



UNIVERSITY OF MINNESOTA  
**RURAL HEALTH  
RESEARCH CENTER**

# Annual Report, 2021-22



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.



[rhrc.umn.edu](http://rhrc.umn.edu)





## A NOTE FROM LEADERSHIP

In the past year, as the COVID-19 pandemic has continued to keep many of us working from home and interacting via Zoom, we have celebrated advancements in science (from pediatric vaccines to effective treatments for COVID-19) and the opportunities we have had to be together in person locally and nationally. Gathering with colleagues for annual meetings of the National Rural Health Association and AcademyHealth took on additional meaning after limited opportunities to safely be together in person over the past two and a half years.

At a time of unprecedented challenge in politics and economics – globally, nationally, and locally – we are proud to contribute to policy change to improve the conditions for rural people and communities. In spring and summer of 2022, Carrie had the honor of contributing to rural-focused meetings of the U.S. Senate Committee on Agriculture, Nutrition, and Forestry and the U.S. House Select Committee on Economic Disparity and Fairness in Growth. For both, she provided written and oral statements drawing on our research at the University of Minnesota Rural Health Research Center (RHRC) to advise on health equity issues for rural populations. More locally, we have been able to present our RHRC research on rural LGBTQ health to audiences in Sartell, Minnesota and Menomonie, Wisconsin and continue to deepen our engagement with rural stakeholders across Minnesota and the upper Midwest.

Over the past year, we have been also gratified to see how our research on rural maternity care has translated into concrete federal policy change. In June 2022, the administration released a Maternal Health Blueprint that extensively cited our research, and we hope will guide the allocation of resources to ensure access to safe, supportive, high-quality childbirth care for all rural residents, especially rural Black and Indigenous people. In March of 2022, the federal Rural Maternal and Obstetric Modernization of Services (MOMS) Act was signed into law. We led much of the research that underpins the legislation, and have been working directly with U.S. Senators and the Senate Rural Health Caucus on this bill since 2016. Seeing it passed into law is an incredible victory! The Rural MOMS Act takes important steps toward understanding the root causes of maternal mortality and developing solutions to improve maternal care in rural areas and communities of color.

The launch of the University of Minnesota's Rural Health Program brought many important achievements to our team. We are grateful to Katie Rydberg for her work as program manager, establishing Project REACH's infrastructure and curriculum, and shepherding the first cohort's successful completion of the program. Additionally, our first two postdoctoral fellows (Bridget Basile Ibrahim and Hannah MacDougall) both landed excellent faculty positions and will continue to collaborate with our team in their new roles. We will be excited to welcome two more postdocs this coming year (Alexis Swendener and Julia Interrante). Finally, the Rural Collective, which brings together staff and faculty and staff from across the University of Minnesota system who are interested in rural issues, has had great participation at networking events and co-sponsored a pilot effort to bring data collection to rural county fairs across Minnesota this summer.

As always, we remain grateful for our incredible team and for the work we are able to do with and on behalf of rural community members. We are motivated by the ongoing need to improve health equity for all rural residents, and are inspired by the countless examples of resourcefulness, resiliency, and creativity that we see in rural places in Minnesota and across the country and world.

Katy Backes Kozhimannil, PhD, MPA

Carrie Henning-Smith, PhD, MSW, 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, a division of the Health Resources and Services Administration within the U.S. Department of Health and Human Services. The RHRC also 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.

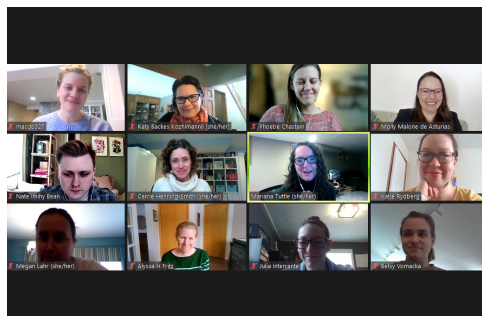
## VISION

Our dedicated team of experts at the University of Minnesota Rural Health Research Center 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 policy-making. 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.



*2022 National Rural Health Association Award Winners, including Carrie Henning-Smith (top left), Julia Interrante (bottom right), and Katy Backes Kozhimannil (not pictured).*

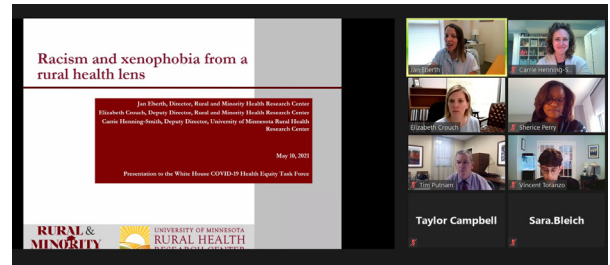


*February 2022 RHRC Monthly Meeting featuring special guest, County Commissioner Molly Malone de Asturias (top right), from rural Murray County, Minnesota.*



## 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.



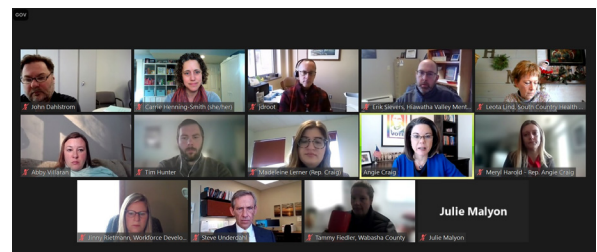
*Carrie Henning-Smith presenting to the White House COVID-19 Health Equity Task Force, May 2021.*



*Playground in rural Willmar, Minnesota with signs in English, Spanish, and Somali.*



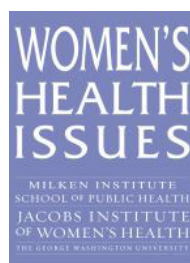
*East Central Minnesota Pride celebration in Pine City, Minnesota, June 2022.*



*Rural Health Advisory Council with U.S. Representative Angie Craig (MN-02) on rural health, January 2022.*

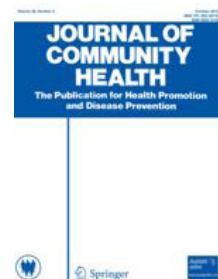
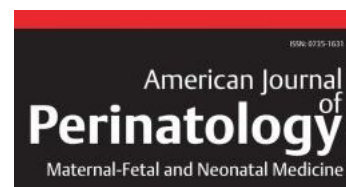
## JOURNAL ARTICLES, 2021-22

- “Rural/Urban Differences in Access to Paid Sick Leave among Full-Time Workers,” *Journal of Rural Health*, July 2022.
- “Inequities in Availability of Evidence-Based Birth Supports to Improve Perinatal Health for Socially Vulnerable Rural Residents,” *Children*, July 2022.
- “Rural Health Disparities in Health Care Utilization for Dementia in Minnesota,” *Journal of Rural Health*, July 2022.
- “Severe Maternal Morbidity and Mortality Risk at the Intersection of Rurality, Race and Ethnicity, and Medicaid,” *Women’s Health Issues*, June 2022.
- “Social Isolation and Safety Issues among Rural Older Adults Living Alone: Perspectives of Meals on Wheels Programs,” *Journal of Aging & Social Policy*, May 2022.
- “Approaches to Serving Rural Older Adults in State Plans on Aging: a Policy Content Evaluation,” *Journal of Applied Gerontology*, May 2022.
- “Association Between Medicaid Expansion and Closure of Hospital-Based Obstetric Services,” *Health Affairs*, April 2022.
- “Rural Hospital Administrators’ Beliefs About Safety, Financial Viability, and Community Need for Offering Obstetric Care,” *JAMA Health Forum*, March 2022.
- “Direct Oral Anticoagulants and Warfarin for Atrial Fibrillation Treatment: Rural and Urban Trends in Medicare Beneficiaries,” *American Journal of Cardiovascular Drugs*, March 2022.
- “Contact by Collection Agencies for Medical Debt: Rural-Urban Differences Among Older and Younger Medicare Beneficiaries,” *Journal of Applied Gerontology*, February 2022.



