

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



A NOTE FROM LEADERSHIP

In the era of COVID-19, we have learned the vital importance of changing behavior and flexibly adapting policies to protect the health and safety of those around us. We have experienced this as a team, meeting virtually over the entire past year and finding new ways to build community as we welcome new staff members (Katie Rydberg, Alyssa Fritz, Bridget Basile Ibrahim, Hannah MacDougall, Anya Magnuson, Nathan Bean) and new babies among our team members (welcome to baby Analivia, baby Aiden, and baby Elliott!). We also remember the lives of those we have lost to COVID-19, in our own families and in rural and urban communities across the world.

Raising our voices to equitably address COVID-19 policy and prevention has been a central tenet of our work over the past year. For example, we collaborated with Mariana Tuttle on an analysis of COVID-19 data for the state of Minnesota, showing the vulnerability at the intersection of race and place. Together, we published a commentary in March 2021 in the *Minneapolis Star Tribune*, titled "The heaviest COVID burden afflicts rural people of color." Over the past year, we have worked extensively with media reporting on COVID-19 and other aspects of rural health, and our team members have been quoted in nearly 100 media outlets, including *The New York Times, US News and World Report, USA Today, Politico, The Hill, The Washington Post, AP News, The Wall Street Journal*, and the rural-focused *Daily Yonder*.

We have also been honored to participate in the implementation and dissemination of research that has informed COVID-19 response decisions as well as health policy and planning in rural communities across the United States. Carrie published an invited commentary in the *Journal of Aging and Social Policy* and accompanying book chapter focused on the impact of COVID-19 on older adults in rural areas, which has already been cited more than 60 times in the past year. Additionally, members of our team have engaged with a variety of federal, state, and local agencies, non-profit organizations, and policy-makers over the past year to inform COVID-19 relief and prevention efforts, including vaccine uptake. This has included meetings with the White House COVID-19 Health Equity Task Force, the National Rural Health Association, the Minnesota Department of Health, and the CDC.

Throughout all of this work, our commitment to racial justice remains strong. Our Center provided data to the Federal Office of Rural Health Policy (FORHP), derived from research Carrie led categorizing counties by their racial/ethnic composition. These data are now being used by FORHP to evaluate the reach and racial equity of their entire portfolio of grant programs. Additionally, Katy is glad to serve as a Senior Advisor to Dr. Rachel Hardeman as she founds and establishes the Center for Antiracism and Health Equity Research at the University of Minnesota School of Public Health.

Finally, this year we were proud to launch the three major programs that comprise the University of Minnesota Rural Health Program: the Rural Health Equity Postdoctoral Program, the Rural Health Collaborative, and Project REACH (Rural Experts Advancing Community Health). Taken together, these programs provide training and support for public health challenges in rural Minnesota and connect local experts with national research and policy work. We look forward to the future growth and development of this work.

Katy Backes Kozhimannil, PhD, MPA

Carrie Henning-Smith, PhD, MSW, MPH



Background

The University of Minnesota Rural Health Research Center is a federally-funded cooperative agreement between 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.

VISION

Our dedicated team of experts at the University of Minnesota Rural Health Research Center (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 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.



Ashland County, Wisconsin



Sunburg, 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.



Virtual presentation to the White House COVID-19 Health Equity Task Force, May 2021.



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



Protests for racial justice in rural Virginia, Minnesota, June 2020.



Virtual town hall with U.S. Representative Angie Craig (MN-02) on rural health, October 2020.

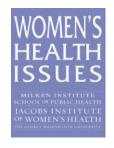


JOURNAL ARTICLES, 2020-21

- "Social isolation and safety issues among rural older adults living alone: perspectives of Meals on Wheels programs," *Journal of Aging & Social Policy*, forthcoming.
- "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.
- "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: pespectives from rural nursing home administrators and staff," *INQUIRY*, March 2021.
- "Hospital care for opioid disorder in pregnancy: Challenges and opportunities identified from a Minnesota Survey," December 2020, *Women's Health (London)*.
- "Contact by collection agencies for medical debt: rural-urban differences among older and younger Medicare beneficiaries," *Journal of Applied Gerontology,* December 2020.
- "Keeping rural infants alive: Combatting structural inequities," *Pediatrics*, November 2020.
- "Meeting the social needs of older adults in rural areas," *JAMA Health Forum*, November 2020.















