



UNIVERSITY OF MINNESOTA  
**RURAL HEALTH**  
RESEARCH CENTER

# Annual Report, 2019-20





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

This year did not look the way we expected it would. Between the COVID-19 pandemic that upended our everyday lives (with no clear end in sight), and renewed, increased – and long overdue – attention to structural racism following the death of George Floyd in Minneapolis, the same city where the University of Minnesota Rural Health Research Center (RHRC) is located, our attention and efforts have been pulled in countless directions. These intersecting phenomena have only increased the urgency of our work, however, as structural inequities across and within rural places put many rural residents at increased risk of poor outcomes simply because of where they live or the color of their skin. Addressing such inequities has always been a central focus of our work, and we remain committed to addressing injustice and working for good health and quality of life for all rural residents in the work that we do. Health equity is both an individual value and a collective goal for our team.

Despite the dramatic and sudden change in where and how we work, RHRC has had a productive year in terms of research, dissemination, and policy influence. Our focus has been on timely, policy-relevant projects in four areas: emergency obstetric care in communities without hospital-based maternity care, health and wellbeing of individuals living alone, models of successful rural maternity care, and community context and strategies to support the oldest old. These projects form the basis of the fourth and final year of this cycle of our federally-funded RHRC grant. As always, we also continue to disseminate findings from previous projects, as their relevance rarely ends with the culmination of the project year. Our work has helped inform COVID-related analyses, responses, and rural adaptations, and we have been honored to engage in important COVID-related conversations from an evidence-informed rural perspective.

We continue to prioritize public engagement and dissemination of our work. Toward that end, one highlight from this past year was an opportunity for each of us to present papers from a special December 2019 issue of *Health Affairs* at a briefing at the National Press Club in Washington, DC. Carrie was also able to present at the World Rural Health Conference in New Mexico in October, which she combined with time in rural northern New Mexico to learn more about the strengths and challenges faced by some of the communities there. We are now more grateful than ever for the opportunities we have had to travel to rural communities and disseminate our research in person. While our ability to connect in person will likely continue to be affected for some time, we are learning new ways to connect meaningfully across distance to strengthen our ties with rural people and in rural places.

Finally, we are excited for the opportunity to expand our work with two major new programs in the coming year. A new Rural Health Initiative, funded by the Clinical Translational Science Institute and the Office of Academic Clinical Affairs at the University of Minnesota, will support a Rural Health Equity Postdoctoral Fellowship Program as well as the development of a new program focused on improving health and health equity in rural Minnesota. As we reflect on the past year, we are grateful for our ability to lead a talented, collaborative team to do work that contributes toward greater health equity in rural communities across the nation.

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 policymaking. Our work maintains a focus on eliminating inequities based on geography, race, gender, nationality, age, and ability. We are committed to the highest standards of excellence in research and to communicating results to academic and policy audiences as well as to the people and communities to which our research pertains.



*Española, New Mexico*



*Farm in rural Virginia*



## 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 policymakers about the consequences of their decisions for the communities and population groups we study.



*Virtual round table with U.S. Representative Angie Craig (MN-02) on rural health and health equity, July 2020.*



*Site visit to Albert Lea, Minnesota, October 2019.*



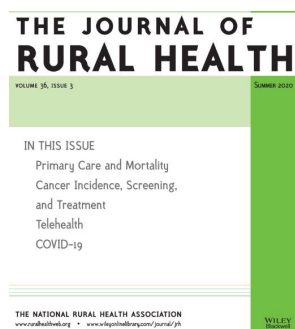
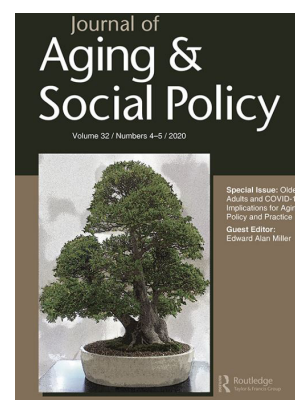
*Protests for racial justice in rural Virginia, Minnesota.*



*Carrie presenting at Health Affairs rural health press briefing, Washington, DC, December 2019.*

## JOURNAL ARTICLES, 2019-20

- “Racial and ethnic differences in self-rated health among rural residents” forthcoming at *Journal of Community Health*.
- “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.
- “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.





## JOURNAL ARTICLES, 2019-20, CONTINUED

- “Rural-urban differences in severe maternal morbidity and mortality in the U.S., 2007-2017” *Health Affairs*, December 2019.
- “Rural counties with majority Black or Indigenous populations suffer the highest rates of premature death in the U.S.” *Health Affairs*, December 2019.
- “Barriers to nursing home care for non-elderly rural residents” *Journal of Applied Gerontology*, December 2019.
- “A national examination of caregiver use of and preferences for support services: does rurality matter?” *Journal of Aging and Health*, October 2019.
- “Rural focus and representation in state maternal mortality review committees: review of policy and legislation” *Women’s Health Issues*, August 2019.
- “Disparities in geographic access to hospital outpatient pulmonary rehabilitation programs in the U.S.” *Chest*, April 2019.
- “Structural factors shape the effects of the opioid epidemic on pregnant women and infants” *JAMA*, January 2019.
- “Differences in social isolation and its relationship to health by rurality” *Journal of Rural Health*, January 2019.
- “Rural-urban difference in workplace supports and impacts for employed caregivers” *Journal of Rural Health*, January 2019.
- “Rural-urban differences in Medicare quality scores persist after adjusting for sociodemographic and environmental characteristics” *Journal of Rural Health*, January 2019.