## JOURNAL ARTICLES, 2021-22

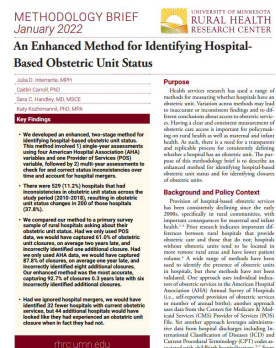
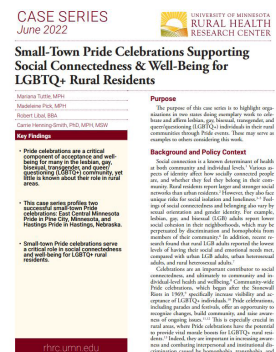
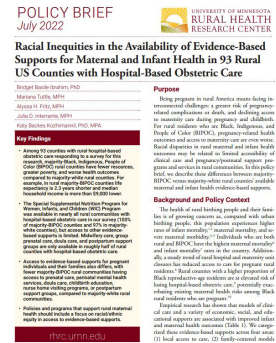
- “Farmer Mental Health in the US Midwest: Key Informant Perspectives,” *Journal of Agromedicine*, January 2022.
- “Birth Volume and Geographic Distribution of US Hospitals with Obstetric Services from 2010 to 2018,” *JAMA Network Open*, October 2021.
- “‘They’re Not Leaving Their Home; This Is Where They Were Born, This Is Where They Will Die.’: Key Informant Perspectives From the US Counties With the Greatest Concentration of the Oldest Old,” *Research on Aging*, July 2021.
- “Contraceptive Method Use by Rural-Urban Residence Among Women and Men in the US, 2006-2017,” *Women’s Health Issues*, May 2021.
- “Racial and Ethnic Differences in Self-Rated Health Among Rural Residents,” *Journal of Community Health*, April 2021.
- “Comparison of Maternal and Neonatal Subspecialty Care Provision by Hospital,” *American Journal of Perinatology*, April 2021.
- “Improving Health Among Rural Residents in the United States,” *JAMA*, March 2021.
- “Challenges to Admitting Residents: Perspectives From rural nursing home administrators and staff,” *INQUIRY*, March 2021.
- “Local Capacity for Emergency Births in Rural Hospitals without Obstetrics Services,” *Journal of Rural Health*, March 2021.
- “Rurality, Death, and Healthcare Utilization in Heart Failure in the Community,” *Journal of the American Heart Association*, February 2021.
- “Differences by Rurality in Satisfaction with Care Among Medicare Beneficiaries,” *Journal of Rural Health*, January 2021.





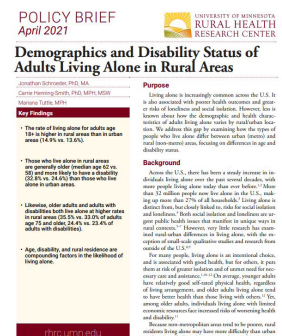
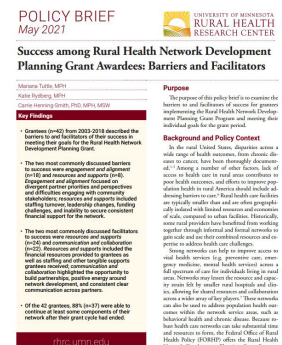
## RESEARCH PRODUCTS, 2021-22

- “Racial Inequities in the Availability of Evidence-Based Supports for Maternal and Infant Health in 93 Rural US Counties with Hospital-Based Obstetric Care,” *Policy Brief*, July 2022.
- “Self-Rated Health Among Gay, Lesbian, and Bisexual Adults: Rural/Urban Differences,” *Policy Brief*, July 2022.
- “Anxiety, Depression, and Access to Mental Health Care by Sexual Orientation and Rurality,” *Policy Brief*, June 2022.
- “Improving Access to LGBTQIA+-Friendly Care in Rural Areas,” *Case Study*, June 2022.
- “Small-Town Pride Celebrations Supporting Social Connectedness & Well-Being for LGBTQ+ Rural Residents,” *Case Study*, June 2022.
- “Rural Community Organizations Building Inclusive Environments for LGBTQ+ Residents,” *Case Study*, June 2022.
- “Prevalence of Chronic Conditions by Sexual Orientation and Rural-Urban Location,” *Policy Brief*, June 2022.
- “Social and Emotional Support during the COVID-19 Pandemic by Sexual Orientation and Rurality,” *Policy Brief*, June 2022.
- “Social Cohesion and Social Engagement among Older Adults Aging in Place: Rural/Urban Differences,” *Policy Brief*, January 2022.
- “Evaluating the Rural HIV/AIDS Planning Program,” *Policy Brief*, January 2022.
- “An Enhanced Method for Identifying Hospital-Based Obstetric Unit Status,” *Methodology Brief*, January 2022.
- “Rural Health Network Development Planning Grantees: Geographic Location and Change Over Time,” *Policy Brief*, November 2021.
- “Barriers to Aging in Place in Rural Communities: Perspectives from State Offices of Rural Health,” *Policy Brief*, November 2021.



# RESEARCH PRODUCTS, 2021-22

- “Statewide Age-Friendly Initiatives: An Environmental Scan,” *Policy Brief*, October 2021.
- “Examples of Statewide Age-Friendly Initiatives,” *Policy Brief*, October 2021.
- “Successes and Challenges to Network Sustainability: Perspectives of 2019-20 Rural Health Network Development Planning Grantees,” *Policy Brief*, October 2021.
- “State and Regional Differences in Access to Hospital-Based Obstetric Services for Rural Residents, 2018,” *Policy Brief*, August 2021.
- “Success among Rural Health Network Development Planning Grant Awardees: Barriers and Facilitators,” *Policy Brief*, May 2021.
- “Rural Health Network Development Planning Grants Awarded to Entities in Counties with Majority Black, Indigenous, and People of Color Populations, 2003-2020,” *Policy Brief*, May 2021.
- “Trends in Network Focus Areas among Network Development Planning Grantees, 2003-2020,” *Policy Brief*, May 2021.
- “Preferences for Long-Term Care Arrangements among Rural and Urban Older Adults,” *Policy Brief*, May 2021.
- “Demographics and Disability Status of Adults Living Alone in Rural Areas,” *Policy Brief*, April 2021.
- “Rural and Urban Hospital Characteristics by Obstetric Service Provision Status, 2010-2018,” *Policy Brief*, April 2021.
- “Characteristics of Rural and Urban U.S. Hospitals Based on Obstetric Services,” *Infographic*, April 2021.
- “Barriers to Health Care Access for Rural Medicare Beneficiaries: Recommendations from Rural Health Clinics,” *Policy Brief*, January 2021.



