

**Rural Health  
Research  
In Progress**  
*in the  
Rural Health Research  
Centers Program*

*Tenth Edition*  
**February 2006**

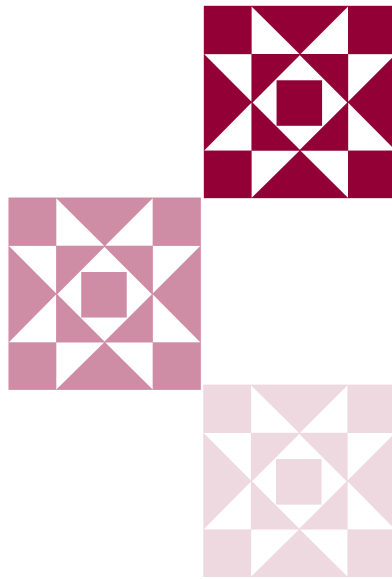


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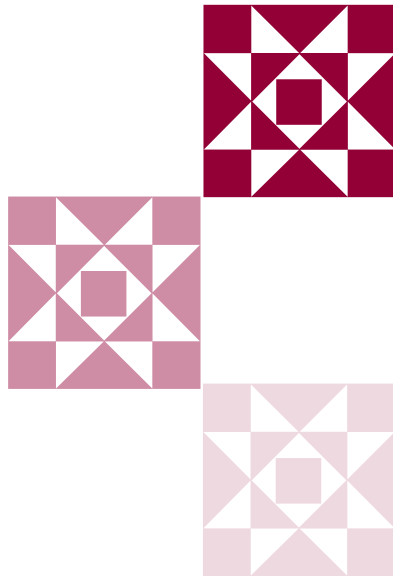
*Rural Health Research  
Centers Program*





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## Acknowledgments and Credits

***Rural Health Research in Progress*** is produced annually by the Maine Rural Health Research Center with support from the Federal Office of Rural Health Policy. We greatly appreciate the cooperation of the other rural health research and policy analysis centers and the guidance of our project officer, Joan Van Nostrand.

- Karen B. Pearson, Editor
- Christine Richards, Richards Design and Production

### **Database for Rural Health Research in Progress**

**<http://www.rural-health.org/database.htm>**

Information about current rural health services research conducted by the Rural Health Research Centers Program of the Federal Office of Rural Health Policy (ORHP) and many other investigators is available on the internet. The Maine Rural Health Research Center at the University of Southern Maine receives funding from ORHP to maintain a searchable database of rural health services research and policy analysis in progress. This database includes all ORHP-funded studies, as well as research funded by other federal agencies, major private foundations and other sources.

This book describes the research and policy analysis projects underway in the Rural Health Research Centers Program of the Federal Office of Rural Health Policy (ORHP), Health Resources and Services Administration, U.S. Department of Health and Human Services. The objective of this program is to produce research and policy analyses that will be useful in the development of national and state policies to assure access to quality physical and behavioral health services for rural Americans.

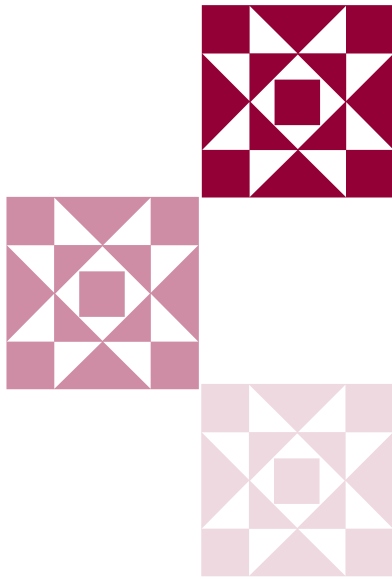
The individual grantees and the eight research and policy analysis centers currently funded in part or in whole by the Federal Office of Rural Health Policy are addressing a wide range of problems in the financing, organization and delivery of rural health care, including:

- Behavioral Health
- Bioterrorism Preparedness
- Defining Rural
- Emergency Medical Services (EMS)
- Health Insurance and the Uninsured
- Health Promotion
- Hospitals
- Hospitals: Rural Hospital Flexibility Program
- Long Term Care
- Medicaid and S-CHIP
- Medicare
- Public Health
- Quality
- Racial and Ethnic Populations
- Research-Policy Interface
- Service Delivery
- Special Needs of Women and Children
- State-level Data
- Workforce

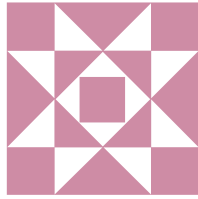
This tenth edition summarizes the Rural Health Research Centers' current research in these areas and provides an anticipated completion date for each project. Descriptions of the Centers and lists of their current publications are located in the second section of this publication.

For additional information on the Rural Health Research Center Program, please contact Joan Van Nostrand at 301-443-0835 or visit the ORHP website at <http://ruralhealth.hrsa.gov>.

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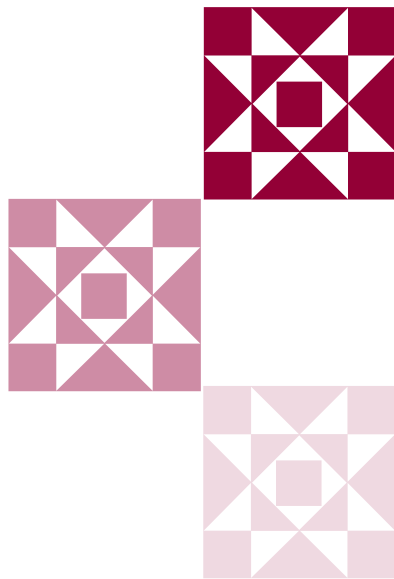
The projects are grouped by topic. Abstracts include the purpose and methodology of the project along with its policy relevance and any anticipated publications. Contact information is provided for each project.