## RHRC RESEARCH PRODUCTS, 2019-20

- “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
- “Access and Capacity to Care for Medicare Beneficiaries in Rural Health Clinics,” *Policy Brief*, December 2019
- “Access to Specialty Care for Medicare Beneficiaries in Rural Communities,” *Policy Brief*, December 2019
- “Rural-Urban Differences in Access to and Attitudes Toward Care for Medicare Beneficiaries,” *Policy Brief*, December 2019
- “Severe Maternal Morbidity and Hospital Transfer Among Rural Residents,” *Policy Brief*, November 2019
- “Differences in Preventive Care Among Rural Residents by Race and Ethnicity,” *Policy Brief*, November 2019
- “Quality Measures for Critical Access Hospital Swing-Bed Patients,” *Policy Brief*, October 2019
- “Measuring Access to Care in National Surveys: Implications for Rural Health,” *Policy Brief*, June 2019
- “Unmet Need for Personal Care Assistance among Rural and Urban Older Adults,” *Policy Brief*, June 2019
- “Dying Too Soon: County-level Disparities in Premature Death by Rurality, Race, and Ethnicity,” *Policy Brief*, March 2019



## PRESENTATIONS, 2019-20

We have presented at an array of unique events, from academic conferences to town hall meetings, including:

- American Association for the Advancement of Science SciLine Media Briefing (Virtual), May & Jun., 2020
- American Hospital Association (AHA) Allied Association for Rural (Webinar), Oct. 2019
- AHA Rural Health Care Leadership Conference, Jan. 2020, Phoenix, AZ
- AHA Rural Report Podcast Series (Virtual), May 2019
- AcademyHealth Annual Research Meeting: Jul. 2020 (Virtual), Jun. 2019, Washington, DC
- Centers for Medicare and Medicaid Services, Jun. 2019, Washington, DC
- Drexel University Reimagining Health in Cities Symposium, Sept. 2019, Philadelphia, PA
- *Health Affairs* Press Briefing, Dec. 2019, Washington, DC
- Health Resources & Services Administration (HRSA) Webinar, Jan. 2019
- Kansas Rural Health Task Force (Virtual), May 2020
- Life Course Center, Mar. 2019, Minneapolis, MN
- Masonic Cancer Center Rural Health & Cancer Symposium (Virtual), Jun. 2020
- Medicaid and CHIP Payment and Access Commission (MACPAC), Jan. 2020, Washington, DC
- Minnesota Medical Association, Sept. 2019, Duluth, MN
- Minnesota Population Center, Jan. 2019, Minneapolis, MN
- Minnesota Gerontological Society Annual Meeting, Apr. 2019, Brooklyn Center, MN
- Mountain Plains Mental Health Technology Transfer Center Network (Webinar), Jul. 2020
- National Institute for Health Care Management (NIHCM) Foundation (Webinar), Nov. 2019
- National Rural Health Association Annual Meeting: May 2020 (Virtual), May 2019, Atlanta, GA
- National Rural Health Association Health Equity Conference: May 2020 (Virtual), May 2019, Atlanta, GA
- National Rural Health Association Critical Access Hospitals Conference, Sept. 2019, Kansas City, MO
- Radio Health Journal (Podcast), Oct. 2019
- Robert Wood Johnson Foundation, Interdisciplinary Research Leaders (Webinar), Oct. 2019, Jan. 2019
- Robert Wood Johnson Foundation Media Briefing (Virtual), May 2020
- Rural Health Leadership Radio (Podcast), Jun. 2019
- Rural Health Research Gateway (Webinar), Jan. 2020
- Rural PREP Research Design and Dissemination Studio, Jan. 2020, Phoenix, AZ
- Rural Roundtable with Representative Angie Craig, Jul. 2020 (Virtual), Aug. 2019, Red Wing, MN
- State Health Access Data Assistance Center (SHADAC) Research Meeting, Mar. 2019
- University of British Columbia, Jul. 2019, Vancouver, British Columbia, Canada
- University of Minnesota Alumni Association (Webinar), Apr. 2020
- University of Minnesota School of Public Health Research Day, Apr. 2020 (Virtual), Apr. 2019, Minneapolis, MN
- University of Minnesota Public Engagement Conference, Mar. 2020, Minneapolis, MN
- Winneskie Medical Center, Aug. 2019, Decorah, Iowa
- WONCA World Rural Health Conference, Oct. 2019, Albuquerque, NM

## PUBLIC IMPACT, 2019-20

### 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 2019-2020.

#### • Traffic

- Total # of sessions (single visit to the website): 16,131 (1.4 per user)
- Total # of pageviews (single visit to a page on the site): 33,031 (2.4 per session)
- Most users access our site by typing our URL directly (42.8%), others use a search engine (25.1%), some are referred from other sites (25.6%), and still others from social media or email (6.5%)

#### • People

- Total # of users: 11,600
- 86.2% new, 13.8% returning

#### • Content

- Top pages include: Publications, People, and Projects
- Top 3 publications accessed, 2019-20:
  - \* Critical Access Hospital Swing-Bed Quality Measures: Findings from Key Informant Interviews
  - \* Differences in Preventive Care Among Rural Residents by Race and Ethnicity
  - \* Measuring Access to Care in National Surveys: Implications for Rural Health



### Twitter

With over 1,100 Twitter followers (an increase of 36% since last year), we have a large platform through which to share our work. We leverage Tweets and Retweets frequently to disseminate our research.



### Rural Health Research Gateway

Our products are housed with all other federally-funded Rural Health Research Centers on the Rural Health Research Gateway. University of Minnesota-produced research occupied two positions on their list of Top 5 Publications on the Website with “Differences in Preventive Care Among Rural Residents by Race and Ethnicity” and “Rural-Urban Differences in Severe Maternal Morbidity and Mortality in the U.S., 2007-15.” We also presented on their most popular webinar, “Rural Disparities in Health and Healthcare by Race and Ethnicity.”



# PUBLIC IMPACT, 2019-20, CONTINUED

## Press Coverage

In 2019-2020, we were featured in more than 100 unique media outlets, from local print news to national television, including:

- Aberdeen News
- Adirondack Daily Enterprise
- Albert Lea Tribune
- Arizona Mirror
- Atlanta Journal-Constitution
- Bartlesville Examiner-Enterprise
- Becker's Hospital Review
- Bend Bulletin
- BET
- Brainerd Dispatch
- Bridge
- Business Insider
- Business Journal
- CBC News
- CBS Sunday Morning
- The Daily Briefing
- The Daily Yonder
- Duluth News Tribune
- Faribault Daily News
- Florida Phoenix
- Forbes
- The Fix
- FOX News
- Gephardt Daily
- Grand Forks Herald
- Hays Post
- Healthcare Financial Management Association
- Hibbing Daily Tribune
- The Hill
- The Island Packet
- Iowa Public Radio
- InForum
- Jefferson Public Radio
- Journalist's Resource
- Kansas City Public Radio
- KARE11 Minnesota
- KIMT Rochester
- KSIR Colorado
- The Lima News
- Medscape
- Mesabi Daily News
- Minnesota Compass
- The Minnesota Daily
- Minnesota Matters News Network
- Minnesota Public Radio
- Minnesota Reformer
- Minnesota Reporter
- Minnesota Spokesman-Recorder
- Mirage News
- Modern Healthcare
- The Morning Call
- My Vet Candy
- NBC
- NextAvenue
- New Hampshire Public Radio
- News Medical Life Sciences
- News & Guts
- The New York Times
- Nonprofit Quarterly
- The Northfield News
- NPR
- Ohio Health Policy News
- Omaha World-Herald
- PBS News Hour
- Phys.org
- Pine City Pioneer
- Politico
- Post Alley
- Quartz
- Rochester Post Bulletin
- Rural Monitor
- Savannah Morning News
- Seattle Times
- The Star Tribune
- Time Magazine
- TPT Almanac
- U.S. News and World Report
- USA Today
- WABE Atlanta
- Wall Street Journal
- Waseca County News
- The Washington Post
- West Central Tribune
- West Fargo Pioneer
- WebMD
- WIZM Wisconsin
- WJON St. Cloud
- WRAL Raleigh



Staff, Students, and Affiliates,  
2019-20

## Leadership



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

Dr. Kozhimannil is the Director of the RHRC and a Professor in the Division of Health Policy and Management, University of Minnesota School of Public Health.

Dr. Kozhimannil conducts research to inform the development, implementation, and evaluation of health policy that impacts health care delivery, quality, and outcomes during critical times in the lifecourse, including pregnancy and childbirth. The goal of her scholarly work is to contribute to the evidence base for clinical and policy strategies to advance racial, gender, and geographic equity and to collaborate with stakeholders in making policy change to address social determinants and structural injustice in order to facilitate improved health and well-being.

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*, *Medical Care*, and the *American Journal of Managed 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. She has been with the RHRC since 2015.

Dr. Henning-Smith applies her interdisciplinary training in health services research, public health, social work, gerontology, and demography to study policy-relevant issues for rural populations. She 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*. She is also actively engaged with service and community engagement activities to improve rural health, including serving on NRHA's Health Equity Council and NRHA's Government Affairs Committee, as well as serving on multiple advisory boards for the state of Minnesota and non-profit organizations to work on better serving older adults and working toward health equity in rural areas.



## Staff



### MEGAN LAHR, MPH

Ms. Lahr is a Research Fellow and Project Manager at the RHRC, hired in September of 2017. During her time, she has contributed to research projects focusing on caregiving, the oldest old in rural communities, maternal health, and access to care in rural populations. In the coming year, Megan will continue to work on issues related to older adults in rural areas. In her role as project manager, she helps to manage the operations of all grant-related activity.



### IRA MOSCOVICE, PHD

Dr. Moscovice is the Mayo Professor in the Division of Health Policy and Management, School of Public Health. He was the 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.



### SAMANTHA MILLS, MPH

Ms. Mills worked at RHRC from November 2019 through May 2020, focusing on rural maternity care projects. She now works as Director of Medicaid Transformation & Financing at Aurrera Health.



### 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 the 2018 and 2019 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.

## Affiliates



### RACHEL HARDEMAN, PHD, MPH

Dr. Hardeman is a project contributor at RHRC and an Associate Professor in the Division of Health Policy and Management, University of Minnesota School of Public Health. Dr. Hardeman's research applies the tools of population health science and health services research to elucidate the complex determinants of health inequity. She has contributed to work looking at disparities in preventive care in rural areas.



### HANNAH NEPRASH, PHD

Dr. Neprash is a project contributor at RHRC and Assistant Professor in the Division of Health Policy and Management, University of Minnesota School of Public Health. She was a Project Lead for the Team-Based Primary Care in Rural Communities project from 2018-2019. Her research studies how health care providers respond to financial and non-financial incentives, with a focus on time pressure, productivity, and market structure.

## Affiliates, continued



### SHAILENDRA PRASAD, MD, MPH

Dr. Prasad is an Associate Professor at the Department of Family Medicine and Community Health and the Executive Director of the Center for Global Health and Social Responsibility at the University of Minnesota. He provides a clinical perspective on a wide range of RHRC projects.



### MARIZEN RAMIREZ, PHD, MPH

Marizen Ramirez is a project contributor at RHRC and a Professor in the Division of Environmental Health Sciences, University of Minnesota School of Public Health. She is the Director of the Midwest Center for Occupational Health and Safety. She has contributed to work looking at disparities in preventive care in rural areas.



### JONATHAN SCHROEDER, PHD

Jonathan 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, BA

Mary began working as a research assistant at RHRC in August 2019, focusing on projects related to maternity care. She is in her second year of the MPH in Public Health Administration & Policy.

### ASHLEY HERNANDEZ, PHD, MSPH

Ashley worked as a research assistant from August 2018 to May 2020, when she graduated with her PhD. She contributed to a range of projects from access to care to health disparities by race.

### JULIA INTERRANTE, MPH

Julia is a 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. student in the Division of Health Policy and Management.

### ALEXANDRIA KRISTENSEN-CABRERA, BS

Alexandria is an MD-PhD student at the University of Minnesota Medical School and the Division of Health Policy and Management. She has worked on various rural maternal health and obstetric care projects.

### JILL TANEM, BS

Jill began working as a research assistant in January 2020, focusing on projects relating to older adults and living alone. She is in her second year of the MPH in Public Health Administration & Policy.

### CODY TUTTLE, MPP, MA

Cody worked as a graduate research assistant from August 2019 to January 2020, leading data analysis for a chartbook on older adults, while finishing his Master of Public Policy at the Humphrey School of Public Affairs.

## 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 face-to-face 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 who owns and operates an independent practice in Fredonia, a community of approximately 2500 people in southeast Kansas. She provides outpatient, inpatient, emergency department, surgical, and endoscopic services to her community. She is heavily involved in practice-based improvement through the Aledade Kansas ACO.



### 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, and serves as a trusted expert in facilitating improvement for people and communities. She is currently part of the Rural Health Value project team, to assist rural communities and provider organizations to succeed in a value-driven payment and care delivery environment, and the Rural Quality Improvement Technical Assistance (RQITA) team, to support rural quality measurement and improvement nationally.





