, RHRC (Ana Garza)



Project REACH participants (Cohorts 1-3), learning partners, and staff met up at the Minnesota Rural Health Association Conference held in Duluth, both in 2024 (above) and 2023 (below).



Left: Project REACH participants Ben and Shelly both (Cohort 3) in front of the Capitol building after meeting with their legislators. Right: Shelly and Katie meeting up with Project REACH presenter and coalition-building expert, Erica Barnes, inside the Capitol Rotunda.

Rural Collective

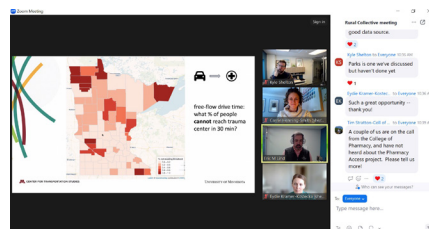
The **University of Minnesota Rural Collective** provides a forum for networking, learning, and collaborating across the University of Minnesota system with the ultimate aim of improving health, quality of life, and community resources for rural people and places throughout Minnesota and across the US. The Collective is an active and growing membership directory, and began regular meetings in spring 2021. As of July 2024, the Collective has a membership of more than 160 University of Minnesota staff, postdocs, and faculty, along with 26 affiliated centers and institutions from across all University campuses and the Extension.

This past year, the Rural Collective has hosted two in-person events. In October 2023, the Rural Collective gathered at the University of Minnesota Duluth campus for a networking meeting held at the offices of the Memory Keepers Medical Discovery Team. This gathering focused on Indigenous health in Northern Minnesota. The Rural Collective gathered again at the University of Minnesota Hormel Research Institute in Austin in April 2024. In addition to time for networking for Rural Collective members, this meeting provided opportunities to learn about the research conducted by the Hormel Institute and local efforts by the University of Minnesota Extension in Southern Minnesota.

The Rural Collective also holds biannual virtual meetings. In December 2023, the virtual meeting featured a presentation by Ben Winchester from the University of Minnesota Extension about his work on the rural “brain gain.” In March 2024, the virtual Rural Collective meeting featured a presentation by Dr. Kyle Shelton and Dr. Eric Lind from the University of Minnesota Center for Transportation Studies.



Learning about Indigenous health at the Rural Collective meeting held in Duluth, October 2023.



A lively and engaged audience listened to the March 2024 presentation by the Center for Transportation Studies.



Rural Collective members gathered in person at the Hormel Research Institute in Austin, April 2024



Results and Impact on Rural Health, 2023-2024

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. In 2022, we created a Policy Lead role at RHRC; this position acts as the main point of contact and lead liaison for key policy stakeholders with an interest in research activities in rural health. Alyssa Fritz, who currently serves in this role, is a point person for policy-related requests and relationships. Her work has allowed us to further expand our already-robust policy relationships and better track our policy engagements and impact.

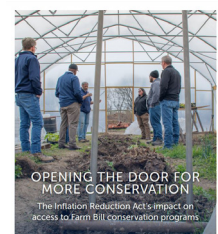
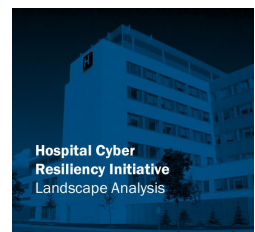
Over the past year, RHRC experts received frequent invitations to share our research findings and relevant insights with key stakeholders, and our work has been cited in major policies and reports – at the federal, tribal, regional, state, and local levels. Several examples are described below:

- Katy Kozhimannil, Julia Interrante, and Alyssa Fritz 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 and the offices of Senators Tina Smith (MN), Maggie Hassan (NH), Ron Wyden (OR), Ben Cardin (MD) and Representatives Lauren Underwood (IL) and Matt Cartwright (PA). These conversations and RHRC research informed two recent pieces of federal legislation: the Keeping Obstetrics Local Act (2024) and the Rural Obstetric Readiness Act (2024).
- Carrie Henning-Smith was invited to speak at the meetings of various rural-relevant policy stakeholder groups, including the Interdisciplinary Network on Rural Population Health and Aging (INRPHA) Rural Health and the Built and Social Environment (RHBSE) Working Group and the Iowa Rural Development Summit in Ames, Iowa (April 2023).
- Katy Kozhimannil traveled to Austin, TX to present to state policy leaders at the National Conference of State Legislators MCH Forecasting 2024 Priorities meeting in December 2023, and to Fairfield, CA in February 2024 to deliver the keynote at the Partnership HealthPlan of California Shuttering of Maternity Care Centers in Northern California Conference.
- Carrie met with U.S. Senate Finance Subcommittee on Health Care staff and the offices of Senators Ben Cardin (MD) and Steve Daines (MT) to consult on issues related to aging and home health in rural communities.
- Katy met, upon request, with members of the White House Domestic Policy Council to provide consultation on numerous maternal health equity topics.
- Julia presented, upon request, in March 2024 to the Western Regional Healthcare Law Forum for Attorneys General, and she and Alyssa Fritz have subsequently consulted with the California Attorney General's Office.
- 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).
- Katie Rydberg consulted with National Alliance to End Homelessness on the housing needs of rural older adults in 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 Initiative.
- Our team has regular contact with Minnesota’s federal legislators. Carrie works closely with Representative Angie Craig’s office. Center staff including Katy Kozhimannil, Alyssa Fritz and Katie Rydberg have met with outreach staff from the offices of both of Minnesota’s U.S. Senators, Senators Amy Klobuchar and Tina Smith. Meetings with U.S. Senate staff included a “tour” of RHRC’s website and the Rural Health Gateway. Legislative staff expressed great enthusiasm for the products available on these platforms in preparing issue briefs for the Senators.
- At the state level, Alyssa Fritz has engaged with Minnesota state government staff, including from Governor Tim Walz’s Children’s Cabinet and the Health Economics Program within the Minnesota Department of Health.
- Katy and Alyssa provided input to Minnesota State Senator Bill Lieske (Lonsdale) on questions related to the potential impact of proposed nurse staff legislation on rural Minnesota hospitals.
- Carrie served on the 2023 Minnesota Department of Health Provider Orders for Life-Sustaining Treatment (POLST) Registry Advisory Committee.
- RHRC research has been recently cited in numerous government and policy stakeholder documents, including:
 - 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)
 - *Hospital Cyber Resiliency Initiative: Landscape Analysis* (2023), U.S. Department of Health and Human Services 405(d) Program
 - *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
 - *Safer but Alone: How COVID-19 Protections Affected Older Adults’ Mental Health Report* (2023), Population Reference Bureau
 - *Maintaining Fidelity to ACT: Current Issues and Innovations in Implementation Guide* (2023), Substance Abuse and Mental Health Services Administration (SAMHSA)
- 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



Carrie and Mariana with Rep. Angie Craig at a Round Table on rural health issues.



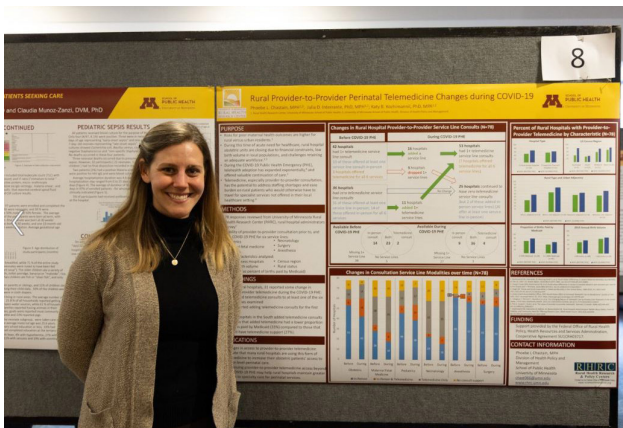
Honors and Awards

Carrie Henning-Smith was honored with a University of Minnesota McKnight Presidential Fellowship for 2022-2025 in recognition of her work on rural health. In addition, Carrie was recently 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. Her term began in September 2023.