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# Part 1: Current Projects

## Behavioral Health



### **Assessing Demand and Capacity for Behavioral Health Services in Northern Minnesota**

*University of Minnesota Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Donna D. McAlpine, Ph.D., 612-625-9919 or mcap1004@umn.edu*

*Funder: Generation Health Care Initiatives*

Challenges to delivering mental health services in Northern Minnesota mirror those experienced in rural settings throughout the nation. Yet, little is known about how services can best be organized to meet these challenges. This project gathered the information necessary to measure demand and capacity and develop policy recommendations to improve the organization of behavioral health services in Northern Minnesota. The project has three central objectives:

- Assess demand and capacity for behavioral health services
- Develop a model to monitor demand/capacity over time
- Propose recommendations to improve the organization of behavioral health services.

The project included key informant interviews and the collection of primary data over a one-year period from organizations and providers who serve persons with mental health care needs in the region. The data will be used as input to a model that will be developed to forecast the balance of demand and capacity for mental health services over time.

### **Distance Learning in Depression for Rural Primary Care Providers**

*WICHE Rural Mental Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Scott Adams, Ph.D., 303-541-0257 or sadams@wiche.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Primary care providers (PCPs) provide most mental health treatment in rural areas, as they are often the most readily available and acceptable type of providers for rural residents. Rural PCPs receive limited training in the identification and treatment of mental illness while in school, and lack the time/resources to pursue advanced training once they are in practice. Rather than expect rural PCPs to “close the quality gap” by themselves, rural advocates have argued that the best approach to improving mental health outcomes in rural areas is to disseminate integrated care models to improve mental health services. Integrated care models use care managers to leverage PCP attempts to deliver evidence-based treatment (including psychoeducation, pharmacotherapy, and psychotherapy). Such models have been shown to be a cost-effective method of improving outcomes for major depression, anxiety disorders, PTSD and alcohol abuse.

The purpose of this project is to develop effective distance learning methods to train rural PCPs in integrated care models for depression using computer based training (E-Learning) using materials adapted from the MacArthur Initiative on Depression & Primary Care. The MacArthur Initiative on Depression & Primary Care seeks to “enhance the ability of primary care clinicians to recognize and manage depression.” (<http://www.depression-primarycare.org/about/mission/>). The Initiative provides numerous resources for clinicians, organizations, and clinical trainers, including: 1) toolkits for identifying, treating, and monitoring all levels of depression; 2) video streams that demonstrate both a clinician’s interaction with a patient during diagnosis and follow-up, as well as the role of a telephonic depression care manager and consulting psychiatrist; and 3) literature for review and dissemination.

## **The Financial Impact of Mental Health Services on Rural Individuals & Families**

*Maine Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Andrew F. Coburn, Ph.D., 207-780-4335 or [andy@usm.maine.edu](mailto:andy@usm.maine.edu)*

*Contact Person: Erika Ziller, M.S., 207-780-4615 or [eziller@usm.maine.edu](mailto:eziller@usm.maine.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This study will use the Medical Expenditure Panel Survey (MEPS) to examine the financial burden that rural residents face in seeking mental health services, compared to urban residents. This study will also assess the implications of financial burden for access to needed mental health services for rural residents. Developing an understanding of how mental health service use affects the financial well being of rural families (and the emotional well-being of rural individuals) will provide policymakers with evidence that informs mental health policy interventions. For example, if many privately insured rural residents face high out-of-pocket costs for mental health services, policymakers may want to strengthen the rural mental health safety net (i.e. by providing subsidies to rural mental health professionals). If the hypothesized rural-urban disparities are linked primarily to individual and small group coverage, this may indicate a need to reform existing mental health parity laws.

This study asks the following research questions:

1. What proportion of rural versus urban residents with private insurance have a policy that covers mental health services?
2. What are the out-of-pocket costs by rural residents who seek mental health treatment and how do these compare to urban residents (in raw dollars, as a proportion of mental health charges, as a proportion of family income)?
3. How do out-of-pocket costs compare for service users based on rurality, controlling for employer size or other characteristics?
4. Are rural residents more or less likely than urban residents to report financial barriers to accessing mental health services? Is there evidence of unmet need for mental health services among rural residents, based on their responses to screenings for mental status?

Products of this project will include a working paper, an article submitted to a peer-reviewed journal, and presentations at relevant conferences.

## **Identifying At-Risk Rural Areas for Targeting Enhanced Schizophrenia Treatment**

*WICHE Rural Mental Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: John C. Fortney, Ph.D., 501-257-1726 or fortneyjohnc@uams.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

After studies established that the schizophrenia treatment most patients receive is not evidence-based, policy makers encouraged health care systems to adopt evidence-based programs to improve schizophrenia outcomes. However, early efforts to disseminate these models identified major barriers including poor access, which reduce the intensity, quality and outcomes of care. Research demonstrated that even when communities offered evidence-based practices, lack of fidelity to the treatment models increased the likelihood of hospitalization. Because public mental health systems must address multiple issues with fixed budgets, they will have to prioritize which geographic areas they target.

The goal of this project is to identify rural areas that should be targeted for early adoption of evidence-based schizophrenia treatment. This project proposes a scientifically-based method to identify counties in greatest need for quality improvement to inform national, regional, and local decision-makers about distributing scarce resources to areas which would most benefit from improved schizophrenia treatment. Implementation of evidenced-based treatments in high risk areas has the potential to simultaneously improve outcomes and reduce inpatient costs.