JOURNAL ARTICLES, 2020-21

- "Local capacity for emergency births in rural hospitals without obstetrics services," *Journal of Rural Health*, November 2020.
- "Racial and ethnic differences in self-rated health among rural residents" *Journal of Community Health*. September 2020.
- "Nurse practitioner autonomy and complexity of care in rural primary care" *Medical Care Research and Review*, July 2020.
- "Changes in hospital-based obstetric services in rural US counties, 2014-2018" JAMA, July 2020.
- "Characteristics of US rural hospitals by obstetric service availability, 2017" AJPH, July 2020.
- "The unique impact of COVID-19 on older adults in rural areas" *Journal of Aging and Social Policy*, June 2020.
- "Unequal distribution of COVID-19 risk among rural residents by race and ethnicity" *Journal of Rural Health*, May 2020.
- "Differences by rurality in satisfaction with care among Medicare beneficiaries" *Journal of Rural Health*, May 2020.
- "The costs and benefits of regionalized care for children," *Pediatrics*, April 2020.
- "Severe maternal morbidity and mortality among rural and urban Indigenous women in the United States" *Obstetrics and Gynecology*, January 2020.
- "Maternal opioid use disorder and neonatal abstinence syndrome among rural US residents, 2007-2014" *Journal of Rural Health*, January 2020.















RHRC RESEARCH PRODUCTS, 2020-21

- "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.

- "Emergency Obstetric Training Needed in Rural Hospitals without Obstetric Units," Policy Brief, November 2020.
- "Making it Work: Models of Success in Rural Maternity Care," Case Series, November 2020.
- "Obstetric Emergencies in Rural Hospitals: Challenges and Opportunities," *Policy Brief*, September 2020.
- "Providing Maternity Care in a Rural Northern Iowa Community," Case Study, August 2020.
- "Loss of Hospital-based Obstetric Services in Rural Counties in the United States, 2014-2018," *Infographic*, July 2020.
- "Supporting the Health and Wellbeing of Middle-Aged Adults Living Alone in Rural Counties," *Practical Implications*, July 2020
- "Characteristics of Counties with the Highest Proportion of the Oldest Old," *Policy Brief*, May 2020.
- "Rates of Living Alone by Rurality and Age," *Infographic*, April 2020.
- "Rural and Urban Differences in Primary Care Pain Treatment by Clinician Type," Policy Brief, April 2020.

PRESENTATIONS, 2020-21

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, April 2021.
- AARP Policy Roundtable on Rural Caregivers, February 2021.
- AcademyHealth Annual Research Meeting: June 2021, July 2020.
- American Association for the Advancement of Science SciLine Media Briefing, May & June, 2020.
- American Community Survey Data Users Group Annual Conference, May 2021.
- American Hospital Association Rural Health Care Leadership Conference, January 2020.
- Centers for Disease Control & Prevention Vaccine Task Force on Older Adults, January 2021.
- Great Plains Senior Services Collaborative Training, April 2021.
- Interdisciplinary Association for Population Health Sciences Annual Meeting, September 2020.
- Kansas Rural Health Task Force, May 2020.
- Marshfield Clinic Research Institute Seminar Series, March 2021.
- Masonic Cancer Center Rural Health & Cancer Symposium, June 2020.
- Medicaid and CHIP Payment and Access Commission (MACPAC), January 2020.
- Minnesota Social Service Administration Region 9 Summer Series: Responding to Behavioral Health Needs Among Older Adults (Webinar), June 2021.
- Mountain Plains Mental Health Technology Transfer Center Network (Webinar), July 2020.

- National Rural Health Association Annual Meeting: May 2021, May 2020.
- National Rural Health Association Health Equity Conference: May 2021, May 2020.
- National Rural Health Association Policy Institute, February 2021.
- Northern Vermont AHEC Quality Care is Equitable Care (Webinar), December 2020.
- Robert Wood Johnson Foundation Media Briefing, May 2020.
- Rural Health Research Gateway (Webinar), January 2020.
- Rural PREP Research Design and Dissemination Studio, January 2020.
- Rural Roundtable with Representative Angie Craig, July 2020.
- Rural Sociological Society Annual Meeting, July 2021
- Schwartz Center for Economic Policy Analysis and UMass Boston (Webinar), February 2021.
- UCare (Webinar), September 2020.
- University of Maine Clinical Geriatric Colloquium, October 2020.
- University of Minnesota Alumni Association (Webinar), April 2020.
- University of Minnesota School of Public Health Research Day, April 2020.
- University of Minnesota Public Engagement Conference, March 2020.
- University of Washington School of Public Health Invited Presentation, February 2021.
- White House COVID-19 Health Equity Task Force, May 2021.