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, maternity care access, and racial equity.

RHRC staff also received 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.

From 2023 through 2024, RHRC research assistants have demonstrated success at the University of Minnesota School of Public Health in school-wide competitions. RHRC research assistant Phoebe Chastain, MPH, was awarded first place in “Best Poster” for her work at the 2023 Research Day. That year, she also received the award for “Best Masters Project” in the Public Health Administration and Policy (PHAP) Program. In 2024, FMT research assistant Carson Crane, MPH, won “Best Poster” at Research Day and “Best Presentation” in the PHAP program.



Phoebe Chastain and her award-winning poster at UMN SPH Research Day, April 2023



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

Press Coverage

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 including *The New York Times*, *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 to make direct connections with additional local & national reporters who cover rural health.

From January 2023 through June 2024, our research was cited in 79 different press pieces, including news articles, radio interviews, and television interviews. These ranged in reach from smaller local newspapers (e.g. Moose Lake Star Gazette) to state-level (e.g. Minnesota Star Tribune, Connecticut Mirror), and large national media outlets (e.g. CNN, National Public Radio). We also leveraged opportunities to share our research further in timely commentaries and op-eds published in major media outlets. In 2023-24, our research was featured in 60 unique media outlets, from local to national, including:

- ABC News
- Alexandria Echo Press
- Axios Twin Cities
- Bloomberg News
- Brainerd Dispatch
- City View
- CNN
- Connecticut Mirror
- County News Review
- The Daily Yonder
- Duluth News Tribune
- The Good Men Project
- Hartford Courant
- Hoodline
- InForum
- Isanti-Chisago County News
- KAKE (ABC affiliate in Kansas)
- KCUR (Kansas City Public Radio)
- KFF Health News
- KSTP (ABC affiliate in St. Paul)
- Louisiana Illuminator
- Med Page Today
- Medical Xpress
- Minnesota News Network
- Minnesota Public Radio
- Minnesota Reformer
- Minnesota Star Tribune
- MinnPost
- Modern Healthcare
- Moose Lake Star Gazette
- Ms. Magazine
- Muckrock
- NBC News
- The New York Times
- Next Avenue
- North Carolina Health News
- Northern News Now
- NPR
- Ohio Capital Journal
- Park Rapids Enterprise
- RHIHub
- Rochester Post-Bulletin
- Rural Impact
- Salon
- Side Effects Public Media
- The Current
- Tri-County News
- University of Minnesota
- US News & World Report
- USA Today
- The Wall Street Journal
- WCCO-AM Radio
- WDSU (NBC affiliate New Orleans, LA)
- WFYI Public Radio