## PRESENTATIONS, 2021-22

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

- Alaska Perinatal Quality Collaborative and Maternal and Child Death Review Program, Joint Summit, Virtual, Apr 2021.
- AARP Policy Roundtable on Rural Caregivers, Virtual, Feb 2021.
- AcademyHealth Annual Research Meeting: Virtual, Jun 2021; Washington, DC, Jun 2022.
- American Community Survey Data Users Group Annual Conference, Virtual, May 2021.
- Association of Health Care Journalists Rural Health Journalism Workshop, Virtual, Jun 2021.
- Centers for Disease Control & Prevention Vaccine Task Force on Older Adults, Virtual, Jan 2021.
- Great Plains Senior Services Collaborative Training, Virtual, Apr 2021.
- HRSA Office of Intergovernmental and External Affairs Rural Health Equity Learning Series, Virtual, Jul 2022.
- Marshfield Clinic Research Institute Seminar Series, Virtual, Mar 2021.
- Minnesota Social Service Administration Region 9 Summer Series: Responding to Behavioral Health Needs Among Older Adults Webinar, Virtual, Jun 2021.
- National Rural Health Association Annual Meeting: New Orleans, LA, May 2021; Albuquerque, NM, May 2022.
- National Rural Health Association Health Equity Conference: New Orleans, LA, May 2021; Albuquerque, NM, May 2022.
- National Rural Health Association Policy Institute, Washington, DC, Feb 2021.
- Rural Health Advisory Roundtable with Representative Angie Craig, Virtual, Jan 2022.
- Rural Health Research Gateway Webinar, Virtual, Jan 2022.
- National Rural Institute on Alcohol and Drug Abuse, Menomonie, WI, Jun 2022.
- Rural Sociological Society Annual Meeting, Virtual, Jul 2021.
- The RTT Collaborative, Virtual, Jan 2022.
- Schwartz Center for Economic Policy Analysis and UMass Boston Webinar, Virtual, Feb 2021.
- Service Employees International Union Healthcare Leadership Conference, Virtual, Dec 2021.
- State Health Access Data Assistance Center (SHADAC) Research Meeting, Virtual, Jul 2022.
- Stratis Health Rural Quality Advisory Council Meeting, Virtual, Apr 2022.
- U.S. House Committee on Economic Disparity and Fairness in Growth, Washington, DC, Jul 2022.
- U.S. Senate Committee on Agriculture, Nutrition, and Forestry, Virtual, Mar 2022.
- University of Minnesota Office of Academic Clinical Affairs Mini Medical School, Virtual, Mar 2022.
- University of Washington School of Public Health Invited Presentation, Seattle, WA, Feb 2021.
- Washington University in St. Louis Center for Health Economics and Policy Collaborative Invited Presentation, Virtual, Jan 2022.
- White House COVID-19 Health Equity Task Force, Virtual, May 2021.



## PUBLIC IMPACT, 2021-22

### Website

We strive to maintain an accessible, user-friendly website where people from all abilities and backgrounds can engage with our research. This effort resulted in metrics we are proud of for 2021-22.

#### • Traffic

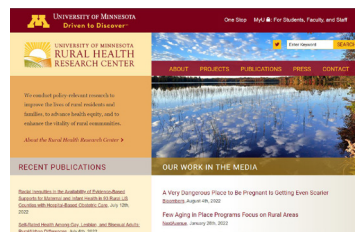
- Total # of sessions (single visit to the website): 20,013 (1.4 per user)
- Total # of pageviews (single visit to a page on the site): 36,303 (1.8 per session)
- Some users access our site by typing our URL directly (28.5%), others use a search engine (34.4%), some are referred from other sites (34.4%), and still others from social media or email (2.6%)

#### • People

- Total # of users: 14,175
- 84.3% new, 15.7% returning

#### • Content

- Total number of products downloaded: 4,707
- Top 5 publications downloaded (number of downloads):
  - \* *Barriers to Aging in Place in Rural Communities: Perspectives from State Offices of Rural Health* (256)
  - \* *Barriers to Health Care Access for Rural Medicare Beneficiaries: Recommendations from Rural Health Clinics* (251)
  - \* *Social Cohesion and Social Engagement Among Older Adults Aging in Place: Rural/Urban Differences* (164)
  - \* *Statewide Age-Friendly Initiatives: An Environmental Scan* (146)
  - \* *Rural and Urban Hospital Characteristics by Obstetric Service Provision Status, 2010-2018* (135)



### Twitter

With over 1,400 Twitter followers (an increase of 34% since January 2021), we have a large platform through which to share our work. We leverage Tweets and Retweets frequently to disseminate our research. Follow us at @UMNRHRC.



### Rural Health Research Gateway

Our products are housed with all other federally-funded Rural Health Research Centers' on the Rural Health Research Gateway: [www.ruralhealthresearch.org](http://www.ruralhealthresearch.org).

## PUBLIC IMPACT, 2021-22, CONTINUED

### Press Coverage

In 2021-22, we were featured in more than 50 unique media outlets, from local print news to national television, including:

- AgDaily
- Albert Lea Tribune
- The Atlantic
- Austin American Statesman
- Becker's Hospital Review
- Bemidji Pioneer
- Bloomberg
- Brainerd Dispatch
- CNN
- The Daily Yonder
- Duluth News Tribune
- The Edwardsville Intelligencer
- Faribault Daily News
- Grand Rapids Herald-Review
- Kaiser Health News
- IndyStar
- MinnPost
- Modern Healthcare
- Montana Public Radio
- Moose Lake Star Gazette
- Morning Journal
- MPR
- Ms. Magazine
- NATAL
- NBC News
- The New York Times
- Next Avenue
- North Carolina Health News
- Park Rapids Enterprise
- Post Bulletin
- Post Crescent
- ProPublica
- Public News Service
- Radio Lab
- Red Lake Nation News
- The Rural Monitor
- St. Peter Herald
- Star Tribune
- Stateline
- The Telegraph
- University of Minnesota
- USA Today
- Vox News
- West Central Tribune
- Yahoo News

The Bemidji  
**Pioneer**

**PROPUBLICA**  
Investigative Journalism in the Public Interest

MOOSE LAKE  
**STAR GAZETTE**

**CNN**

**Vox**

DULUTH  
**News Tribune**  
CONNECTED • ENGAGED • ENTRUSTED

**KHN**

**NBC NEWS**

**A**  
The Atlantic

**The New York Times**

**StarTribune**

**MPRnews**

**DAILY YONDER**  
KEEP IT RURAL



Staff, Students, and Affiliates,  
2021-22



## Leadership

### KATY BACKES KOZHIMANNIL, PHD, MPA, DIRECTOR



Dr. Kozhimannil is Director of the RHRC and the Distinguished McKnight University Professor in the Division of Health Policy and Management, University of Minnesota School of Public Health. Dr. Kozhimannil also co-leads the University of Minnesota Rural Health Program.

Dr. Kozhimannil conducts research to inform the development, implementation, and evaluation of policies that improve health during critical times in the lifecourse, 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 social determinants and structural injustice. Dr. Kozhimannil's work on racial justice has challenged norms in the field of public health, and is a central tenet of her contributions toward health equity. Her work elevating the health of mothers, the unique strengths and challenges in rural places, and the centrality of racial justice was recognized nationally when she received the 25th annual Heinz Award in the Public Policy category in 2020.

Dr. Kozhimannil'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*, *Washington Post*, *National Public Radio*, *Wall Street Journal*, *US News & World Report*, and the *Huffington Post*, has generated dialogue, interest and policy action at local, state, and national levels. In addition to conducting research, Dr. Kozhimannil 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, DEPUTY DIRECTOR



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

Dr. Henning-Smith's research focuses on health equity and the structural determinants of health for rural populations, with a particular 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. She has published more than 100 peer-reviewed manuscripts, commentaries, book chapters, and policy briefs, and her work has been widely cited in federal and state policy documents, as well as in national and international media outlets, including *The New York Times*, *Washington Post*, *National Public Radio*, *NBC News*, *AP*, *CBS*, *CNN*, *ProPublica*, and *Politico*.

Dr. Henning-Smith has led multiple research projects at the Rural Health Research Center, with a wide range of topics including the social determinants 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 serves as the current editorial board chair for the *Journal of Rural Health* and an associate editor for the *Journal of Applied Gerontology*. She is also actively engaged with service and community engagement activities to improve rural health, including serving on NRHA's Health Equity Council and RHIfhub's Advisory Council. In 2022, she was honored as a University of Minnesota McKnight Presidential Fellow for her work in advancing rural health equity.

## Staff



### ALYSSA FRITZ, MPH, RD, CLC

Ms. Fritz is a Researcher with RHRC. She has been working part-time with RHRC since January of 2021 and also worked with the UMN Center for Antiracism Research for Health Equity. She provides administrative, writing, and editing support and contributed to research projects focused on racial equity in maternity care. This coming year, she will be shifting to a full-time role with RHRC as a Research & Policy Fellow.



### MEGAN LAHR, MPH

Ms. Lahr is a Senior Research Fellow at RHRC, hired in September of 2017. During her time, she has contributed to research projects focusing on older adults in rural communities including issues related to caregiving, the oldest old, and access to care. In the coming year, Megan will be working on a project related to housing. Megan is also the Principal Investigator of the Flex Monitoring Team, leading the evaluation of the Medicare Rural Hospital Flexibility (Flex) Program to support Critical Access Hospitals across the country.