PUBLIC IMPACT, 2020-21

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 2020-2021.

Traffic

- Total # of sessions (single visit to the website): 20,150 (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 (30.9%), others use a search engine (31.2%), some are referred from other sites (31.8%), and still others from social media or email (6.1%)

People

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

Content

- Top pages include: Publications, People, and Projects
- Top 5 publications accessed, 2020-21:
 - * "Rural-Urban Differences Among Older Adults"
 - * "Rates of Living Alone by Rurality and Age"
 - * "Obstetric Emergencies in Rural Hospitals: Challenges and Opportunities"
 - * "Characteristics of Counties with the Highest Proportion of the Oldest Old"
 - * "Differences in Preventive Care Among Rural Residents by Race and Ethnicity"

Twitter

With over 1,300 Twitter followers (an increase of 34% since January 2020), we have a large platform through which to share our work. We leverage Tweets and Retweets frequently to disseminate our research.



healthpolicy, #healthquality, health services #rese

Rural Health Research Gateway

Our products are housed with all other federally-funded Rural Health Research Centers' on the Rural Health Research Gateway.



PUBLIC IMPACT, 2020-21, CONTINUED

Press Coverage

In 2020-2021, we were featured in nearly 100 unique media outlets, from local print news to national television, including:

- Aberdeen News
- Action News Jax
- Adirondack Daily Enterprise
- AgDaily
- Albert Lea Tribune
- Arizona Mirror
- The Associated Press
- Atlanta Journal-Constitution
- Bartlesville Examiner-Enterprise
- · Bemidji Pioneer
- BET
- Brainerd Dispatch
- Business Insider
- CBC News
- The Daily Yonder
- Duluth News Tribune
- The Edwardsville Intelligencer
- Florida Phoenix
- Forbes
- The Fix
- FOX News
- · Gephardt Daily
- Hays Post
- Healio
- Healthcare Financial Management Association
- Hibbing Daily Tribune
- Houston Public Media
- The Hill

- The Island Packet
- Jefferson Public Radio
- Journalist's Resource
- Kansas City Public Radio
- Kansas Reflector
- KARE11 Minnesota
- KSIR Colorado
- The Lima News
- Martinsburg Journal
- Medical Xpress
- Medscape
- Mesabi Daily News
- Minnesota Compass
- The Minnesota Daily
- Minnesota Public Radio
- Minnesota Reformer
- Minnesota Spokesman-Recorder
- Modern Healthcare
- Montana Public Radio
- Morning Journal
- MPR
- Ms. Magazine
- NBC News
- The New York Times
- News & Guts
- North Carolina Health News
- The Northfield News
- NPR
- Ohio Health Policy News

- Omaha World-Herald
- PBS News Hour
- Philadelphia Tribune
- Politico
- Post Alley
- Post Crescent
- Savannah Morning News
- Seattle Times
- Spark Health MD
- Spectrum News 1
- St. Peter Herald
- Standard Speaker
- The Star Tribune
- The 19th
- The Telegraph
- Time Magazine
- TPT Almanac
- University of Minnesota
- US News and World Report
- USA Today
- Vox News
- WABE Atlanta
- The Wall Street Journal
- The Washington Post
- · Washington Times
- WebMD
- WIZM Wisconsin
- WRAL Raleigh
- Yahoo News



Staff, Students, and Affiliates, 2020-21

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 heath 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 RHIhub'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.



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 works with the University of Minnesota Center for Antiracism Research for Health Equity as the Manager of Strategic Partnerships, Policy, and Research. She provides administrative, writing, and editing support, and in the coming year will be contributing to maternity care research projects.



MEGAN LAHR, MPH

Ms. Lahr is a Senior Research Fellow and Project Manager at the 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 LGBT health and health care access in rural areas. In her role as project manager, she helps to manage the operations of all grant-related activity.