## **Identifying Stakeholders to Pay for Enhanced Depression Treatment in Rural Populations**

*WICHE Rural Mental Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Stanley Xu, Ph.D., 303-636-3140, or Stan.Xu@kp.org*

*Funder: Federal Office of Rural Health Policy, HRSA*

The goal of this project is to identify stakeholders who economically benefit when rural patients receive enhanced depression treatment, which will, in turn, encourage health plans to provide enhanced depression treatment to their rural enrollees without raising premiums. Studies in predominantly urban cohorts report that enhanced depression treatment economically benefits employers but not health plans; parallel studies in rural cohorts have not been conducted. Because providing depression treatment reduces hospitalizations and outpatient care for physical problems in rural populations but not urban ones, enhanced depression treatment may differentially benefit health plans that cover rural residents. Evidence of economic benefit can encourage health plans to provide enhanced depression treatment to their rural enrollees without raising premiums, because it is in the health plan's own economic self-interest.

## **The Impact of Mental and Emotional Stress on Rural Employment Patterns**

*Maine Rural Health Research Center*

*Expected completion date: January 2006*

*Principal Investigator: Lisa Morris, Ph.D., 207-780-5876 or lmorris@usm.maine.edu*

*Contact Person: Stephenie Loux, M.S., 207-780-5774 or sloux@usm.maine.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Although society provides supplemental security income to individuals with serious and persistent mental illness, those with less serious emotional disorders or sub-acute mental distress lack eligibility for these benefits. However, poor mental health status can result in significant negative effects on the worker, his or her family, and the local community and its economy. Given the smaller, less diversified rural economy, the lack of Employee Assistance Programs and mental health insurance benefits, and the shortage of mental health providers, the effects of mental health problems are likely to be exacerbated in rural areas. In this study, the National Longitudinal Survey of Youth was used to investigate how mental health symptoms affect employment patterns, and the extent to which these effects differ by rural and urban residence.

Specifically, the following questions were addressed:

- Are there rural-urban differences in the prevalence of mental health problems, ranging from clinical conditions to sub-acute, undiagnosed mental and emotional stress among labor force participants/nonparticipants and employed/unemployed persons?
- To what extent do mental and emotional symptoms and their severity predict lower job retention and longer unemployment spells, and are there rural-urban differences?
- Does the impact of mental and emotional health symptoms differ according to the type of job transition (left for another job, left for no new job, remained in same job but at reduced hours), and are there rural-urban differences?

Developing a better understanding of how mental health problems affect rural workers will not only assist health and human service providers in targeting interventions to workers needing support, but will also inform employers about how they might help employees continue to function productively on the job. Findings from this study will include a working paper, presentations at national conferences, and submission to a peer-reviewed journal.

## **Maine Mental Health Evidence-Based Practice Planning Initiative**

*Maine Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: David Lambert, Ph.D., 207-780-4502 or davidl@usm.maine.edu*

*Funder: National Institutes of Mental Health*

This project was part of a planning grant for the state of Maine's Department of Behavioral and Developmental Services (BDS) to assess the state's need, capacity and readiness for implementing evidence-based practices (EBP) at the community mental health level. An important issue is the capacity of implementing EBP in rural areas, given infrastructure and transportation challenges they face. Major collaborators on the planning grant are the Muskie School, University of Southern Maine; Department of Psychiatry Research, Maine Medical Center; and the New Hampshire-Dartmouth Psychiatric Research Center. The Muskie School's role was to develop and conduct a survey of community providers and BDS regional and area officials to assess the current knowledge, perceived need, and strategies for enhancing and implementing EBP.

## **National Study of Substance Abuse Prevalence & Treatment Services in Rural Areas**

*Maine Rural Health Research Center*

*Expected completion date: January 2006*

*Principal Investigator: David Hartley, Ph.D., M.H.A., 207-780-4513 or davidh@usm.maine.edu*

*Contact Person: John A. Gale, M.S., 207-228-8246 or jgale@usm.maine.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Substance abuse is a major and growing threat to the health and well-being of rural individuals, their families, and their communities. It frequently co-occurs with mental and/or physical health problems and is detrimental to effective school, job, and parenting performance and highly correlated with anti-social and criminal behavior. These problems may be more pervasive in rural areas given that higher rates of substance abuse are associated with higher levels of poverty and unemployment and lower levels of income. Substance abuse strains rural service systems which are often overextended and under-resourced relative to urban systems. The ability to organize effective substance abuse delivery systems in rural communities is hampered by limited supplies of specialized providers and services, low population densities, and long travel distances for rural persons to obtain care.

Given the apparent disparity between need and the availability of services in rural areas, this project is exploring these issues through the development of a rural substance abuse chartbook. Two national surveys sponsored by the Substance Abuse and Mental Health Services Administration were used to examine the prevalence of the use of different substances relative to the availability and use of treatment services, as well as how this relationship may vary in rural communities of different sizes, regions of the country, and among different demographic groups.

This project will produce a comprehensive national chartbook on the prevalence of the abuse of legal and illegal substances across rural populations, the extent to which rural individuals are receiving treatment for their substance abuse, barriers to the receipt of treatment, and the distribution of substance abuse services across rural areas. A rural substance abuse briefing paper will also be prepared identifying national and regional issues for future rural substance abuse research and policy.

## **The Provision of Specialty Mental Health Services by Rural Health Clinics**

*Maine Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: David Hartley, Ph.D., M.H.A., 207-780-4513 or davidh@usm.maine.edu*

*Contact Person: John Gale, M.S., 207-228-8246 or jgale@usm.maine.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project will document, through the use of qualitative interviews, the extent to which Rural Health Clinics (RHCs) are employing mental health staff nationally, understand why more RHCs are not employing specialty mental health staff, and analyze the barriers to and opportunities for the delivery of mental health services by RHCs. The results will identify opportunities and interventions to encourage RHCs to offer this important service.