### MADELEINE PICK, MPH

Ms. Pick is a Research Fellow on the Flex Monitoring Team, joining March of 2020. During her time, she has worked on projects related to quality improvement in Critical Access Hospitals. Previously, Ms. Pick has conducted a community health assessment for a local public health department, researched and compiled a suicide prevention toolkit for rural communities, and evaluated physician quality measures.



### KATIE RYDBERG, MPH

Ms. Rydberg is a Program Manager, joining RHRC in October of 2020. During her time, she has managed the operations and development of the University of Minnesota Rural Health Program. She also worked on evaluations of two HRSA planning grant programs and research on the direct care workforce in rural communities. In the coming year, she will continue to grow the work of the Rural Health Program and assist in a research project focused on ransomware attacks in rural hospitals.



### MARIANA TUTTLE, MPH

Ms. Tuttle is a Research & Communications Fellow; she joined RHRC full-time in June of 2019. During her time, she has contributed to research projects focusing on living alone and emergency obstetrics. She also managed dissemination efforts for all projects as well as website, social media, and strategic communications planning. In addition to working on research projects and directing communication, she also manages administration for grant-related activity and RHRC projects.

## Postdoctoral Associates



### BRIDGET BASILE IBRAHIM, PHD, MA

Dr. Basile Ibrahim is a postdoctoral associate working with RHRC on maternity care projects. She is a clinician scientist with expertise in maternal child health. Her research focuses on ways to improve health equity in maternity care. She has research experience designing and implementing mixed methods studies. Dr. Basile Ibrahim has led work on examining safe maternity care standards, and led research examining aspects of racial equity in rural maternal and child health in 2021-22. Dr. Basile Ibrahim joined the faculty of the Yale School of Nursing in 2022.



### HANNAH MACDOUGALL, PHD, MSW

Dr. MacDougall is a postdoctoral associate working with RHRC on projects related to the social determinants of health. She is a clinical social worker and health policy scholar with expertise in nonprofit hospital community benefits, Medicaid policy, and the social determinants of health. Dr. MacDougall led work on rural-urban differences in LGBT health outcomes and supports in 2021-22. Dr. MacDougall began a faculty position at the University of Minnesota School of Social Work in summer 2022.

## Affiliates



### LINDSAY ADMON, MD, MS

Dr. 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. She 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 RHRC. She will lead a project on postpartum insurance access and health outcomes in 2021-22.



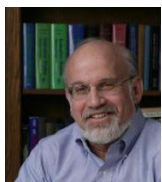
### JANETTE DILL, PHD, MPH

Dr. Dill is an Associate Professor in the University of Minnesota School of Public Health. Her research focuses on the supply and labor market activity of the health care workforce, with an emphasis on direct care workers and workers without a college degree. She will lead a 2021-22 project examining the supply of long-term care workers relative to the older adult population in rural areas and rates of turnover among these workers.



### GILBERT GONZALES, PHD, MHA

Dr. Gonzales is an Assistant Professor at the Center for Medicine, Health, & Society, the Program for Public Policy Studies, and the Department of Health Policy at Vanderbilt University. He is a leading expert on LGBTQ health and served as a consultant on the 2021-2022 RHRC project on rural LGBTQ health and access to care.



### IRA MOSCOVICE, PHD

Dr. Moscovice is the Mayo Professor in the University of Minnesota School of Public Health. He was the former director of the Rural Health Research Center from its inception in 1992 through 2018. He has served as the principal investigator for numerous rural health projects funded by federal and state agencies and private foundations, including the Federal Office of Rural Health Policy, the Centers for Medicare and Medicaid, the Agency for Healthcare Research and Quality, the Robert Wood Johnson Foundation, and the Northwest Area Foundation.



### JONATHAN SCHROEDER, PHD

Dr. Schroeder is a geographer with the Minnesota Population Center and the IPUMS Center for Data Integration at the University of Minnesota. He provides expertise in U.S. population geography, map design, and geographic data analysis, with deep knowledge of U.S. census data resources for studying rural populations.



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## Students

### PHOEBE CHASTAIN, BA

Phoebe Chastain is a graduate research assistant whose work focuses on rural obstetrics and maternal and child health. She began work in August 2021 and is an MPH student in the Division of Health Policy and Management.

### JULIA INTERRANTE, MPH

Julia Interrante is a graduate research assistant whose work focuses on rural obstetrics and maternal and child health. She began work in August 2018 and is a Health Services Research, Policy, and Administration Ph.D. candidate in the Division of Health Policy and Management.

### ALEXANDRIA KRISTENSEN-CABRERA, BS

Alexandria Kristensen-Cabrera is a graduate student working on projects related to rural maternity care. She is also an MD-PhD student in Health Services Research, Policy, and Administration.

### ROBERT LIBAL, BBA

Robert Libal began working as a research assistant in January 2022, focusing on projects relating to social determinants of health, especially sexual orientation and gender identity. He is an MPH student in the Division of Health Policy and Management.

### AUSTEN OTT, BS, BA

Austen Ott is a medical student pursuing family medicine. Their work focuses on expanding access to rural health care, LGBTQ+ populations, and community-centered primary care.

### COURTNEY SARKIN, MBE

Courtney Sarkin is a graduate research assistant whose work focuses on the intersection of sexual orientation and gender identity. She began work in August 2021 and is a Health Services Research, Policy, and Administration Ph.D. student in the Division of Health Policy and Management.

### ELIZABETH VOMACKA, MPH

Elizabeth Vomacka began working as a research assistant in Fall 2021, focusing on the direct care workforce in long-term care in rural areas. She graduated from the Division of Epidemiology and Community Health in the School of Public Health in Spring 2022.

## 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. While we were not able to gather this year in person again, due to COVID-19, we are thankful that virtual platforms have allowed for continuing connections and leveraging the expertise and lived rural perspective of this group.

Our current EWG includes the following members, all of whom renewed their membership for the next 2-year cycle.



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



### JENNIFER BACANI MCKENNEY, MD

*Physician Owner, Bacani/McKenney Clinic*

Dr. 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

*Associate Professor of Agriculture Economics and Rural Sociology, Kentucky State University*

Dr. Bernard is an 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. Lundblad is President and CEO of Stratis Health, an independent non-profit organization that leads collaboration and innovation in healthcare quality and safety. She has an extensive background in leadership, organization development, and program management in both non-profit and education settings. She is part of Stratis Health's RQITA (Rural Quality Improvement Technical Assistance) team and the Rural Health Value program, in partnership with the University of Iowa. Dr. Lundblad is a member of the national RUPRI (Rural Policy Research Institute) Health Panel, and serves on various other national and local boards and in committee leadership positions. She has an adjunct assistant professor appointment at the University of Minnesota School of Public Health.



## 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, LHRC expanded access to patient care through the addition of an Urgent/Primary Care clinic and three Rural Health Clinics. Leslie is the Treasurer for National Hospital Association; sits on the American Hospital Association's Region 6 Policy Board; and is a member of the National Rural Health Association's (NHRA) Board of Trustees and the Rural Health Policy Congress, where she serves as the NHRA Hospital and Health Systems Constituency Group Chair.



## BROCK SLABACH, MPH

*Chief Operations Officer, National Rural Health Association*

Brock joined NRHA in 2008 and currently serves as Chief Operations 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, Policy, California Hospital Association*

Peggy Broussard Wheeler serves as Vice President, Policy, at the California Hospital Association (CHA). 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 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 management roles. He spent 10 years as state director for AARP in Wisconsin and currently serves as Regional Vice President for the AARP Central Region, which is comprised of ND, SD, NE, KS, OK, AR, MN, WI, and IA. For the past 10 years, 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.