Presentations, 2023-2024

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

- 100 Rural Women, Webinar, Jan 2023
- AcademyHealth Annual Research Meeting: Seattle, WA Jun 2023; Baltimore, MD Jul 2024
- Alliance for Full Acceptance LGBTQ+ Health Education & Advocacy Summit, Virtual, Mar 2023
- Dancing Sky Area Agency on Aging, Webinar, Feb 2024
- HealthLeaders Long-Term Care NOW Summit, Virtual, Sept 2023
- Healthy Birth Day Symposium, Ankeny, IA, Oct 2023
- Interdisciplinary Network on Rural Population Health and Aging (INRPHA) Rural Health and the Built and Social Environment (RHBSE) Working Group, Virtual, Apr 2023
- Iowa Rural Development Summit, Ames, IA, Apr 2023
- Many Faces of Community Health Conference, Bloomington, MN, Aug 2023
- Maternal Health Innovation Learning Collaborative, Virtual, Nov 2023
- Minnesota Center for Transportation Studies Future of Mobility Series Launch, Minneapolis, MN, Jan 2023
- Minnesota Demography & Aging Seminar Series, Minneapolis, MN, Oct 2023
- Minnesota Rural Health Conference, Duluth, MN, Jun 2024
- National Conference of State Legislatures Maternal and Child Health Conference, Austin, TX, Dec 2023
- National Institutes of Health Prevention in Focus, Webinar, Jun 2024
- National Rural Health Association (NRHA) Annual Meeting: San Diego, CA May 2023; New Orleans, LA, May 2024
- NRHA Critical Access Hospital (CAH) Conference, Kansas City, MO, Sept 2023
- NRHA Health Equity Conference: San Diego, CA May 2023; New Orleans, LA, May 2024
- NRHA National Rural Age-Friendly Initiative, Virtual, Feb 2024
- National Rural Institute on Alcohol and Drug Abuse, Menomonie, WI, Jun 2023
- New York State Association for Rural Health and New England Rural Health Association Rural Health Webinar Series, Webinar, Jan 2024
- North Central Regional Center for Rural Development Webinar, Virtual, Nov 2023
- Oregon CAH Quality Workshop, Bend, OR, Jun 2024
- Partnership HealthPlan of California Conference, Fairfield, CA, Feb 2024
- Rural Health Research Gateway, Webinar, May 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 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 Health Equity Leadership & Mentoring Program, Virtual, Jan 2023
- UMN SPH Division of Health Policy & Management Seminar Series, Minneapolis MN, Apr 2024
- UMN SPH Research Day, Minneapolis, MN, Apr 2024
- University of Nevada Reno Health Equity Series, Webinar, Sept 2024
- University of Virginia Summer Medical Leadership Program, Virtual, Jun 2024

Research Products

- **“Provision of Hospice Services by Critical Access Hospitals: Strengths and Challenges,”** *FMT Policy Brief*, October 2023
- **“Eight Postpartum Support Programs in Rural Communities Across the United States,”** *RHRC Case Study Series*, August 2023
- **“Differences in Residential Stability by Rural/Urban Location and Socio-Demographic Characteristics,”** *RHRC Policy Brief*, August 2023
- **“Housing Quality by Disability, Race, Ethnicity, and Rural-Urban Location: Findings from the American Community Survey,”** *RHRC Policy Brief*, July 2023
- **“State Differences in Recommended Components of Care Received During Postpartum Visits for Rural and Urban Residents, 2016-2019,”** *RHRC Policy Brief*, July 2023
- **“Two National-Level Organizations Supporting Rural Postpartum Health Across the United States,”** *RHRC Case Study Series*, July 2023
- **“Manilaq Health Center: Providing High-Quality Obstetric Care to American Indian/Alaska Native People in Rural Kotzebue, Alaska,”** *RHRC Case Study*, June 2023
- **“Distribution of Direct Care Workforce COVID-19 Funding Between Rural and Urban Counties in Minnesota and Illinois,”** *RHRC Policy Brief*, May 2023
- **“Indicators of Familial Social Support by Rurality and Gender Identity,”** *RHRC Policy Brief*, March 2023
- **“Crowded Housing and Housing Cost Burden by Disability, Race, Ethnicity, and Rural-Urban Location,”** *RHRC Policy Brief*, March 2023
- **“Rural School- and Community-Based Programs Supporting LGBTQ+ Youth,”** *RHRC Case Study Series*, February 2023
- **“Patient Transfers to and from Critical Access Hospitals During the COVID-19 Pandemic,”** *FMT Policy Brief*, February 2023
- **“Critical Access Hospital Workforce During COVID-19: Barriers and Facilitators for Recruiting and Retaining Staff,”** *FMT Policy Brief*, February 2023
- **“Care Coordination and Community Partnerships for Cancer Care in Critical Access Hospitals,”** *FMT Policy Brief*, January 2023
- **“Impacts of Critical Access Hospital Independence and System Ownership during the COVID-19 Pandemic,”** *FMT Policy Brief*, January 2023

POLICY BRIEF
July 2023

Housing Quality by Disability, Race, Ethnicity, and Rural-Urban Location: Findings from the American Community Survey

Authors: Elizabeth F. Foltz, PhD; Megan Jayne Pitts, PhD; Caitlin Manning Smith, PhD, MPH, MSPH

Purpose: Housing quality is essential to health and well-being. However, little research examines these factors by location. In this policy brief, we examine rates of low housing quality indicators by housing type, disability, race, and ethnicity, and by rural-urban location. We also examine the relationship between housing quality and disability status.