The questions which frame this study include:

- How many RHCs employ specialty mental health staff and how are they distributed nationally?
- Why are more RHCs not offering these services?
- What are the characteristics of RHCs providing mental health services compared to those that do not?
- What community factors (e.g., proximity to other mental health providers or degree of rurality) and state factors (e.g., Medicaid reimbursement and behavioral managed care policies or licensure laws) may explain why some RHCs offer mental health services and others do not?
- What are the staffing patterns for mental health services?
- What barriers to offering mental health services do RHCs encounter and how are they overcome?
- How are RHCs reimbursed by Medicaid and private insurers for mental health services?
- What are the lessons learned that could be used by other RHCs to develop mental health services?
- What policy interventions/incentives would encourage more RHCs to offer mental health services?

The products include a working paper that explores the opportunities for and barriers to the delivery of mental health services by RHCs and discusses recommendations for policy and regulatory changes to encourage the delivery of mental health services by RHCs; a journal article to be submitted to relevant peer-reviewed professional journals; and a short briefing document for state level mental health and substance abuse policymakers addressing issues related to the delivery of mental health and substance abuse services by RHCs. Findings from this project will also be submitted for presentation at conferences including annual meetings of the National Rural Health Association, the National Association of Rural Health Clinics, and the National Association for Rural Mental Health.



## **The Role of Inpatient Psychiatric Units in Small Rural Hospitals & Rural Mental Health Systems**

*Maine Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: David Hartley, Ph.D., M.H.A., 207-780-4513 or davidh@usm.maine.edu*

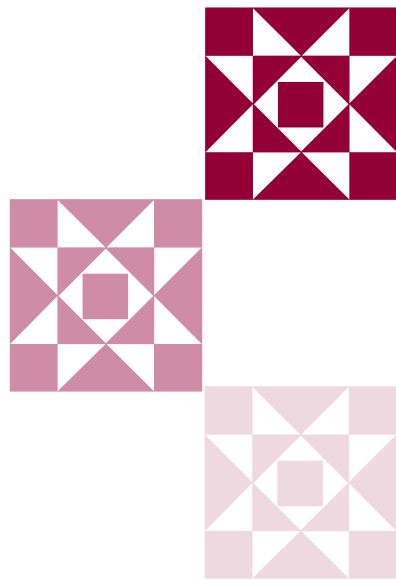
*Contact Person: David Lambert, Ph.D., 207-780-4502 or davidl@usm.maine.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This is a descriptive, exploratory study which will investigate the role of the small rural hospital IPU from the perspectives of both the rural hospital, in terms of scope of services and revenue enhancement, and the regional mental health system, in terms of meeting the needs of outpatient mental health and primary care providers, law enforcement, and human services.

The most recent AHA survey data will be used to identify all rural hospitals with less than 50 beds that have inpatient psychiatric services. Based on preliminary analysis of 2000 AHA data, it is estimated that there are about 80 such hospitals including both Critical Access Hospitals (CAHs) and non-CAHs. Following the analysis of a telephone survey of all identified IPUs, project staff will select four units for qualitative study. A site selection protocol will be developed based on findings from the telephone survey, with emphasis on identifying and describing links to the regional mental health system. At least two CAHs will be included among the four sites. The qualitative study will address research questions related to barriers to operating a rural IHP, including financial incentives and disincentives and the role of CAH eligibility in exacerbating or overcoming these barriers. Additionally, the extent to which IPUs are responsive to regional need for inpatient care and the competition or market for mental health services and treatment will also form the basis for the four case studies. Because the sample size will not allow robust estimates of differences among different levels of rurality, project staff will use the Rural Urban Commuting Area (RUCA) codes as a means of exploring differences among these units, particularly the differences related to adjacency to urban areas, as a means of generating recommendations and/or hypotheses for further research.

Final products of this project include a working paper, submission of an article to a peer-reviewed journal, and presentations at annual meetings of the National Rural Health Association, the National Association of Rural Health Clinics, and the National Association for Rural Mental Health.





## **Impact of Bioterrorism on Rural Mental Health Needs**

*University of California, Los Angeles*

*Expected Completion Date: August 2006*

*Principal Investigator: Jennie C. I. Tsao, Ph.D., 310-824-7667 or [jtsao@mednet.ucla.edu](mailto:jtsao@mednet.ucla.edu)*

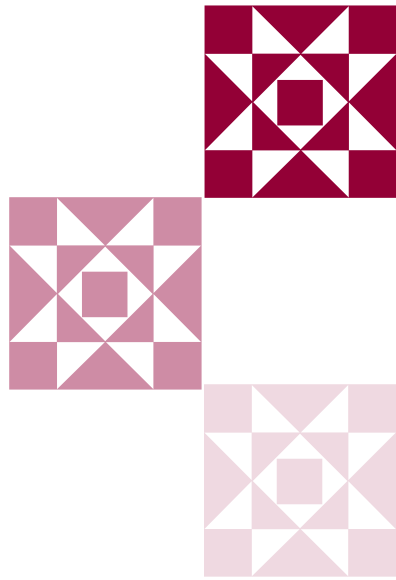
*Funder: Federal Office of Rural Health Policy, HRSA*

This project aims to assess and improve the preparedness of rural primary care professionals to care for mental health conditions in the wake of bioterrorism and other public health emergencies. Relatively little attention has been paid to the mental health needs of rural communities in the wake of such major catastrophic events. Prior experience with natural disasters suggests that first responders typically focus on immediate medical trauma or injury, leaving rural communities to struggle with the burden of unmet mental health needs both in the immediate aftermath and over the longer term.