## Activity in 2021-22 on Projects Funded in 2020



# Safe Obstetric Care Access for All Rural Residents: Minimum Standards for Clinical, Workforce, and Financial Viability of Rural Obstetric Units

Year funded: 2020

Lead Researcher: Katy Backes Kozhimannil, PhD, MPA

Investigators: Lindsay Admon, MD, MS; Bridget Basile Ibrahim, PhD; Mary Gilbertson, MPH; Julia Interrante, MPH; Mariana Tuttle, MPH

The goal of this project was to analyze data from an RHRC-led survey of rural hospitals in order to understand the criteria by which hospitals and communities assess their need and capacity for obstetric care access in rural counties. In addition, the project sought to describe effective ways to operationalize minimum standards for clinical safety and financial viability for rural obstetric units.

- Products published include:
  - Manuscript: "Rural Hospital Administrators' Beliefs About Safety, Financial Viability, and Community Need for Offering Obstetric Care," published March 2022.
  - Methodology Brief: "An Enhanced Method for Identifying Hospital-Based Obstetric Unit Status," published January 2022.
  - Policy Brief: "State and Regional Differences in Access to Hospital-Based Obstetric Services for Rural Residents, 2018," published August 2021.
  - Policy Brief: "Rural and Urban Hospital Characteristics by Obstetric Service Provision Status, 2010-2018," published April 2021.
  - Infographic: "Characteristics of Rural and Urban US Hospitals Based on Obstetric Services," published April 2021.
- Presentations include: AcademyHealth Annual Research Meeting; Alaska Perinatal Quality Collaborative (AKPQC) and Maternal and Child Death Review (MCDR) Joint Summit; HRSA Rural Health Equity Learning Series; National Rural Health Association (NRHA) Annual Conference; and NRHA Health Equity Conference.

- Press coverage includes: Bloomberg, The Daily Yonder, Kaiser Health News, Minnesota Public Radio, Ms. Magazine, North Carolina Health News, Post Bulletin, ProPublica, Radio Lab, USA Today, Vox.

## JAMA Health Forum.

Original Investigation  
Rural Hospital Administrators' Beliefs About Safety, Financial Viability, and Community Need for Offering Obstetric Care

Katy B. Kozhimannil, PhD, MPH, Julia D. Interrante, MPH, Lindsay E. Admon, MD, MS, Bridget E. Basile Ibrahim, PhD, MPH, Mariana Tuttle, MPH

### Abstract

**IMPORTANCE:** Rural obstetric unit closures are associated with adverse maternal and infant health outcomes and are most common among low birth weight facilities located in remote areas. Declining access to obstetric care is a concern in rural communities in the U.S.

**OBJECTIVE:** To assess rural hospital administrators' beliefs about safety, financial viability, and community need for offering obstetric care.

**DESIGN, SETTING, AND PARTICIPANTS:** Using the American Hospital Association Annual Survey to identify rural hospitals with obstetric units, we developed and conducted a national survey of a sample of rural hospitals that provided obstetric services in 2020. Obstetric unit managers or administrators at 202 such hospitals providing obstetric services were surveyed from March to August 2021.

**EXPOSURES:** Local factors, clinical safety, workforce, and financial considerations for obstetric services at participating hospitals.

**MAIN RESULTS AND CONCLUSIONS:** Hospital-level decisions on maintaining obstetric care

### Key Points

**Question:** What are rural hospital administrators' beliefs about safety, financial viability, and community need for offering obstetric care?

**Findings:** In this survey of 202 rural hospitals providing obstetric care, administrators reported meeting at least 200 annual births for safety and financial viability. Local autonomy can best strengthen hospital decisions to maintain obstetric services, even below that threshold. In a surveyed hospital were assured they would continue providing obstetric services.

**Meaning:** Policies to improve rural obstetric care access should account for

## METHODOLOGY BRIEF January 2022



### An Enhanced Method for Identifying Hospital-Based Obstetric Unit Status

Julia D. Interrante, MPH

Castle Carroll, PhD

Sean C. Handley, MD, MSCE

Katy Kozhimannil, PhD, MPA

#### Key Findings

- We developed an enhanced, two-stage method for identifying hospital-based obstetric unit status. This method involved 1) single-year assessments using four American Hospital Association (AHA) variables and one Provider of Services (POS) variable, followed by 2) multi-year assessments to check for and correct status inconsistencies over time and account for hospital mergers.
- There were 529 (11.2%) hospitals that had inconsistencies in obstetric unit status across the study period (2010-2018), resulting in obstetric unit status changes in 200 of those hospitals (37.8%).
- We compared our method to a primary survey sample of rural hospitals asking about their obstetric unit status. Had we only used POS data, we would have captured 81.6% of obstetric unit closures, on average two years late, and incorrectly identified one additional closure. Had we only used AHA data, we would have captured 87.8% of closures, on average one year late, and incorrectly identified eight additional closures. Our enhanced method was the most accurate, capturing 92.7% of closures 0.3 years late with six incorrectly identified additional closures.
- Had we ignored hospital mergers, we would have identified 32 fewer hospitals with current obstetric services, but 44 additional hospitals would have looked like they had experienced an obstetric unit closure when in fact they had not.

#### Purpose

Health services research has used a range of methods for measuring whether hospitals have an obstetric unit. Variation across methods may lead to inaccurate or inconsistent findings and so different conclusions about access to obstetric services. Having a clear and consistent measurement of obstetric care access is important for policymaking on rural health as well as maternal and infant health. As such, there is a need for a transparent and replicable process for consistently defining whether a hospital has an obstetric unit. The purpose of this methodology brief is to describe an enhanced method for identifying hospital-based obstetric unit status and for identifying closures of obstetric units.

#### Background and Policy Context

Provision of hospital-based obstetric services has been consistently declining since the early 2000s, specifically in rural communities, with important consequences for maternal and infant health.<sup>1,2</sup> Prior research indicates important differences between rural hospitals that provide obstetric care and those that do not: hospitals without obstetric units tend to be located in more remote rural areas and have lower patient volume.<sup>3</sup> A wide range of methods have been used to identify the presence of obstetric units in hospitals, but these methods have not been validated. One approach uses individual characteristics of obstetric services in the American Hospital Association (AHA) Annual Survey of Hospitals (i.e., self-reported provision of obstetric services or number of annual births); another approach uses data from the Centers for Medicare & Medicaid Services (CMS) Provider of Services (POS) File. Yet another approach leverages administrative data from hospital discharges including International Classification of Diseases (ICD) and Current Procedural Terminology (CPT) codes associated with childbirth hospitalizations.<sup>4,5</sup> From



Julia presenting at the 2022 NRHA Health Equity Conference in Albuquerque, NM.



## Aging in Place in Rural America: What Does it Look Like and How Can it be Supported?

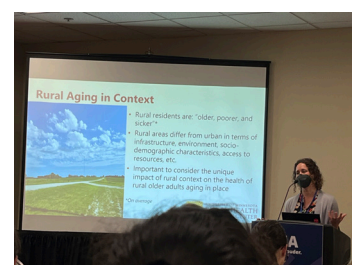
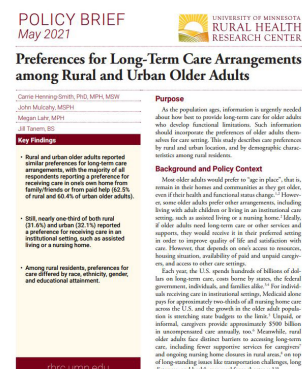
Year funded: 2020

Lead Researcher: Carrie Henning-Smith, PhD, MPH, MSW

Investigators: Megan Lahr, MPH; John Mulcahy, MSPH; Jill Tanem, MPH

In general, people want to age in place. This project looked at the structures in place to help them do so, and how those vary by rurality. We also identified federal, state, and local policy implications for improving health outcomes and quality of life for rural older adults aging in place.