## 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. He has administrative responsibility for all areas of member services, including membership, communications and meetings/exhibitions. He was a rural hospital administrator for more than 21 years and cares deeply about population health and the varied payment programs moving rural providers into value based purchasing models. He serves on the CMS Star Rating Technical Expert Panel (TEP), the National Quality Forum's Measures Application Partnership (MAP) Hospital and Rural Health Workgroup and serves on the Board of Directors of the National Rural Accountable Care Consortium and Healthcare Facilities Accreditation Program (HFAP).



## PEGGY WHEELER, MPH

*Vice President, Rural Health Care & Governance, California Hospital Association*

Peggy Broussard Wheeler serves as Vice President of the Rural Healthcare Center (RHC) at the California Hospital Association (CHA). RHC represents small and rural hospitals and other members of the sponsoring organizations who provide service to rural populations in the State of California. 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. Ms. Wheeler serves on the National Advisory Committee on Rural Health and Human Services.



## SAM WILSON, MA

*State Director, AARP Wisconsin*

Sam has spent the past 17 years with AARP in both advocacy and management roles. He has spent the last 7 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 six 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 2019-20 on Projects Funded in 2018

# Developing Rural-Relevant Strategies to Reduce Maternal Mortality

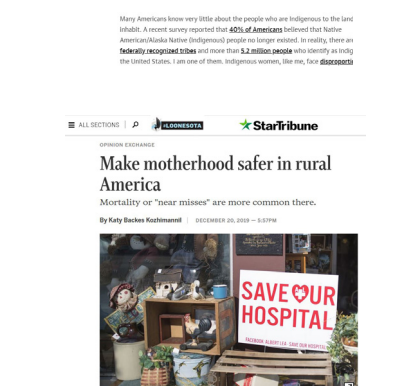
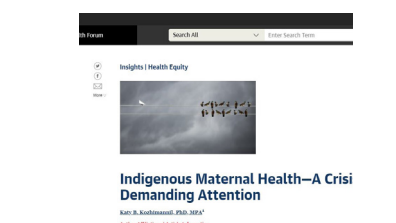
Year funded: 2018

Lead Researcher: Katy Kozhimannil, PhD, MPA

Investigators: Carrie Henning-Smith, PhD, MPH, MSW; Amanda Corbett, MPH; Cori Blauer-Peterson, MPH; Angela Thompson, MD; Julia Interrante, MPH

This project distinguished and analyzed predictors of maternal morbidity during childbirth hospitalization by geography and developed recommendations to improve the safety of childbirth for rural residents. It also assessed the degree of rural focus and representation in current policy efforts to address this crisis.

- Products include:
  - Manuscript: “Rural-Urban Differences in Severe Maternal Morbidity and Mortality in the United States” published in *Health Affairs*.
  - Manuscript: “Rural focus and representation in state and federal policies to address maternal morbidity and mortality” published in *Women’s Health Issues*.
  - Manuscript: “Severe maternal morbidity and mortality among rural and urban Indigenous women in the United States” published in *Obstetrics and Gynecology*.
  - Policy Brief: “Severe Maternal Morbidity and Hospital Transfer Among Rural Residents.”
  - Blog: “Beyond The Preventing Maternal Deaths Act: Implementation and Further Policy Change” published in *Health Affairs Blog*.
  - Commentary: “Indigenous Maternal Health: A Crisis Demanding Attention” published in *JAMA Health Forum*.
  - Commentary: “Make Motherhood Safer in Rural America” published in *Star Tribune*.
- Presentations include: the AcademyHealth Annual Research Meeting, the American Hospital Association Rural Health Care Leadership Conference, Rural PREP Research Design and Dissemination Studio, the National Rural Health Association Annual Conference, the Medicaid and CHIP Payment and Access Commission (MACPAC), the University of British Columbia, and Winnishiek Hospital.
- Press coverage: Albert Lea Tribune, Brainerd Dispatch, Daily Yonder, Duluth News Tribune, Mirage News, Modern Healthcare, The Northfield News, NPR, PBS News Hour, The Star Tribune, US News & World Report, and more.





## Team-Based Primary Care in Rural Communities

Year Funded: 2018

Lead Researcher: Hannah Neprash, PhD

Investigators: Katy Kozhimannil, PhD, MPA; Shailendra Prasad, MD, MPH; Ira Moscovice, PhD, MS; Laura Smith, PhD

This project described primary care practice structure in rural communities and quantified characteristics of primary care teams associated with high-quality care. Nonphysician clinicians such as nurse practitioners (NPs) and physician assistants (PAs) are integral members of the rural primary care workforce; NPs and PAs provide 1 in 6 office visits in rural areas, compared to 1 in 10 in urban areas. Rural areas provide an opportunity to learn about the structure, functioning, and quality of care provided by primary care teams.

- Products include:
  - Policy Brief: “Rural and Urban Differences in Primary Care Pain Treatment by Clinician Type.”
  - Manuscript: “Nurse Practitioner Autonomy and Complexity of Care in Rural Primary Care” published in *Medical Care Research & Review*.
- Presentations include: the AcademyHealth Annual Research Meeting, and the University of Minnesota School of Public Health Research Day.
- Press coverage: UMN News, Medical XPress.

### POLICY BRIEF April 2020



#### Rural and Urban Differences in Primary Care Pain Treatment by Clinician Type

Hannah Neprash, PhD  
Laura Barrie Smith, BA  
Shailendra Prasad, MBBS, MPH  
Bethany Sheridan, PhD  
Katy Kozhimannil, PhD, MPA

##### Key Findings

- Roughly 1 in 10 (9.8%) visits for opioid-naïve (i.e., no opioid prescriptions within 1 year) patients with a first-time complaint of pain received an initial opioid prescription in 2017.
- Comparing nurse practitioners (NPs) to physicians within primary care practices, NPs in rural areas were significantly less likely than physicians to prescribe an opioid for a first-time complaint of pain (11.8% vs. 13.4%).
- In urban primary care practices, NPs and physicians had similar opioid prescribing rates.
- In urban and rural primary care practices, NPs and physicians were similarly likely to refer patients to physical therapy.

##### Purpose

The effects of the opioid epidemic are particularly pronounced in rural areas, where opioid prescribing and drug overdose deaths are more frequent than in urban areas. Little is known about the opioid prescribing patterns of nurse practitioners (NPs), compared to primary care physicians – and how prescribing patterns differ for rural vs urban practices. This policy brief presents findings from a comparison of opioid prescribing rates among physicians and NPs within primary care practices – using a novel database of all-payer health care claims and e-prescribing data.