This project will integrate qualitative (provider and administrator interviews) and quantitative (knowledge-based testing) methodologies to assess existing resources for mental health needs and anticipated resources that would be necessary following bioterrorism and similar mass casualty events. Based on these findings, an intervention will be developed to educate rural primary care providers concerning important aspects of mental health care. The educational intervention will focus on post-traumatic stress disorder (PTSD), since PTSD has high post-event prevalence rates and yet has been neglected in primary care settings relative to other mental disorders such as depression. Education focused on the unique mental health concerns of rural communities will increase the preparedness of rural providers and thereby improve unmet local and neighboring community health needs following bioterrorism.

Recommendations will be developed for policymakers to improve preparedness to meet mental health needs in rural communities following bioterrorist events and other public health emergencies.

Anticipated products from this project include written educational materials about PTSD and related mental disorders for rural primary care providers and an educational in-service about these psychological disorders to be delivered at rural primary care practices. Anticipated publications from this project include peer-reviewed and white papers describing the existing network of care for mental health needs and how existing care may be improved in anticipation of bioterrorist events, and analysis of the impact of the educational intervention on rural primary care providers' knowledge of likely post-event psychological disorders.





## **Introduction to and Description of the 2004 (Version 2) Rural-Urban Commuting Areas (RUCAs)**

*WWAMI Rural Health Research Center*

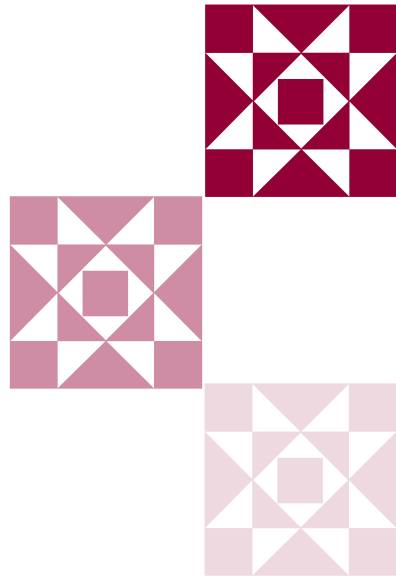
*Expected completion date: August 2006*

*Principal Investigator: L. Gary Hart, Ph.D., 206-685-0402 or garyhart@u.washington.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project will describe the new Version 2.0 of the RUCA geographic taxonomy developed at the WWAMI Rural Health Research Center by Drs. Hart and Morill with funding from the federal Office of Rural Health Policy and by Dr. Cromartie at the USDA's Economic Research Service. The RUCAs were designed to define rural and urban based on the Census Bureau's definitions of Urbanized Areas and Urban Clusters, and on work commuting patterns. The RUCA taxonomy is a tool based on the sizes of cities and towns and their functional relationships as measured by work commuting flows. Basing the codes on Census Tracts allows codes to be more geographically specific than larger county-based definitions and avoids issues associated with the heterogeneity of these larger units. A ZIP code approximation version was also created and has been widely applied to rural programs and research. Version 1.11 of the RUCAs was developed with 1990 Census data and 1998 ZIP code areas. Work on creating the Census Tract Version 2.0 was completed in February 2005 and the ZIP code version, which assigns RUCAs to more than 30,000 ZIP code areas, was completed in July, 2005.

The product for this project will be a working paper and journal article that introduces Version 2.0 to the health care constituency and those involved in rural health, so that this tool can be more widely disseminated and applied. Data will be presented by RUCA code aggregations, Census region, Census division, state and other combinations, and selected illustrative health care data findings will be provided that facilitate the use of the RUCA taxonomy. In addition, the paper will introduce two tools that can be used in combination with the RUCA taxonomy: 1) travel distance/time to nearest Urbanized Area and 2) Population of Urbanized Areas and Urban Clusters.





## Advantages and Disadvantages of Hospital-Based Emergency Medical Services in Rural Areas

*Walsh Center for Rural Health Analysis*

*Expected completion date: December 2005*

*Principal Investigator: Curt D. Mueller, Ph.D., 301-951-5070 or mueller-curt@norc.org*

*Funder: Federal Office of Rural Health Policy, HRSA*

Many rural areas are served by low-volume Emergency Medical Services (EMS) providers. By definition, these providers are high cost providers because the costs of capacity cannot be spread over a larger number of EMS transports. Revenue sources of low-volume providers are varied, and the new Medicare Ambulance Fee Schedule may be changing revenue for many providers. Under this environment, there may be strong incentives for the rural hospital to acquire the local EMS provider. The purpose of this project was to clarify issues surrounding the hospital's decision to acquire and maintain ownership of community ambulance services. Advantages and disadvantages of ownership are identified and analyzed, both conceptually, and informed by data from a national survey of ambulance service providers and information obtained from hospital administrators, ambulance directors, and local government officials who are familiar with overseeing the provision of emergency medical services.

Research questions under study included the following:

- What are the advantages and disadvantages of hospital ownership of an ambulance from the rural hospital's perspective?
- What are the major economic and non-economic challenges confronting rural hospital-based ambulance service providers?
- What are the advantages and disadvantages of hospital ownership of an ambulance from the rural community's perspective?
- Why is EMS hospital-based in some communities and not in others?
- Are hospital-based ambulance services able to utilize more paid staff, thereby avoiding the extent of reliance on volunteer staff that often characterizes government-operated, rural ambulance service providers?
- Are hospital-based ambulance services better able to meet equipment and supply costs than government-operated, rural ambulance service providers?
- What is the future of ambulance ownership by the hospital?