KATIE RYDBERG, MPH

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



MARIANA STORY 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 worked on dissemination efforts for all projects as well as website management and strategic communications planning. In addition to working on research projects and directing communication, she also manages administration for grant-related activity.

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 will lead research examining aspects of racial equity in rural maternal and child health in 2021-22.



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. Her research focuses on policies involving health care systems that promote addressing the social determinants of health. Dr. MacDougall will work on a project assessing rural-urban differences in LGBT health outcomes and supports in 2021-22.

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.



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.

Students

MARY GILBERTSON, MPH

Mary began working as a research assistant in August of 2019, focusing on projects related to maternity care. She recently graduated (May 2021) with her MPH and now works on health and health care issues for US Senator Tina Smith.

JULIA INTERRANTE, MPH

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

ALEXANDRIA KRISTENSEN-CABRERA, BS

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

JOHN MULCAHY, MSPH

John worked as research assistant on a project related to older adults from September of 2020 through January of 2021. He is a Health Services Research, Policy, and Administration PhD student in the Division of Health Policy and Management.

JILL TANEM, MPH

Jill began working as a research assistant in January of 2020, focusing on projects related to older adults and living alone. She recently graduated (May 2021) with her MPH and is working as a senior policy consultant with Dira Partners.



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, 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

Family Physician, Bacani/McKenney Clinic

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



MARCUS BERNARD, PHD

Director, Rural Training and Research Center, Federation of Southern Cooperatives/Land Assistance Fund

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

Senior Vice President for Member Services, 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, 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

State Director, AARP Wisconsin

Sam has spent the past 20 years with AARP in both advocacy and management roles. He has spent the last 10 years as state director for AARP in Wisconsin and currently serves as an appointed member of the State of Wisconsin Long Term Care Advisory Committee and the State of Wisconsin SeniorCare Prescription Drug Benefit Advisory Committee. 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 2020-21on Projects Funded in 2019

Emergency Obstetrics in Communities without Hospital- Based Maternity Care

Year funded: 2019

Lead Researcher: Katy Kozhimannil, PhD, MPA

Investigators: Mariana Tuttle, MPH; Julia Interrante, MPH; Samantha Mills, MPH; Mary Gilbertson, MPH; Lindsay Admon, MD, MS; Kristin DeArruda Wharton, APRN, CNP

Increasingly, rural hospitals are closing obstetric units, and local families have to travel far from home to give birth. Our research has documented the potential health risk of losing hospital-based obstetric services, including increases in preterm delivery, out-of-hospital births, and emergency room births. Limited information is available about local preparedness and capacity to support emergency obstetric services in rural communities with no hospital that provides this care and those that close this service line. This project described rural hospitals that do not provide obstetric services, and surveyed a sample of these hospitals regarding their local capacity for emergency obstetrics.

- Products published in 2020-21 include:
 - Brief Report: "Characteristics of US rural hospitals by obstetric service availability" published in American Journal of Public Health.
 - Manuscript: "Local capacity for emergency births in rural hospitals without obstetrics services" published in *Journal of Rural Health*.
 - Policy Brief: "Obstetric Emergencies in Rural Hospitals: Challenges and Opportunities."
 - Policy Brief: "Emergency Obstetric Training Needed in Rural Hospitals without Obstetric Units."
- Presentations include: AcademyHealth Annual Research Meeting, and the National Rural Health Association (NRHA) Annual Meeting.
- Press coverage includes: *The Daily Yonder*.

















Community Context and Rural Strategies to Support the Oldest Old

Year funded: 2019

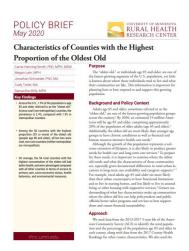
Lead Researcher: Carrie Henning-Smith, PhD, MPH, MSW

Investigators: Megan Lahr, MPH; Jonathan Schroeder, PhD, MA; Jill Tanem, MPH; Cody Tuttle, MPP, MA

One of the fastest-growing segments of the entire U.S. population is adults age 85 and older, sometimes referred to as the "oldest old." The oldest old are more likely than their younger counterparts to have chronic conditions and resource-intensive health care needs. Thus, with the growth of this population comes unique needs for health care and long-term care services, along with a wealth of experience and value to communities and society. The purpose of this project was twofold. We first developed a chartbook providing a profile of older adults (age 65 and older) in rural areas. In addition, we assessed where in the U.S. rural residents age 85 and older (the "oldest old") are most likely to live, what rural counties have experienced the fastest growth of the population age 85 and older, and what strategies are in place or are possible for supporting this population in aging in place.