- Products published include:
  - Manuscript: “Approaches to Serving Rural Older Adults in State Plans on Aging: A Policy Content Evaluation,” published May 2022.
  - Policy Brief: “Social Cohesion and Social Engagement among Older Adults Aging in Place: Rural/Urban Differences,” published January 2022.
  - Policy Brief: “Barriers to Aging in Place in Rural Communities: Perspectives from State Offices of Rural Health,” published November 2021.
  - Policy Brief: “Statewide Age-Friendly Initiatives: An Environmental Scan,” published October 2021.
  - Policy Brief: “Examples of Statewide Age-Friendly Initiatives,” published October 2021.
  - Policy Brief: “Preferences for Long-Term Care Arrangements among Rural and Urban Older Adults,” published May 2021.
- Products submitted for publication include:
  - Manuscript: “Aging in Place with Unmet Mobility Needs: Association with Housing and Rurality.”
  - Manuscript: “Advancing the Age-Friendly Movement in Rural Communities.”
- Presentations include: Association of Health Care Journalists Rural Health Journalism Workshop; Rural Health Research Gateway Webinar; Great Plains Senior Services Collaborative Virtual Training; National Rural Health Association Conference; and Washington University in St. Louis Center for Health Economics and Policy Collaborative.
- Press coverage includes: Brainerd Dispatch, Bemidji Pioneer, Daily Yonder, Duluth News Tribune, Park Rapids Enterprise, MinnPost, Next Avenue.



# Evaluating the Rural Health Network Development Planning Grant Program

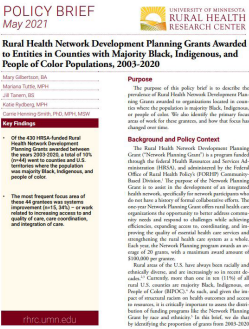
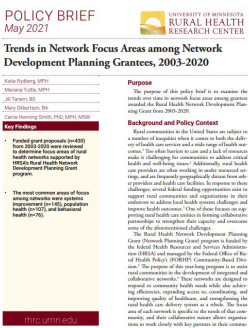
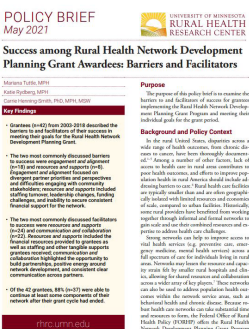
Year funded: 2020

Lead Researcher: Carrie Henning-Smith, PhD, MPH, MSW; Mariana Tuttle, MPH

Investigators: Mary Gilbertson, MPH; Katie Rydberg, MPH; Jill Tanem, MPH

The Rural Health Network Development Planning Grant program is administered by the Federal Office of Rural Health Policy's Community-Based Division to assist in the development of an integrated health care network, especially with network participants who do not have a history of formal collaborative efforts. In this project, we identified factors that facilitate and impede success of such planning efforts, as well as the long-term sustainability of grantee efforts, based on discussions with past grantees.

- Products published include:
  - Policy Brief: “Rural Health Network Development Planning Grants: Geographic Location and Change over Time,” published November 2021.
  - Policy Brief: “Successes and Challenges to Network Sustainability: Perspectives of 2019-2020 Rural Health Network Development Planning Grantees,” published October 2021.
  - Policy Brief: “Success among Rural Health Network Development Planning Grant Awardees: Barriers and Facilitators,” published May 2021.
  - Policy Brief: “Rural Health Network Development Planning Grants Awarded to Entities in Counties with Majority Black, Indigenous, and Persons of Color Populations, 2003-2020,” published May 2021.
  - Policy Brief: “Trends in Network Focus Areas among Network Development Planning Grantees, 2003-2020,” published May 2021.



# Evaluating the Rural HIV/AIDS Planning Grant Program

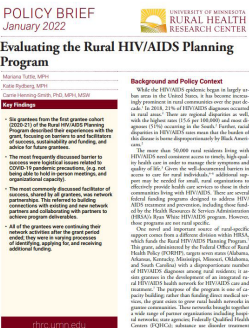
Year funded: 2020

Lead Researcher: Carrie Henning-Smith, PhD, MPH, MSW; Mariana Tuttle, MPH

Investigators: Mary Gilbertson, MPH; Katie Rydberg, MPH; Jill Tanem, MPH

The Rural HIV/AIDS Planning Grant program is administered by the Federal Office of Rural Health Policy's Community-Based Division in order to plan and develop health care networks designed to address HIV/AIDS prevention and treatment in states disproportionately impacted by the virus. In this project, we will identify factors that facilitate and impede success of such planning efforts.

- Products published include:
  - Policy Brief: “Evaluating the Rural HIV/AIDS Planning Program,” published January 2022.





## Activity in 2021-22 on Projects Funded in 2021



# Improving Racial Equity for Rural Mothers and Infants

Year funded: 2021

Lead Researcher: Katy Backes Kozhimannil, PhD, MPA

Investigators: Bridget Basile Ibrahim, PhD, MA; Phoebe Chastain, BA; Julia Interrante, MPH; Mariana Tuttle, MPH

The purpose of this project is to assess differences in maternal and infant health outcomes and access to perinatal care, including evidence-based services and supports, among urban and rural counties, and then comparing health outcomes and availability of services between rural counties that are majority Black, Indigenous, and People of Color (BIPOC) with those that are majority white.

- Products published include:
  - Policy Brief: “Racial Inequities in the Availability of Evidence-Based Supports for Maternal and Infant Health in Rural US Counties,” published July 2022.
  - Manuscript: “Inequities in Availability of Evidence-Based Birth Supports to Improve Perinatal Health for Socially Vulnerable Rural Residents,” published July 2022.
- Products submitted for publication include:
  - Case Series: “Providing High-Quality Support to Pregnant People and Their Families in Racially Diverse Rural Communities,” submitted April 2022.
- Presentations include: AcademyHealth Annual Research Meeting; HRSA Rural Health Equity Learning Series; National Rural Health Association (NRHA) Annual Conference; and NRHA Health Equity Conference.



## POLICY BRIEF July 2022



### Racial Inequities in the Availability of Evidence-Based Supports for Maternal and Infant Health in 93 Rural US Counties with Hospital-Based Obstetric Care

Bridget Basile Ibrahim, PhD  
Mariana Tuttle, MPH  
Alyssa H. Fritz, MPH  
Julia D. Interrante, MPH

Katy Backes Kozhimannil, PhD, MPA

#### Key Findings

• Among 93 counties with rural hospital-based obstetric care responding to a survey for this research, majority Black, Indigenous, People of Color (BIPOC) rural counties have lower resources, greater poverty, and worse health outcomes compared to majority white rural counties. For example, in rural majority BIPOC counties the majority is 3.3 years older and median household income is more than \$9,000 lower.

• The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Program was available in nearly all rural communities with hospital-based obstetric care in our survey (70% of majority BIPOC counties and 91% of majority white counties), but access to other evidence-based supports is limited. Maternity care, group prenatal care, doula care, and postpartum support groups are only available in roughly half of rural counties with hospital-based obstetric care.

• Access to evidence-based supports for pregnant individuals and their families also differs, with lower majority BIPOC rural communities having access to prenatal care, perinatal mental health services, doula care, childbirth education, nurse home visiting programs, or postpartum support groups compared to majority white rural communities.

• Policies and programs that support rural maternal health should include a focus on racial/ethnic equity in access to evidence-based supports.

rhrc.umn.edu

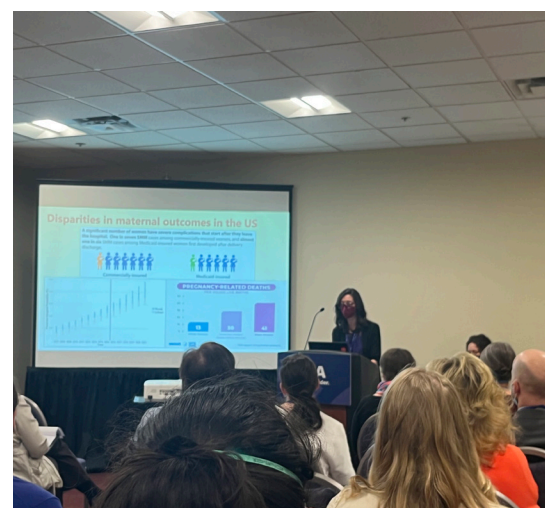
**Purpose**  
Being pregnant in rural America means facing interconnected challenges: a greater risk of pregnancy-related complications or death, and declining access to maternity care during pregnancy and childbirth. For rural counties that are Black, Indigenous, and People of Color (BIPOC), pregnancy-related health outcomes and access to maternity care are even worse. Racial disparities in rural maternal and infant health outcomes may be related to limited accessibility of clinical care and pregnancy-related support programs and services in rural communities. In this policy brief, we describe these differences between majority-BIPOC versus majority-white rural counties' available maternal and infant health evidence-based supports.