## **Rural Emergency Medical Services: Workforce and Medical Direction**

*University of North Carolina Rural Health Research & Policy Analysis Center*

*Expected completion date: August 2007*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or becky\_slifkin@unc.edu*

*Contact Person: Daniel Patterson, Ph.D., 919-966-0047 or dpatterson@schsr.unc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This study will examine the status of medical direction for rural Emergency Medical Services (EMS) systems, the nature of the challenges and impediments to obtaining adequate medical direction in rural areas and issues surrounding the recruitment and retention of paid and volunteer staff for rural EMS systems. Specific topics to be addressed include system characteristics that are associated with difficulty obtaining medical direction and the primary impediments to obtaining medical direction.

The study will be conducted in two parts. Part one will include a mailed survey of a national sample of EMS directors. Approximately 1,500 local EMS system directors will be selected randomly, stratified by location, from a master list of over 25,000 EMS systems maintained by the NASEMSD. The survey will include approximately 30 questions (both closed and open ended) that focus on medical direction and recruitment and retention of EMT staff. Follow-up mailings and telephone calls will follow the initial mailing to ensure the best response rate possible. Survey data will be merged with other databases to assist in analyses across county demographic and geographic variables not captured elsewhere. Part two of this two-year study will involve a secondary data analysis of the 1999 -2002 core Longitudinal Emergency Medical Technician Attributes and Demographics Study (LEADS) survey data. Results from the primary and secondary data analysis will result in multiple working papers and policy briefs of relevance to the rural health policy community.





## **Premium Assistance Programs: Exploring Public-Private Partnerships as a Vehicle for Expanding Health Insurance to Rural Uninsured**

*University of North Carolina Rural Health Research and Policy Analysis Center*

*Expected completion date: February 2006*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or becky\_slifkin@unc.edu*

*Contact Person: Pam Silberman, J.D., Dr.P.H., 919-966-2670 or pam\_silberman@unc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Many states have created public-private partnerships to expand health insurance coverage to the uninsured. Among these, one group of programs, “premium assistance programs,” are designed to help lower-wage workers pay the premium costs of their employer-sponsored health insurance. States can finance premium assistance programs through state-only funds, or can seek to share the costs with the federal government through Medicaid and/or State Children’s Health Insurance Program (SCHIP) premium assistance programs. Recently, the Centers for Medicare and Medicaid Services (CMS) has given states more flexibility in designing premium assistance programs through Health Insurance Flexibility and Accountability (HIFA) 1115 waivers.

Currently, there are 16 states that have operational premium assistance programs. This project will examine the experience of those states in implementing premium assistance programs in rural areas. The project will assess whether there are certain design features or certain types of rural communities where these programs may be more feasible, through a survey of state Medicaid and/or SCHIP agencies that have implemented or are considering implementing a premium assistance program

Study results will be presented in a working paper and findings brief.

## **Uninsurance and Welfare Reform in Rural America**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: January 2006*

*Principal Investigator: Timothy D. McBride, Ph.D., 314-977-4094 or mcbridet@slu.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Former recipients of welfare are likely to face significant difficulties obtaining health insurance in rural areas, perhaps even greater than in urban areas, primarily because jobs in rural areas are less likely to offer health insurance but also because difficulties with the Medicaid program might be exacerbated in rural areas. The loss of health insurance coverage for mothers who leave welfare could impose a significant risk factor on their families, especially if the mother or children have health conditions or disabilities. Women who have made the transition to work but have lost their health insurance coverage because the job does not offer insurance coverage may return to

Temporary Assistance for Needy Families (TANF) coverage, knowing that TANF will provide Medicaid coverage.

This project researched the following hypotheses:

- Transitions off of welfare are often not accompanied by the acquisition of private health insurance or the continuation of Medicaid coverage
- Transitions off of welfare, accompanied by health insurance coverage, will lead to improved health status, and improved access to health care, for former welfare recipients
- Transitions off of welfare, not accompanied by health insurance coverage, will lead to declines in health status, and declines in access to health care, for former welfare recipients.

This project proceeded in two phases. In the first phase, project staff used widely-accepted databases to examine the recent history of uninsurance rates in the U.S., focusing on the low-income population that could be eligible for welfare. In the second phase, the focus was on how welfare reform has impacted the health insurance coverage of welfare recipients and other low-income persons over the period of time during which welfare reform was phased in.

## **Why Are Health Care Costs Increasing and Is There a Rural Differential in National Data?**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: January 2006*

*Principal Investigator: Timothy D. McBride, Ph.D., 314-977-4094 or [mcbriDET@slu.edu](mailto:mcbriDET@slu.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project determined whether growth in health insurance premiums and out-of-pocket spending differs in rural areas as compared to urban areas. Rising health care spending is an increasing concern to rural residents, employers, taxpayers, and legislators. Following a six-year period in which health care spending experienced an unprecedented lull in growth, total health care spending in the U.S. grew in 2000 and 2001.

The project was conducted in two phases. In the first phase, a concept document discusses the reasons for the rise in health care costs, and whether or not we would expect to find a rural differential. In the second phase, MEPS data over time were used to analyze medical care costs in urban and rural areas.