##### Background

There is mounting recognition that increased opioid prescribing over the past three decades has been a major driver of the national crisis of opioid use disorder and overdose. While no community in the U.S. has been untouched by the opioid epidemic,<sup>1,2</sup> rural areas have suffered especially devastating consequences.<sup>3</sup> Opioid prescribing rates – particularly among primary care clinicians – are 25–50% higher in rural areas, compared with urban areas.<sup>4</sup> As rural communities face growing primary care physician shortages and primary care practices increasingly rely on nurse practitioners,<sup>5</sup> it is important to understand how opioid prescribing patterns differ between physicians and nurse practitioners – and whether these differences are consistent across rural and urban settings.

We know of only one prior study that has examined differences in opioid prescribing by primary care clinician type – finding that NPs were less likely to prescribe opioids to Medicare patients than physicians.<sup>6</sup> Rural-urban differences were not assessed in this analysis. In this policy brief, we examine clinicians' pain treatment decisions – both opioid prescribing and referral to physical therapy – for opioid-naïve patients with a first complaint of pain. We focus on this patient population because consensus guidelines caution prescribers against using opioid painkillers as first-line therapy for patients suffering from pain.<sup>7</sup> This analysis looks separately at opioid prescribing by physicians and NPs, in both rural and urban communities.

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# Disparities in Preventive Care by Race and Ethnicity among Rural Adults

Year funded: 2018

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

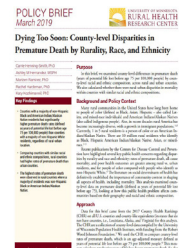
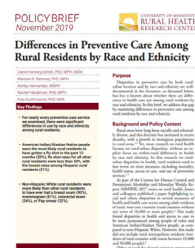
Investigators: Katy Kozhimannil, PhD, MPA; Rachel Hardeman, PhD, MPH; Marizen Ramirez, PhD, MPH; Ashley Hernandez, PhD, MSPH

This project identified differences in health and in access to and use of preventive care by race and ethnicity among rural residents. Results from this project identified racial/ethnic disparities that exist within rural communities and may guide targeted interventions to improve equity and increase access to high-quality health care for all rural residents.

- Products include:
  - Manuscript: "Racial and Ethnic Differences in Self-Rated Health among Rural Residents" forthcoming in *Journal of Community Health*.
  - Manuscript: "Rural Counties with Majority Black or Indigenous Populations Suffer the Highest Rates of Premature Death in the US" published in *Health Affairs*.
  - Commentary: "Missing Voices in America's Rural Health Narrative" published in *Health Affairs Blog*.
  - Policy Brief: "Differences in Preventive Care among Rural Residents by Race and Rurality."
  - Policy Brief: "Dying Too Soon: County-level Disparities in Premature Death by Rurality, Race, and Ethnicity."
- Presentations include: the AcademyHealth Annual Research Meeting, the Health Affairs press briefing, the National Rural Health Association (NRHA) Annual Meeting, the NRHA Health Equity Conference, the Rural Health Research Gateway Webinar, and the University of Minnesota School of Public Health Research Day.
- Press coverage includes: The Duluth News Tribune, Journalist's Resource, and The Minnesota Daily.



**Journalist's Resource**  
Research on today's news topics



## Access to Care for Rural Medicare Beneficiaries

Year Funded: 2018

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

Investigators: Megan Lahr, MPH; Hannah Nepraash, PhD, Ashley Hernandez, PhD, MSPH

This project examined multiple dimensions of access to care, focusing on rural Medicare beneficiaries, including rural-urban differences in access to care, and within-rural differences in access to care by region, coverage type (traditional fee-for-service vs. supplemental Medigap coverage), and socio-demographic characteristics. Results from this project will be useful in designing targeted interventions and policies to improve access to care—and ultimately, health outcomes—for rural Medicare beneficiaries.

- Products include:
  - Manuscript: “Differences by Rurality in Satisfaction with Care among Medicare Beneficiaries” published in *Journal of Rural Health*.
  - Manuscript: “Rural-urban Differences in Medicare Beneficiaries being Contacted by Collection Agencies for Unpaid Medical Bills” in process.
  - Manuscript: “Access to Care for Rural Medicare Beneficiaries: Barriers and Recommendations from Rural Health Clinics” in process.
  - Policy Brief: “Access and Capacity to Care for Medicare Beneficiaries in Rural Health Clinics.”
  - Policy Brief: “Access to Specialty Care for Medicare Beneficiaries in Rural Communities.”
  - Policy Brief: “Rural-Urban Differences in Access to and Attitudes Toward Care for Medicare Beneficiaries.”
  - Policy Brief: “Measuring Access to Care in National Surveys: Implications for Rural Health.”
- Presentations include: the AcademyHealth Annual Research Meeting, the National Rural Health Association (NRHA) Annual Meeting, and the NRHA Health Equity Conference.
- Press coverage: Waseca County News, Faribault Daily News.




ORIGINAL ARTICLE

**Differences by Rurality in Satisfaction with Care Among Medicare Beneficiaries**

Carrie Henning-Smith PhD, MPH, MSW, Ashley Hernandez MSPH, Hannah Nepraash PhD, Megan Lahr MPH

First published: 08 May 2020 | <https://doi.org/10.1111/rph.12423>

Disclosures: The authors declare no conflicts of interest.

[Read the full text >](#)

PDF TOOLS SHARE

Abstract



**POLICY BRIEF**  
December 2019

**Rural-Urban Differences in Access to and Attitudes Toward Care for Medicare Beneficiaries**

**Purpose**  
Rural Medicare beneficiaries have lower rates of satisfaction with care compared to urban Medicare beneficiaries. This policy brief examines the reasons for these differences and provides recommendations for improving access to care for rural Medicare beneficiaries.

**Background and Policy Context**  
Rural Medicare beneficiaries face unique challenges in accessing care, including limited provider availability, longer travel distances, and fewer specialized services. These challenges can lead to lower satisfaction with care and potentially worse health outcomes.

**Recommendations**  
To improve access to care for rural Medicare beneficiaries, policymakers and providers should focus on increasing provider availability, improving transportation options, and addressing social determinants of health.









## Activity in 2019-20 on 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, BA; Lindsay Admon, MD, MSc; 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 describes rural hospitals that do not provide obstetric services, and surveys a sample of these hospitals regarding their local capacity for emergency obstetrics.