**Background and Policy Context**  
The health of rural birthing people and their families is of growing concern as, compared with urban birthing people, this population experiences higher rates of infant mortality,<sup>(1)</sup> maternal mortality, and adverse neonatal morbidity.<sup>(1)</sup> Individuals who are both rural and BIPOC have the highest maternal mortality<sup>(2)</sup> and infant mortality<sup>(3)</sup> rates in the country. Additionally, a steady trend of rural hospital and maternity unit closures has reduced access to care for pregnant rural residents.<sup>(4)</sup> Rural counties with a higher proportion of Black reproductive-age residents are at elevated risk of losing hospital-based obstetric care,<sup>(5)</sup> potentially exacerbating existing maternal health risks among Black rural residents who are pregnant.<sup>(6)</sup>

Empirical research has shown that models of clinical care and a variety of economic, social, and educational supports are associated with improved infant and maternal health outcomes (Table 1). We categorized these evidence-based supports across four areas: (1) local access to care, (2) family-centered models



Mariana and Bridget presenting at the NRHA Health Equity Conference in Albuquerque, NM, May 2022.



Julia presenting at the National Rural Health Association Conference in Albuquerque, NM, May 2022.

## Rural/Urban Differences in Postpartum Health Insurance, Healthcare Use, and Health Outcomes

Year funded: 2021

Lead Researcher: Katy Backes Kozhimannil, PhD, MPA

Investigators: Lindsay Admon, MD, MS; Phoebe Chastain, BA; Julia Interrante, MPH

The purpose of this project is to identify rural/urban differences health insurance, healthcare use, and health outcomes among postpartum individuals and to describe policy-relevant implications or strategies to improve insurance coverage, receipt of recommended healthcare, and, ultimately, health outcomes among rural residents who give birth. With a lens towards health equity, all analyses will be stratified by race/ethnicity and income.

- Products submitted for publication include:
  - Manuscript: “Disparities in Postpartum Care: Implications for Racial, Economic, and Geographic Equity,” submitted April 2022.
  - Manuscript: “Racial Inequities in Postpartum Insurance among Rural and Urban US Residents,” submitted December 2021.
- Presentations include: AcademyHealth Annual Research Meeting; HRSA Rural Health Equity Learning Series; National Rural Health Association (NRHA) Annual Conference; and NRHA Health Equity Conference.



*Julia giving a podium presentation at the AcademyHealth Annual Research Meeting, Washington, DC, June 2022.*

## Rural/Urban Differences in Health and Health Care Access for LGBT Adults

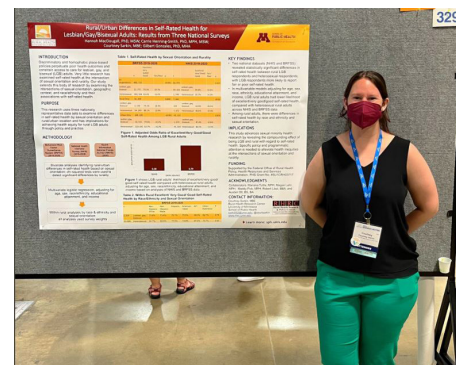
Year funded: 2021

Lead Researcher: Carrie Henning-Smith, PhD, MPH, MSW

Investigators: Megan Lahr, MPH; Robert Libal, BBA; Hannah MacDougall, MPH; Madeleine Pick, MPH; Courtney Sarkin, MBE; Mariana Tuttle, MPH

The purpose of this project is to identify rural/urban differences in health and health care access for lesbian, gay, bisexual, and transgender (LGBT) adults. We will also identify within-rural differences among LGBT adults by race, ethnicity, age, disability status, and socio-economic, as well as examples of best practices supporting LGBT health and wellness in rural areas.

- Products published include:
  - Policy Brief: “Self-Rated Health Among Gay, Lesbian, and Bisexual Adults: Rural/Urban Differences,” published July 2022.
  - Policy Brief: “Social and Emotional Support during the COVID-19 Pandemic by Sexual Orientation and Rurality,” published June 2022.
  - Policy Brief: “Prevalence of Chronic Conditions by Sexual Orientation and Rural-Urban Location,” published June 2022.
  - Policy Brief: “Anxiety, Depression, and Access to Mental Health Care by Sexual Orientation and Rurality,” published June 2022.
  - Case Series: “Small-Town Pride Celebrations Supporting Social Connectedness and Well-Being for LGBTQ+ Rural Residents,” published June 2022.
  - Case Series: “Improving Access to LGBTQIA+-Friendly Care in Rural Areas,” published June 2022.
  - Case Series: “Rural Community Organizations Building Inclusive Environments for LGBTQ+ Rural Residents,” published June 2022.
- Presentations include: AcademyHealth Annual Research Meeting; Conference for Psych/Mental Health APRNs in Rural Minnesota; National Rural Health Association (NRHA) Annual Conference; NRHA Health Equity Conference; National Rural Institute on Alcohol and Drug Abuse; and State Health Access Data Assistance Center (SHADAC) Research Meeting.



*Photos, top to bottom: Mariana, Hannah, and Courtney presenting at the NRHA Health Equity Conference; Mariana presenting at the National Rural Institute on Alcohol and Drug Abuse; Courtney presenting at the AcademyHealth Annual Research Meeting; Research assistant Bob Libal (left), and friends, on a site visit to a celebration of East Central Minnesota Pride.*



## The Direct Care Workforce in Rural Areas

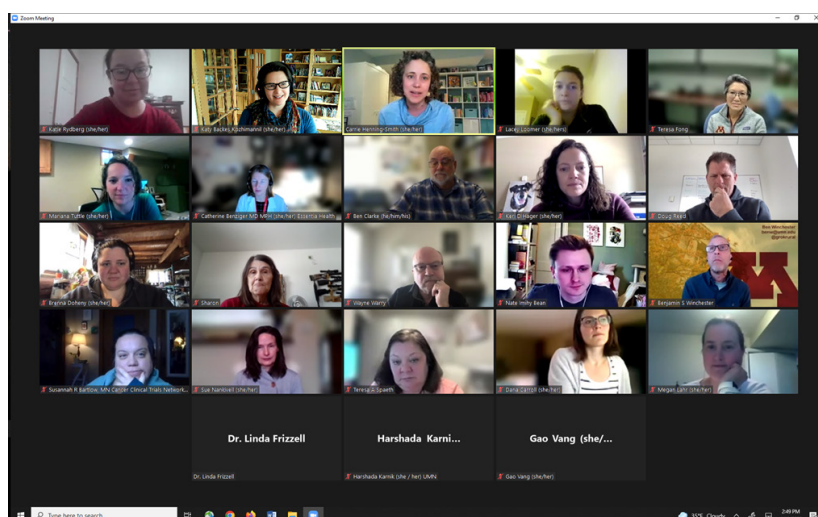
Year funded: 2021

Lead Researcher: Janette Dill, PhD

Investigators: Carrie Henning-Smith, PhD, MPH, MSW; Katie Rydberg, MPH

The purpose of this project was to assess the long-term care services and supports (LTSS) direct care workforce to care for older adults (ages 65+ and 85+) in rural and urban areas of the US. We also explored how compensation – including wages and employer-based health insurance – is related to and predicts worker turnover in the LTSS direct care workforce in rural and urban areas.