Key Findings:

- A higher proportion of rural residents have inadequate kitchen or bathroom plumbing facilities compared to urban residents.
- Housing quality is generally lower in apartment buildings.
- Within housing type, we identified differences in housing quality by disability, race, and ethnicity.
- In both rural and urban areas, a higher proportion of people with a disability have inadequate kitchen or bathroom plumbing facilities compared to adults without a disability.
- Rural residents, both those with and without a disability, have higher rates of inadequate plumbing than their urban counterparts with a disability or without a disability overall, and are more likely to have inadequate plumbing than people with a disability overall.
- Overall, rural American Indian or Alaska Native residents have the highest rates of inadequate plumbing facilities, followed by rural Black or African American residents.

Background: Housing quality is essential to health and well-being. However, little research examines these factors by location. In this policy brief, we examine rates of low housing quality indicators by housing type, disability, race, and ethnicity, and by rural-urban location. We also examine the relationship between housing quality and disability status.

Disparities in housing quality may be exacerbating poor health and health care outcomes. People with disabilities, people of color, and people in rural areas may have lower rates of adequate housing quality than their counterparts in urban areas.

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

OCTOBER 2023

Provision of Hospice Services by Critical Access Hospitals: Strengths and Challenges

Authors: Rachel A. Smith, PhD; Megan Jayne Pitts, PhD; Hannah MacDougall, PhD; Allison Henderson, MPH

Purpose: Critical Access Hospitals (CAHs) play a vital role in rural communities, providing essential health and care services. However, little research examines these factors by location. In this policy brief, we examine rates of hospice services by location, rurality, and ethnicity, and by rural-urban location. We also examine the relationship between hospice services and rurality.

Key Findings:

- Of the 100 CAHs included in the study, 60% provided hospice services.
- The number of hospice services provided increased from 2016 to 2019.
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- The number of hospice services provided increased from 2016 to 2019.

Background: Critical Access Hospitals (CAHs) play a vital role in rural communities, providing essential health and care services. However, little research examines these factors by location. In this policy brief, we examine rates of hospice services by location, rurality, and ethnicity, and by rural-urban location. We also examine the relationship between hospice services and rurality.

CASE STUDY
June 2023

Manilaq Health Center: Providing High-Quality Obstetric Care to American Indian/Alaska Native People in Rural Kotzebue, Alaska

Authors: Elizabeth F. Foltz, PhD; Megan Jayne Pitts, PhD; Allison Henderson, MPH

Purpose: The purpose of this case study is to highlight a range of practices and programs that support high-quality obstetric care in rural Alaska. The study focuses on the Manilaq Health Center, a Critical Access Hospital (CAH) in Kotzebue, Alaska, which provides obstetric care to American Indian/Alaska Native (AI/AN) people in a rural community.

Key Findings:

- The Manilaq Health Center provides high-quality obstetric care to AI/AN people in a rural community.
- The center offers a range of services, including prenatal care, labor and delivery, and postpartum care.
- The center has a strong focus on cultural safety and community engagement.
- The center has a strong focus on cultural safety and community engagement.

Background and Policy Context: The United States has one of the highest rates of maternal mortality compared to other developed countries, and rates are highest for American Indian/Alaska Native (AI/AN) women. In rural Alaska, maternal mortality rates are even higher, and many women face barriers to accessing care.