- Products 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” under review at *Journal of Rural Health*.
  - Policy Brief: “Obstetric Emergencies in Rural Hospitals: Challenges and Opportunities” forthcoming.
- Products in preparation:
  - Policy Brief: “Training Needed in Rural Hospitals without Obstetric Units.”
- Presentations include: the National Rural Health Association (NRHA) Annual Meeting.



# 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, BS; 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 is twofold: first, to develop a chartbook providing a profile of older adults (age 65 and older) in rural areas and next, to assess 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:
  - Policy Brief: “Characteristics of Counties with the Highest Proportion of the Oldest Old.”
  - Chartbook: “Rural-Urban Differences among Older Adults.”
- Products in preparation:
  - Manuscript: qualitative interview analysis from rural counties with the highest proportion of the oldest old.
- Presentations include: the National Rural Health Association (NRHA) Annual Meeting.
- Press coverage includes: Atlanta Journal Constitution.

## POLICY BRIEF May 2020



### Characteristics of Counties with the Highest Proportion of the Oldest Old

Carrie Henning-Smith, PhD, MPH, MSW  
Megan Lahr, MPH  
Jonathan Schroeder, PhD, MA  
Cody Tuttle, MA  
Samantha Mills, MPH

#### Key Findings

- Across the U.S., 1.9% of the population is age 85 and older, referred to as the “oldest old.” Across rural (non-metropolitan) counties, the prevalence is 2.4%, compared with 1.9% in metropolitan counties.
- Among the 56 counties with the highest proportion (5% or more) of the oldest old (people age 85 and older), all but two were rural, non-core counties (neither metropolitan nor micropolitan).
- On average, the 54 rural counties with the highest concentration of the oldest old had better health, and were advantaged compared with all other counties in terms of access to primary care, socio-economic status, health behaviors, and environmental measures.

#### Purpose

The “oldest old,” or individuals age 85 and older, are one of the fastest growing segments of the U.S. population, yet little is known about where those individuals tend to live and what their communities are like. This information is important for planning how to best respond to and support this growing population.

#### Background and Policy Context

Adults age 85 and older, sometimes referred to as the “oldest old,” are one of the fastest-growing population groups across the country.<sup>1</sup> By 2050, an estimated 19 million Americans will be age 85 and older, comprising approximately 20% of the population of older adults (age 65 and older).<sup>2</sup> Additionally, the oldest old are more likely than younger age groups to have chronic conditions as well as financial and human resource-intensive health care needs.<sup>3</sup> Although the growth of this population represents a welcome extension of lifespans, it is also likely to produce greater needs for health care and long-term care services.<sup>4</sup> To prepare for these needs, it is important to examine where the oldest old reside and what the characteristics of those communities are, especially given documented differences in rural-urban locations in long-term care availability and caregiver supports.<sup>5-7</sup> For example, rural adults age 85 and older are more likely than their urban counterparts to have functional limitations and to live in nursing homes, and less likely to live in assisted living or other housing with supportive services.<sup>8</sup> Greater understanding of what key characteristics make up communities where the oldest old live can help policymakers and public officials better tailor programs and services to best support them and ensure financial sustainability.

#### Approach

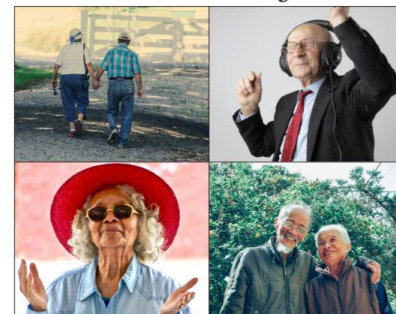
We used data from the 2013-2017 5-year file of the American Community Survey (ACS) to identify the total population and the percentage of the population age 85 and older in each county, along with data from the 2017 County Health Rankings for other county characteristics. We also used the

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## CHARTBOOK AUGUST 2020



### Rural-Urban Differences among Older Adults



Photos from *Peaks*; photographers include the following, clockwise from top right: Andrea Piacentini, Tristan Le, Nicholas Velazquez Young, and Nicole Ott.

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

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**AJC**

Atlanta. News. Now.



## Making it Work: Models of Success in Maternity Care

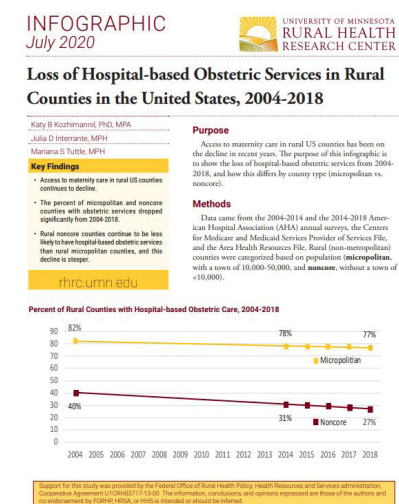
Year funded: 2019

Lead Researcher: Katy Kozhimannil, PhD, MPA

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

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 is 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.”
- Products in preparation:
  - Case series highlighting three case studies of successful provision of maternity care in rural communities.
- 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, BS

Across the U.S., there has been a steady 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:
  - 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.”
- Products in preparation:
  - Manuscript: qualitative analysis of home-delivered meals providers in rural areas focused on social isolation, loneliness, and safety of older adults living alone.
  - Policy Brief: analysis of US Census data on rural/urban differences in rates of living alone and disability.
- Presentations include: Interdisciplinary Association for Population Health Sciences Annual Meeting, forthcoming in September, 2020.

PRACTICAL IMPLICATIONS  
July 2020

UNIVERSITY OF MINNESOTA  
RURAL HEALTH  
RESEARCH CENTER

## Supporting the Health and Wellbeing of Middle-Aged Adults Living Alone in Rural Counties

Carrie Henning-Smith, PhD, MPH, MSW  
Mariana Tuttle, MPH  
Ashley Hernandez, MSPH  
Jonathan Schroeder, PhD, MA  
Katy Kozhimannil, PhD, MPA

### Key Findings

- 13.0% of middle-aged adults (age 35-64) live alone in rural (non-metropolitan) counties vs. 12.3% in urban counties. Of the 50 counties with the highest percentage of middle-aged adults living alone, 37 are rural.
- Health care providers in these counties identified several characteristics related to high rates of middle-aged adults living alone, including socio-demographic characteristics (e.g., income, marital status, age distribution), lack of social support, personal choice, housing issues, and health status.
- Practical challenges for middle-aged adults living alone in rural counties included limited resources, transportation, accessing health care, loneliness, substance use, and difficulty with self-care.
- While many individuals live alone by choice and thrive in doing so, some people experience unique barriers to health and well-being when living alone. These barriers play out uniquely in rural areas and require tailored interventions to support these individuals.