- Products include:
 - Manuscript: "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" published in *Research on Aging*.
 - Policy Brief: "Characteristics of Counties with the Highest Proportion of the Oldest Old."
 - Chartbook: "Rural-Urban Differences among Older Adults."
- Presentations include: the National Rural Health Association (NRHA) Annual Meeting, the Rural Sociological Society Annual Meeting, and the Association of Health Care Journalists Rural Health Journalism Workshop.
- Press coverage includes: Atlanta Journal Constitution.







Cody Tuttle, MPP, MA Jill Tanern, BS Megan Lahr, MPH Jonathan Schroeder, PhD, MA Mariana Tuttle, MPH Carrier Henning-Smith, PhD, MPH, MSW

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Making it Work: Models of Success in Maternity Care

Year funded: 2019

Lead Researcher: Katy Kozhimannil, PhD, MPA

Investigators: Carrie Henning-Smith, PhD, MPH, MSW; Julia Interrante, MPH; Megan Lahr, MPH; Mary Gilbertson, MPH

Birth is an important family and community event. Increasingly, rural hospitals are closing obstetric units, and local families have to travel far from home to give birth. However, some rural hospitals are defying these trends, maintaining pregnancy and childbirth services locally and even strengthening this service line and increasing the number of maternity care clinicians and births in their community hospitals. Understanding the factors that underlie successful models of rural maternity care can inform communities and hospitals that struggle to keep this service available locally. The purpose of this project was to update information on access to obstetric services in rural counties, to identify common factors across rural communities that have maintained local hospital-based obstetric services, and to describe best practices associated with successfully supporting birth locally in rural communities.

- Products include:
 - Research Letter: "Changes in hospital-based obstetric services in rural US counties, 2014-2018," published in *JAMA*.
 - Infographic: "Loss of hospital-based obstetric services in rural communities in the United States, 2014-2018."
 - Case Series: "Making it Work: Models of Success in Rural Maternity Care."
 - Case Study: "ANGELS & the Millard-Henry Clinic."
 - Case Study: "Kearny County Hospital."
 - Case Study: "Western Wisconsin Health."
- Presentations include: the National Rural Health Association (NRHA) Annual Meeting, the American Hospital Association Rural Health Care Leadership Conference, Rural PREP Research Design and Dissemination Studio.













Living Alone: Rural-Urban Differences in Prevalence, Socio-Demographic Correlates, and Health Needs Across the Lifespan

Year funded: 2019

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

Investigators: Katy Kozhimannil, PhD, MPA; Mariana Tuttle, MPH; Jonathan Schroeder, PhD, MPA; Ashley Hernandez, PhD, MSPH; Jill Tanem, MPH

Across the U.S., there has been a steady an increase in individuals living alone over the past several decades, with more people living alone today than ever before. Living alone is distinct from, but closely related to, risks for social isolation and loneliness, both of which are urgent public health issues that manifest in unique ways in rural contexts. More work is needed to understand the demographic and health characteristics of people living alone across the lifespan, in order to offer a better lens into current and future needs of this rapidly-growing population. The purpose of this project is to document rural-urban differences in the prevalence of living alone across different age groups, to describe rural-urban differences in the socio-demographic correlates and health needs of individuals living alone, and to identify rural-relevant policies and programs to support rural residents living alone, across the lifespan.

- Products include:
 - Manuscript: "Social Isolation and Safety Issues among Rural Older Adults Living Alone: Perspectives of Meals on Wheels Programs," forthcoming in *Journal of Aging & Social Policy*.
 - Policy Brief: "Demographics and Disability Status of Adults Living Alone in Rural Areas."
 - Practical Implications: "Supporting the Health and Wellbeing of Middle-Aged Adults Living Alone in Rural Counties."
 - Infographic: "Rate of Living Alone by Rurality and Age."
- Presentations include: Interdisciplinary Association for Population Health Sciences Annual Meeting, National Rural Health Association Annual Meeting.