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

JANUARY 2023

Impacts of Critical Access Hospital Independence and System Ownership during the COVID-19 Pandemic

Authors: Elizabeth F. Foltz, PhD; Megan Jayne Pitts, PhD; Allison Henderson, MPH

Purpose: The COVID-19 pandemic has covered and exacerbated existing challenges for Critical Access Hospitals (CAHs) throughout the country. This brief examines the impacts of CAH independence and system ownership on the ability of CAHs to respond to the pandemic.

Key Findings:

- Independent CAHs were more likely to have adequate staffing during the pandemic.
- System-owned CAHs were more likely to have adequate staffing during the pandemic.
- Independent CAHs were more likely to have adequate staffing during the pandemic.
- System-owned CAHs were more likely to have adequate staffing during the pandemic.

Background: The COVID-19 pandemic has covered and exacerbated existing challenges for Critical Access Hospitals (CAHs) throughout the country. This brief examines the impacts of CAH independence and system ownership on the ability of CAHs to respond to the pandemic.

Journal Articles

- “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
- “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
- “Rural-Urban Differences in Health Care Unaffordability During the Postpartum Period,” *Medical Care*, March 2024
- “Scoping Literature Review: Experiences of Sexual and Gender Minority Older Adults, with Diagnoses of Dementia, Who Use Residential Long-term Services and Supports,” *Journal of Applied Gerontology*, November 2023
- “Rural/Urban Differences in Receipt of Governmental Rental Assistance: Relationship to Health and Disability,” *Journal of Rural Health*, October 2023
- “Declining Access to US Maternity Care is a Systemic Injustice,” *BMJ*, September 2023
- “Guideline-Discordant Inhaler regimens after COPD hospitalization: associations with rurality, drive time to care, and fragmented care – a United States cohort study,” *The Lancet Regional Health – Americas*, September 2023
- “Characteristics of Short-Term Acute Care Hospitals that Experienced a Ransomware Attack from 2016-2021,” *Health Affairs Scholar*, August 2023



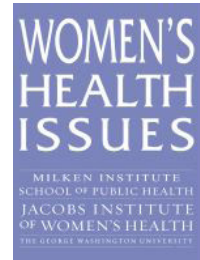
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Journal Articles

- “Rural/Urban Differences in Rates and Predictors of Intimate Partner Violence and Abuse Screening among Pregnant and Postpartum United States Residents,” *Health Services Research*, August 2023
- “Access to Health Care for Transgender and Gender Diverse Adults in Urban and Rural Areas in the United States,” *Medical Care Research and Review*, August 2023
- “Multi-Sector Collaboration to Support Rural Aging,” *Public Policy & Aging Report*, August 2023
- “Rural-Urban Differences in Health Care Unaffordability,” *Journal of Rural Health*, July 2023
- “Racial Arrest Disparities in the United States by Rural-Urban Location and Region,” *Journal of Racial and Ethnic Health Disparities*, July 2023
- “Availability of Cancer Care Services and the Organization of Care Delivery at Critical Access Hospitals,” *Cancer Medicine*, July 2023
- “Obstetric Volume and Severe Maternal Morbidity Among Low-Risk and Higher-Risk Patients Giving Birth at Rural and Urban US Hospitals,” *JAMA Health Forum*, June 2023
- “‘Going Back in the Closet’: Addressing Discrimination Against Sexual and Gender Minority Residents in Long-Term Services and Supports by Providing Culturally Responsive Care,” *Journal of Aging & Social Policy*, June 2023
- “Factors Associated with Health Care Professionals’ Choice to Practice in Rural Minnesota,” *JAMA Network Open*, May 2023
- “Challenges and Recommendations for Improving Access to Evidence-Based COPD Management among Veterans: Rural Primary Care Provider Perspectives,” *Journal of General Internal Medicine*, April 2023
- “Incidental Sun Exposures as a Source of Sunburn among Rural Residents in the United States,” *Journal of Rural Health*, March 2023
- “Advancing the Age-Friendly Movement in Rural Communities,” *Journal of Aging Life Care*, February 2023
- “Who Will Care for Rural Older Adults? Measuring the Direct Care Workforce in Rural Areas,” *Journal of Applied Gerontology*, February 2023
- “Rural and Urban Differences in Insurance Coverage at Prepregnancy, Birth, and Postpartum,” *Journal of Obstetrics and Gynecology*, February 2023
- “Unmet Needs for Help with Mobility Limitations among Older Adults Aging in Place: the Role of Rurality,” *Journal of Aging and Health*, January 2023
- “Racial Disparities in Respectful Maternity Care During Pregnancy and Birth After Cesarean in Rural United States,” *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, January 2023