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### Background and Policy Context

More people in the United States live alone today than ever before. In 1990, fewer than 10% of all households consisted of an individual living alone. Today, more than 32 million people live alone in the U.S., making up more than 27% of all households.<sup>1</sup> For many, living alone is an intentional choice and can be a positive experience;<sup>2</sup> for others, it is associated with poorer health and increased risk of loneliness and social isolation.<sup>3,4</sup> (Loneliness and isolation are related, but distinct concepts; loneliness is a sense of social needs not being met; isolation is an objective lack of social contacts.)

In light of increased isolation and social distancing related to the COVID-19 pandemic, understanding these heightened risks and the challenges associated with serving these individuals is all the more timely and important. Rates and experiences of living alone vary by age group, with middle-aged adults (age 35-64) who live alone tending to be in worse health than their counterparts living with others. This same relationship is not true for younger or older individuals.<sup>5</sup>

In addition to poorer health outcomes for middle-aged adults living alone, single non-elderly adults face unique barriers in accessing support when necessary, relative to children and older adults. For example, single non-elderly adults typically have access to fewer social welfare programs and higher unemployment rates than their counterparts.<sup>6</sup> Basic cash welfare programs, such as Temporary Aid to Needy Families (TANF), are targeted toward adults with children, not to adults living alone.<sup>7</sup> Low income adults living alone also have more restricted access to programs like SNAP<sup>8</sup> (food assistance) and the Earned Income Tax Credit (EITC)<sup>9</sup> than their counterparts with co-resident dependents.<sup>10</sup> Importantly, there is considerable variation among states, including states with large rural populations, in

INFOGRAPHIC  
April 2020

UNIVERSITY OF MINNESOTA  
RURAL HEALTH  
RESEARCH CENTER

## Rate of Living Alone by Rurality and Age

Carrie Henning-Smith, PhD, MPH, MSW  
Jonathan Schroeder, PhD, MA  
Mariana Tuttle, MPH

### Key Findings

- Rates of living alone are higher in Census-defined urban areas than in rural areas across all age categories, but rates are also higher in non-metro counties than in metro counties. This seeming contradiction is possible because of the differences in how “urban areas” and “metro areas” are officially defined.
- The higher rates in both urban areas and non-metro counties indicate that living alone is especially prevalent in outlying small cities and large villages (areas that are officially both urban and non-metro) but relatively uncommon in the surrounding “countryside” (officially rural areas in either metro or non-metro counties).
- The likelihood of living alone increases with age, so areas with older populations generally have higher rates of living alone and vice versa. This partly explains the urban/rural trends.
- Among non-metro counties, there is a pattern of high rates of living alone across the Great Plains and in a few smaller regions in the Upper Midwest, the Deep South, and the Mountain West.
- When developing policies and programs to ensure that people living alone have appropriate support and resources, the higher rates in non-metro cities and in certain non-metro regions should receive special attention.

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### Purpose

Living alone is increasingly common and is associated with higher risk of social isolation and poor health for populations without access to appropriate support and resources. Little is known about how rates of living alone vary by rurality, however. In this infographic, we identify rates of living alone for all adults and within specific age groups using two different classifications of rurality.

### Data

To compare rates of living alone by rurality and age, we use summary data from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS) 5-Year Estimates, acquired through the IPUMS National Historical Geographic Information System (<https://www.ipeds.org/>). We limit all figures to adults in households (excluding children and people living in group quarters).

Figure 1: Percent Living Alone by Age and Census-Defined Rural/Urban Location

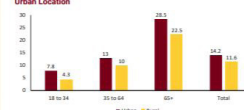
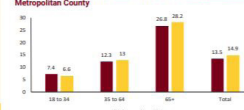


Figure 2: Percent Living Alone by Age and Metropolitan/Non-Metropolitan County



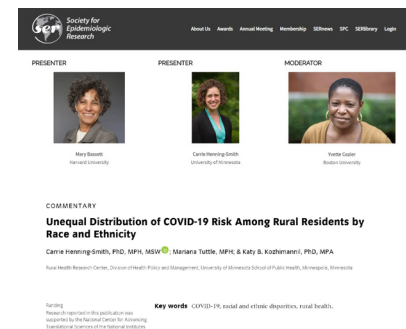
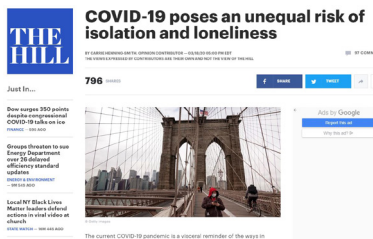


Other rural work  
& upcoming projects

## Additional Rural Work, 2019-20

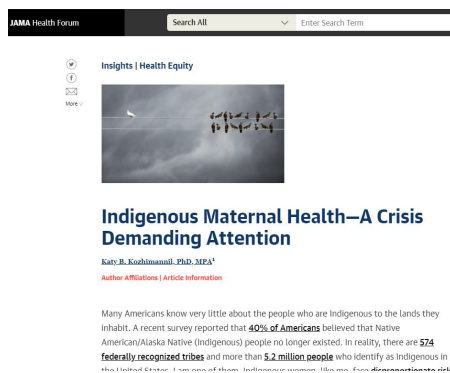
The RHRC grant is the cornerstone of our work, but our team has also had the opportunity to engage on other rural health projects over the past year. Below, we describe some highlights.