Activity in 2020-21on 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: Bridget Basile Ibrahim, PhD, MA; Julia Interrante, MPH; Mariana Tuttle, MPH; Lindsay K. Admon, MD, MS; Mary Gilbertson, 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.

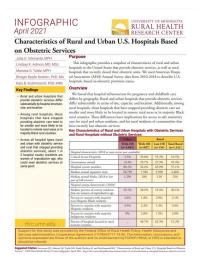
- Products include:
 - Policy Brief: "Rural and Urban Hospital Characteristics by Obstetric Service Provision Status, 2010-2018."
 - Infographic: "Characteristics of Rural and Urban US Hospitals Based on Obstetric Services."
 - Policy Brief: "State and Regional Differences in Access to Hospital-Based Obstetric Services for Rural Residents, 2018."
- Presentations include: AcademyHealth Annual Research Meeting, and the National Rural Health Association (NRHA) Annual Meeting.











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 include:
 - Policy Brief: "Preferences for Long-Term Care Arrangements among Rural and Urban Older Adults."
 - Policy Brief: "Statewide Age-Friendly Initiatives: An Environmental Scan."
 - Policy Brief: "Examples of Statewide Age-Friendly Initiatives."
- Products in progress include:
 - Manuscript: Rural/urban differences in housing and social support for older adults in the community.
- Presentations include: Great Plains Senior Services Collaborative 2021
 Virtual Training, and the Association of Health Care Journalists Rural Health Journalism Workshop.











Evaluating the Rural Health Network Development Planning Grant Program

Year funded: 2020

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

Investigators: Katie Rydberg, MPH; Mary Gilbertson, 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 include:
 - Policy Brief: "Success among Rural Health Network Development Planning Grant Awardees: Barriers and Facilitators."
 - Policy Brief: "Rural Health Network Development Planning Grants Awarded to Entities in Counties with Majority Black, Indigenous, and Persons of Color Populations, 2003-2020."
 - Policy Brief: "Trends in Network Focus Areas among Network Development Planning Grantees, 2003-2020."

Evaluating the Rural HIV/AIDS Planning Grant Program

Year funded: 2020

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

Investigators: Katie Rydberg, 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 include:
 - Internal memo to FORHP
- Products in progress include:
 - Policy Brief: understanding experiences of rural HIV/AIDS grantees, in progress









Other Rural Work, 2020-21



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 began the postdoctoral program in September 2020, and has co-led the development and implementation of a survey of rural hospitals on the topic of safe maternity care. Dr. Basile Ibrahim has proposed work and received independent grant funding for a project on childbirth equity in Minnesota, called the "Indigenous Good Birth Project."



Dr. Hannah MacDougall completed her doctoral degree in the summer of 2021 and joins us as our second postdoctoral associate in the fall of 2021. Dr. MacDougall plans to focus on issues of community benefit spending of rural hospitals and on the social determinants of health in rural areas.

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 was selected in the spring of 2021 and began the program in July 2021.

- 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.
- 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.
- 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.



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

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 September 2021, the Collective has a membership of more than 40 University of Minnesota staff, postdocs, and faculty, along with 13 affiliated centers and institutions from across the University.



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



Upcoming Work, 2021-22

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

Lead Researcher: Katy Backes Kozhimannil, PhD, MPA

Investigators: Lindsay Admon, MD, MS; Julia Interrante, MPH; Bridget Basile Ibrahim, PhD; Phoebe Chastain, BA

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.



Photo from PEXELS.

Improving Racial Equity for Rural Mothers and Infants

Lead researcher: Katy Backes Kozhimmanil, PhD, MPA and Bridget Basile Ibrahim, PhD Investigators: Mariana Tuttle, MPH; Julia Interrante, MPH; Phoebe Chastain, BA; Alyssa Fritz, 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.



Photo from Pixabay.

The Direct Care Workforce in Rural Areas

Lead researcher: Janette Dill, PhD

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

The purpose of this project is to assess the supply of 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 will also explore 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.



Photo from Getty Images.

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

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

Investigators: Megan Lahr, MPH; Hannah MacDougall, PhD; Courtney Sarkin, MA; Gilbert Gonzales, PhD, MHA

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 status, as well as examples of best practices supporting LGBT health and wellness in rural areas.



Photo from East Central Minnesota Pride.



Acknowledgements

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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.



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www.ruralhealthresearch.org

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