## **Breast, Cervical, Colorectal, and Prostate Cancer Screening in Rural America: Does Proximity to a Metropolitan Area Matter?**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Mark Doescher, M.D., M.S.P.H., 206-616-9207 or mdoesche@u.washington.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Because local cancer screening services frequently are not available in rural locations, many persons need to travel great distances to medical facilities for screening. Lower levels of education, income and health insurance coverage among rural residents and minority group members serve as additional barriers to cancer screening. However, no studies using nationally representative data have explored whether persons residing in remote rural locations fare worse on cancer screening, and few studies have examined the issue of cancer screening among rural minority group members. For this study, non-public use data from the Behavioral Risk Factor Surveillance System (BRFSS) were used to explore the prevalence and trends of screening for four types of cancer (colorectal, breast, cervical, and prostate). The study compared screening rates among various levels of rural versus urban BRFSS respondents and among white respondents versus those from racial/ethnic minority groups. This project will result in a policy brief and a working paper. A manuscript will be submitted for publication to a peer-reviewed journal, and findings will be presented at appropriate regional and national conferences.

## **Financing Rural Public Health Activities in Chronic Disease Prevention and Health Promotion**

*Walsh Center for Rural Health Analysis*

*Expected completion date: August 2006*

*Principal Investigator: Leigh Ann White, Ph.D., 301-951-5076, white-leighann@norc.org*

*Funder: Federal Office of Rural Health Policy, HRSA*

Changing national policy combined with state and local variation in the distribution of funds for chronic disease prevention and health promotion can influence the ability of rural communities to conduct public health functions that address specific objectives. With joint funding from the federal Office of Rural Health Policy (ORHP) and the National Association of City and County Health Officials (NACCHO), researchers from the Walsh Center for Rural Health Research and the Center for Rural Health Practice of the University of Pittsburgh (Bradford, PA) are investigating how federal and state funds for chronic disease prevention are applied at the local level.

The purpose of this study is to describe the federal-state funding streams for selected local public health activities in the area of chronic disease prevention and health promotion, and assess potential barriers to program implementation in less populated, local areas of a state. Currently, very little is known about how federal and state funds for particular public health objectives are being used by localities, particularly in rural communities where disparities in health risks such as smoking and obesity may be marked. Through qualitative

analysis and case studies of six states, this work will examine the funding streams and organizational mechanisms by which localities receive funding for selected population-based chronic disease prevention and health promotion activities.

The study draws on prior qualitative research which yielded case studies of six states' public health infrastructure and addressed a broader aim of describing how differences in state public health infrastructure influence the provision of public health activities in rural communities. A report on the project will be completed in July of 2006, and a policy brief is scheduled to be issued in August, 2006.



## Evaluation of New Hampshire's Rural Hospital Flexibility Program

*Maine Rural Health Research Center*

*Expected completion date: January 2006*

*Principal Investigator: John Gale, M.S., 207-228-8246 or [jgale@usm.maine.edu](mailto:jgale@usm.maine.edu)*

*Funder: Bureau of Rural Health and Primary Care, Department of Health and Human Services*

Evaluation of the New Hampshire Rural Hospital Flexibility Program (NH Flex Program) focused on the experience of the hospitals that have converted to Critical Access Hospital (CAH) status, the assistance provided to the remaining hospitals that are eligible for conversion, and the satisfaction of the staff of the hospitals and related community organizations with the support and assistance provided to them. Also evaluated was the role of the Access Improvement Plans prepared by the CAHs to increase local collaboration, enhance primary care, improve access to primary care, and strengthen the emergency medical services systems in their communities. Data collection efforts included the review of documents and materials related to the NH Flex Program; interviews and focus groups with NH Flex Program staff, key state officials in agencies that collaborate with the NH Flex Program, key stakeholders and members of the Rural Health Advisory Committee, hospital and community agency staff, and community representatives; and site visits to two hospitals that have converted or are in the process of converting to CAH status.

The evaluation team analyzed this data and are preparing recommendations and findings for the future development of the NH Flex Program. The evaluation team is also assisting the NH Flex Program staff in identifying performance measures to monitor program implementation, and helping program staff to develop and implement a performance monitoring system to guide the program. This performance monitoring system will help New Hampshire to prepare for the development of Program Logic Models that will be implemented as part of the evaluation of the National Rural Hospital Flexibility Program.

Data from the American Hospital Association for the years 1989-1995 and 2000 and from the Census Bureau, plus data on the states' scope of practice laws and medical malpractice liability reforms were used to estimate the number of hospitals no longer providing obstetric care and to examine the factors underlying these changes. Natality data from the National Center for Health Statistics (NCHS), including data on demographics, geographic area, and variables including birth weight, gestation, prenatal care, attendant at birth, and Apgar score were used to estimate changes in sites of delivery and relationships with birth outcomes. Experiences in counties experiencing a loss in obstetric resources were compared with experiences elsewhere. Interviews with members of communities experiencing a loss of resources supplement empirical findings. A report and policy brief along with policy recommendations will be prepared for distribution to policymakers and persons on the Center mailing list.

## **Examining the Magnitudes, Geographic Variations, and Determinants of Expenditures Due to Ambulatory Care Sensitive Conditions in Rural Hospitals**

*RUPRI Center for Rural Health Policy Analysis*

*Expected Completion Date: August 2006*

*Principal Investigator: Li-Wu Chen, Ph.D., 402-559-5260 or liwuchen@unmc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Since the populations served by rural hospitals and urban hospitals are quite different, their quality concerns may also be different. As standardized quality measures for hospital reporting are developed, it is critical that differences between rural hospitals and urban hospitals are considered. This study will determine whether the Agency for Healthcare Research and Quality's (AHRQ's) inpatient quality indicators (IQIs), which were developed without consideration of an urban/rural difference, are appropriate for use in rural hospitals. This study will be divided into two components. The first component will investigate how AHRQ's IQIs can be applied to rural hospitals. The second component will explore the application of AHRQ's IQIs in answering relevant policy questions. The findings of this study are expected to inform policymakers about how standardized quality measures can be adjusted for rural hospitals and to provide useful information about the relationship between standardized quality measures and financial performance among rural hospitals, information that can be used when policymakers try to incorporate a quality element into Medicare's payment system.