- Leading conversation on the impact of the COVID-19 pandemic in rural communities through opinion and commentary pieces as well as podcasts, media briefings, webinars, and other conversation:
  - Commentary in US News & World Report: [“Rural Moms Already Have No Place to Go. The Coronavirus Will Make the Problem Worse.”](#)
  - Commentary in The Hill: [“COVID-19 Poses an Unequal Risk of Isolation and Loneliness.”](#)
  - Media Briefing for SciLine on what scientists know about COVID-19-related health disparities and risks: [“COVID-19: Health Disparities and Vulnerable Populations.”](#)
  - Commentary in Journal of Rural Health: [“Unequal Distribution of COVID-19 Risk Among Rural Residents by Race and Ethnicity”](#)
  - “Health Equity in Real Time with COVID-19: Rural Researcher Carrie Henning-Smith on How Rural Areas are Coping and the Unique Demographic, Health and Economic Challenges They Face” Robert Wood Johnson Foundation Media Teleconference, May 5, 2020
  - Panel Presentation via Society for Epidemiologic Research (SER): [“Health Equity During the COVID-19 Pandemic: Urban-Rural Dimensions”](#)



- Conducting research and offering perspective on rural mental health, social connectedness, and suicide prevention:
  - Published [Rural Suicide Prevention Toolkit](#) on the Rural Health Information Hub on 9/19 in collaboration with NORC
  - Op-Ed published in NBC News: [“As Rural Suicide Rates Increase in America, Studies Show Risk is not Randomly Distributed”](#)
  - Chaired workgroup on rural suicide prevention for New York State, 2020
  - With funding from the North Central Regional Center for Rural Development, led a [project on farmer mental health](#)
  - With funding from the National Center for Mobility Management, researched ways [public transportation can be used to reduce social isolation, including in rural communities](#)

- Contributing a rural voice to national, state, and local conversations about maternal mortality and racial equity in maternal health
  - Writing a research-based commentary on Indigenous maternal health: [“Indigenous Maternal Health - A Crisis Demanding Attention”](#)
  - Consultation to state and federal policy-makers on [legislation aimed to improve maternal health and reduce racial disparities](#).



*Katy talking with Brock, a member of our Expert Work Group at Health Affairs rural health press briefing, Washington, DC, December 2019.*



## Upcoming Rural Work, 2020-2021

We are excited to announce the expansion of our work at the UMN Rural Health Research Center to better support health in rural Minnesota, with a new initiative supported by the Office of Academic and Clinical Affairs and Clinical and Translational Science Institute at the University of Minnesota.

The current impact of the UMN Rural Health Research Center has been substantial, catalyzing policy change, driving dialogue at the national level, and producing real results in reducing disparities and achieving better health outcomes. The new investment will allow us to positively impact - in clear and measurable ways - the health and well-being of people and communities in rural Minnesota. This new collaboration and effort will include:

- Greater engagement with University of Minnesota faculty, students, and staff doing rural-relevant work as well as local rural health leaders.
- Establishment of a Postdoctoral Fellowship program in rural health equity, housed at RHRC. We are excited to welcome Bridget Basile Ibrahim, PhD, our first Postdoctoral Fellow, in September 2020.
- Development of a program to offer training and support to community leaders in rural Minnesota to address local health challenges.



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

Lead Researcher: Katy Backes Kozhimannil, PhD, MPA

Investigators: Bridget Basile Ibrahim, PhD; Mariana Tuttle, MPH; Julia Interrante, MPH; Mary Gilbertson, BA

The goal of this project is to analyze data from rural hospitals to understand the criteria by which hospitals and communities assess their need and capacity for obstetric care access in rural counties, and to describe effective ways to operationalize minimum standards for clinical safety and financial viability for rural obstetric units. In this project, we will survey rural hospitals and systematically assess minimum criteria currently present when providing obstetric services. We will also explore potential policy options to ensure that financial and workforce constraints do not impede rural obstetric care access and that clinical safety is supported through policies and resources.



*A delivery room at Winneshiek Medical Center in Decorah, IA, where our team visited with medical staff in August, 2019.*

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

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

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

In general, people want to age in place (i.e., remain in their homes and communities as they get older), but sometimes need structural support in order to do so. Rural and urban areas differ dramatically in their available services, infrastructure and aging-related support, however little is known about how those differences impact aging in place. This project looks at the community infrastructure (e.g. access to health care, appropriate and accessible housing, healthy food, social activities, transportation, and opportunities for engagement and recreation), and how those structures vary by rurality. We will also identify federal, state, and local policy implications for improving health outcomes and quality of life for rural older adults aging in place.



*A farmhouse in rural eastern North Dakota.*

## Partnerships with FORHP Community Division

### Evaluating a Rural Health Network Development Planning Grant

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

Investigators: Jill Tanem, BS; Mary Gilbertson, BA

The Rural Health Network Planning Development Program (“Network Planning Grant”) allows 20-30 grantees each year the ability to focus time and resources around developing an integrated health care network. The goals of this grant include expanding access and coordination of high quality vital health services, achieving efficiencies, and strengthening the rural health care system. We will talk with grantees to better understand barriers and facilitators or success in these critical planning efforts.



*Building a robust health care network can be difficult under the most ideal conditions, and may be more so in resource-strapped rural communities. We look forward to speaking with grantees about their experiences.*

### Evaluating a Rural HIV/AIDS Planning Grant

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

Investigators: Jill Tanem, BS; Mary Gilbertson, BA

The rural HIV/AIDS Planning Program is a brand new initiative that aligns with a broader plan to end the HIV epidemic in the US by 2030. The goal of the grant is for rural health care providers to have the opportunity to address HIV needs, gaps and challenges, comprehensive care, stigma, innovative service delivery models, etc. in order to improve health outcomes among people with HIV and reducing the number of new HIV infections. The HIV/AIDS Planning Grant targets the states with a disproportionate number of people living with HIV in rural areas, and our goal will be a concurrent, process-oriented evaluation of the 2020 cohort of grantees.



*Providing the proper care and support for rural community members living with HIV can be challenging and hard to navigate. We are eager to discuss this process with community grantees of the rural HIV/AIDS Planning Program.*

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## Acknowledgements

### Funding

We are grateful for generous funding support from the Federal Office of Rural Health Policy (FORHP). Part of the Health Resources and Services Administration, FORHP coordinates activities related to rural health care within the U.S. Department of Health and Human Services. For more information about all of the Rural Health Research Centers funded by FORHP, visit [www.ruralhealthresearch.org](http://www.ruralhealthresearch.org). To support our work: <https://give.umn.edu/giveto/ruralhealth>.

### Acknowledgment of Native Lands

The University of Minnesota Rural Health Research Center acknowledges the Dakota people, who are the First People of Mni Sota Makoce. The Dakota people have 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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