- Products submitted for publication include:
  - Manuscript: “Who Will Care for Rural Older Adults? Measuring the Direct Care Workforce in Rural Areas,” submitted May 2022.
  - Policy Brief: “Distribution of Direct Care Workforce COVID-19 Funding Between Rural and Urban Counties in Minnesota and Illinois,” submitted May 2022.
  - Policy Brief: “Who Will Care for Rural Older Adults? Measuring the Direct Care Workforce in Rural Areas,” submitted June 2022.
- Presentations include: Stratis Health Rural Quality Advisory Council and Service Employees International Union.



*Meeting of the University of Minnesota Rural Collective, April, 2022.*







## Other Rural Work, 2021-22

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## University of Minnesota Rural Health Program

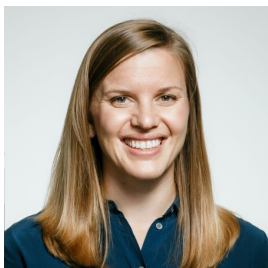
In fall, 2020, we launched the University of Minnesota Rural Health Program to provide training and support for public health challenges in rural Minnesota and connect local experts with national research and policy work. Katy Backes Kozhimannil and Carrie Henning-Smith co-lead this program, and the lead staff person is Katie Rydberg, who joined our team in October 2020. 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.



Dr. Bridget Basile Ibrahim (Postdoctoral Associate 2020-2022) co-led the development and implementation of a survey of rural hospitals on the topic of safe maternity care. Dr. Ibrahim also received independent grant funding for a project on childbirth equity in Minnesota, called “the Indigenous Good Birth Project.”



Dr. Hannah MacDougall (Postdoctoral Associate 2021-2022) contributed to RHRC projects on aging in place and LGBTQ health and also conducted research on community benefit spending of rural hospitals and on the social determinants of health in rural areas.



Dr. Alexis Swendener will join us as a postdoctoral associate in 2022, bringing expertise in farm families, LGBTQ health, and the social determinants of health for rural residents.



Julia Interrante is a doctoral student currently working with RHRC who plans to complete her PhD in 2022 and join us as a postdoctoral associate in 2023.

### *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. Our initial cohort, listed below, completed the program in June, 2022:

- Ann Bussey is a retired health care leader from Side Lake, Minnesota. She is passionate about advocating for older adults and the opportunity to live and grow in an age-friendly environment. Her work in Project REACH focused on social isolation among older Minnesotans.
- Leah Lehtola is a community health leader from Montevideo, Minnesota. Her work focuses on addressing the physical and social health of community members through programs and events. Her work in Project REACH focused on youth mental health and reducing suicide risk in Chippewa County.
- Adam Pavek is a pharmacist from Grand Rapids, Minnesota. He has served in a number of clinical and administrative roles across different sectors, giving him a unique perspective on the pharmacy industry and health systems. His work in Project REACH focused on engaging Indigenous perspectives in health care in Itasca County, with a focus on maternal health and substance use.



*Participants in Project REACH initial cohort left to right: Ann Bussey, Leah Lehtola, and Adam Pavek.*

The second cohort began the year-long program in July, 2022:

- Jeanna Kujava serves as a public health director for a hospital based in Kittson County in Hallock, Minnesota. Kujava is a registered nurse and will work to improve access to mental health services and trauma informed care in Kittson County through Project REACH.
- Jodi Tervo Roberts is an early childhood advocate in Grand Marais, Minnesota, with over two decades of experience working between educational and health systems, primarily with youth with special health needs in rural communities. Through Project REACH, Roberts will work to impact policies related to access to early childhood services in Cook County.
- Erin Schwab is a public health advocate in New Ulm, Minnesota, with a focus on ensuring access to care for those who need it. Through Project REACH, Schwab will work to impact policies related to access to mental health services and resources in Brown County.



## *Rural Collective*

The University of Minnesota Rural Collective provides a forum for networking, learning, and collaborating with the ultimate aim of improving health, quality of life, and community resources for rural people and places throughout Minnesota and across the U.S. The Collective is led by Carrie Henning-Smith; it has a web presence, an active and growing membership directory, and began regular meetings in spring 2021. As of July, 2022, the Collective has a membership of more than 70 University of Minnesota staff, postdocs, and faculty, along with 19 affiliated centers and institutions from across the University.

The Rural Collective also co-sponsored a pilot to bring University of Minnesota Driven to Discover (D2D) data collection efforts to county fairs in summer 2022. D2D has historically been at the Minnesota State Fair, and this was the first attempt to bring it to more rural places. Over the course of the summer, 25 different studies engaged rural residents in studies at five county fairs (in Beltrami, Faribault, Fillmore, Rock, and Stevens Counties).



*First meeting of the University of Minnesota Rural Collective, April, 2021.*



*D2D at the Fillmore County Fair, July 2022.*



*The ferris wheel at the Beltrami County Fair in August 2022.*



## Upcoming Work, 2022-23

## Postpartum Morbidity and Mortality and Health Care Utilization in Rural vs. Urban Communities

Lead Researcher: Katy Backes Kozhimannil, PhD, MPA; Julia Interrante, MPH

Investigators: Lindsay Admon, MD, MS; Phoebe Chastain, BA; Mariana Tuttle, MPH

Using 2006-2018 data from the National Health Interview Survey linked to the National Death Index through 2019, this project will examine postpartum mortality among rural and urban residents. We will also evaluate differences in health care utilization and barriers across rural and urban communities.



## Rural-Urban Differences in Domestic Violence as a Contributor to Maternal Morbidity and Mortality

Lead researcher: Katy Backes Kozhimannil, PhD, MPA

Investigators: Alyssa Fritz, MPH

Using 2016-2020 data from the CDC's Pregnancy Risk Assessment Monitoring System, this project will assess the prevalence of domestic violence among rural and urban residents who give birth. We will also analyze how screening and support services could be improved to support rural and urban families during pregnancy and the postpartum period.

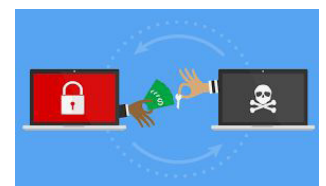


## Ransomware Attacks on Rural Hospitals

Lead researcher: Hannah Neprash, PhD

Investigators: Carrie Henning-Smith, PhD, MPH, MSW; Katie Rydberg, MPH

The rise in hospital ransomware attacks threatens to harm patients, especially in rural areas. This project will use a novel dataset to analyze rural/urban differences in how ransomware attacks affect patients and hospitals.



## Housing as a Social Determinant of Rural Health

Lead researcher: Carrie Henning-Smith, PhD, MPH, MSW

Investigators: Megan Lahr, MPH; Jonathan Schroeder, PhD; Alexis Swendener, PhD

The purpose of this project is to identify rural/urban and within-rural differences in housing quality and its relationship to health and disability status, especially for individuals living in poverty. We will also identify rural-specific housing issues and innovative policy solutions to address housing challenges in order to improve rural health.





## Our Team at Work...and Play!



*Carrie, Mariana, and Courtney after presenting on rural, LGBTQ+ health and well-being at the 2022 National Rural Institute on Alcohol and Drug Abuse in Menomonie, WI.*



*Lindsay and Julia reunited at the 2022 AcademyHealth Annual Research Meeting in Washington, DC.*



*NRHA presenters grabbing dinner on an Albuquerque patio. Clockwise, from top right: Carrie, Maddy, Shehrose, Bridget, Courtney, Julia, Mariana, and Hannah.*



*Maddy, Bridget, and Shehrose Charania (Research Assistant for the Flex Monitoring Team) taking some down-time from NRHA to go on a hiking excursion near Albuquerque.*





*In June, 2022, the entire RHRC team gathered in Katy's backyard to connect with one another and celebrate our accomplishments. It was so wonderful to safely reconnect in person!*



## Acknowledgements

### Funding

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### 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 an ancient historical and contemporary spiritual 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.



**Rural Health Research  
& Policy Centers**

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[www.ruralhealthresearch.org](http://www.ruralhealthresearch.org)

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University of Minnesota Rural Health Research Center  
Division of Health Policy and Management, School of Public Health  
2221 University Avenue SE, #350 | Minneapolis, Minnesota 55414