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OTHER COLLABORATIONS AND PARTNERSHIPS, 2022-2023

In addition to the three core programs under the RHRC umbrella (the RHRC Grant, the Flex Monitoring Team, and the Rural Health Program), 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 lead 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. 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**, led by the Center for Antiracism Research for Health Equity at the University of Minnesota. Katy Backes Kozhimannil is a co-Principal Investigator with Rachel Hardeman of the Hub, which aims to identify, analyze and share antiracist policy strategies and develop a body of evidence that can eliminate racial injustice and improve health and well-being for all communities. One project, led by Julia Interrante and Katy Backes Kozhimannil, uses an antiracist lens to examine intersectional identities and risk in postpartum health, with a focus on Hispanic and Indigenous people in rural and urban U.S. communities.

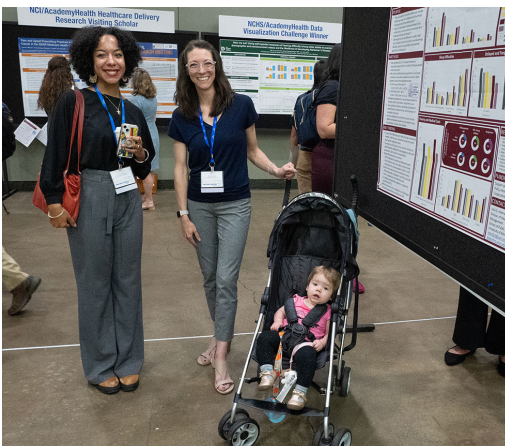




Snapshots of Our Team, 2023-2024



We experienced our very first Minnesota FarmFest in August 2024. The event, held annually in Morgan (Redwood County), draws thousands of individuals with an interest in farming and agribusiness to the area. Our SPH colleagues at the Upper Midwest Agricultural Safety and Health (UMASH) Center offered table space in their Farm Safety Pavilion, where we had a fantastic opportunity to connect with rural residents from across the state.



Summer conference season typically includes RHRC participation at national, state, and local levels. Pictured left: Julia presenting her poster at the 2024 AcademyHealth Annual Research Meeting. Pictured right: Katie, Megan, and Hannah at the 2024 Minnesota Rural Health Association Conference.



May is always a busy month for us at RHRC, between graduation festivities and the National Rural Health Association (NRHA) Annual Conference. Pictured above, clockwise from top left: Katy embracing RHRC research assistant Phoebe Chastain at the 2023 SPH Commencement; Carrie alongside masters project advisee and FMT research assistant Carson Crane at the 2024 SPH Commencement; RHRC staff and research assistants exploring New Orleans during the 2024 NRHA Annual Conference; medical debt project team members after a successful plenary session at the 2024 NRHA Health Equity Conference.



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. Pictured here are some of those who were able to gather for tacos and fun in Co-Director Carrie Henning-Smith's backyard in August of 2024.



Acknowledgements

Funding

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/>

We also receive funding support from the Office of Academic and Clinical Affairs and Clinical and Translational Science Institute at the University of Minnesota, and some of our faculty and staff are funded through grants from the National Institutes of Health, the Robert Wood Johnson Foundation, the National Center for Mobility Management, and the North Central Regional Center for Rural Development.

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.



Funded by the Federal Office of Rural Health Policy
www.ruralhealthresearch.org

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