Products of this research will include policy briefs and manuscripts submitted to peer-reviewed journals.

## **Impact of CAH Conversion on Hospital Costs and Mix of Services**

*Walsh Center for Rural Health Analysis*

*Expected completion date: August 2006*

*Principal Investigator: Julie Schoenman, Ph.D., 301-951-5074 or schoenman-julie@norc.uchicago.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

As the number of Critical Access Hospitals (CAHs) has continued to grow, the Medicare Rural Hospital Flexibility (Flex) Program has come under increased scrutiny by policymakers concerned with growth of hospital costs. This study will examine data for hospitals before and after CAH conversion in order to better understand the growth of hospital costs accompanying the Flex Program, and factors associated with any cost growth.

Three cohorts of CAHs will be followed over time, corresponding to the first three years of conversions in 1999 through 2001. For each cohort, project staff will identify a similar set of rural non-CAHs for use as control hospitals. The observation period will run from 1998 through 2002, providing at least one baseline and one follow-up year for each cohort. Measures of costs and expenditures will come from the Medicare Cost Reports, and will include total costs, as well as costs associated with salaries, benefits, capital expenditures, and interest payments. MEDPAR discharge records will be used to describe the inpatient service mix provided by study hospitals, and Medicare's outpatient claims to examine the distribution of outpatient services by categories such as ER visits, cardiology procedures, endoscopic procedures, standard vs. advanced imaging, and different types of lab tests. The AHA Annual Surveys will provide several aggregate measures of service volume for

all patients, plus information on staffing levels and service availability. For each of these measures, project staff will compare the pre- and post-conversion trends observed for each cohort of CAHs with trends over the same time period for corresponding control hospitals, using a mix of bivariate and multivariate techniques.

Findings from this study will be described in a policy brief and working paper.

## **Investments in Health Information Technology by Rural Hospitals**

*Walsh Center for Rural Health Analysis*

*Expected completion date: April 2006*

*Principal Investigator: Julie A. Schoenman, Ph.D., 301-951-5074 or*

*schoenman-julie@norc.org*

*Funder: Federal Office of Rural Health Policy, HRSA*

Recent years have witnessed a rapid growth in interest in the application of information technology (IT) to the health care industry for the purpose of improving quality of care. Despite this burgeoning interest, however, little is currently known about the scope of IT investments by rural providers or the factors affecting their adoption of new information technologies. On the one hand, financially-strapped rural providers may decide that they cannot justify sizeable investments in health IT, particularly when many of the benefits accrue directly to patients or insurers rather than to the provider. These providers may also lack the staff and other infrastructure required to select, implement, and maintain IT applications. On the other hand, the smaller scale of rural health care systems may facilitate the implementation of system-wide technological advances, and the increased financial stability experienced by most critical access hospitals should improve the ability of these rural facilities to invest in health IT.

This study will survey a large sample of rural hospitals to gather data about their IT investments. The sample will be stratified by the rurality of the hospital's location and by CAH status. Survey questions will ask about the hospital's IT structure and readiness for implementing IT systems; current applications used by the hospital; integration of other community-based providers (e.g., local physicians, clinics) into the hospital's system; barriers to adoption of health IT; benefits realized from health IT investments; and future plans for IT investments. Survey responses will be compared for different types of rural hospitals, using a variety of bivariate methods. The project will culminate in a final report and a policy brief that will be widely distributed.

## **Occupational Mix Differences Across PPS Hospitals: Analysis of the Hospital Occupation Mix Survey Data and Implications for Rural Hospital Payments**

*University of North Carolina Rural Health Research & Policy Analysis Center*

*Expected completion date: August 2006*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or becky\_slifkin@unc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This study addresses the occupation-mix adjustment that has recently been added to the computation of the area wage index used to adjust Medicare prospective rates for all institutional health care providers. Project staff will review the policy objectives as well as the mechanics of the of the adjustment, and then analyze the data from the first occupation-mix survey for a better understanding of occupation mix differences across labor markets and hospital types. The hospital wage index is used to adjust all Medicare PPS payments, and has a large influence on the distributional equity of the payment systems. A better understanding of the purpose, the mechanics and the source data for occupation mix adjustment will contribute to our ability to evaluate the equity of the current and new prospective payment systems.

The project has three components. First, the underlying policy objective of the occupation mix adjustment will be discussed, to improve baseline understanding of this issue and clarify what it should or should not accomplish within the regulatory framework and guiding principles of Medicare prospective payment systems. This part of the study will involve a synthesis of publications from various government agencies. In the second component, CMS's implementation of the adjustment will be addressed. Project staff will analyze the mechanics of the computation and assess the impact of CMS's choice to use BLS data for the standardizing factors on the individual hospital adjustments and the market-level adjustments. The output from this component will be descriptive, with results provided primarily in table form. The third and largest part of the study will be an analysis of the raw data submitted by the hospitals, to gain a better understanding of the extent and sources of variation in occupation mix. This part of the study focuses on hospital differences rather than market differences in occupation mix, because the results are intended to add to our understanding of the factors that influence individual hospital labor costs and staffing decisions, rather than the factors that affect the area wage index.

The products of this project will include one working paper that covers the material from the first two components of the study, and a second that presents the results from the analysis of hospital mix differences.



## **Patient Bypass Behavior and Critical Access Hospitals: Implications for Patient Retention**

*West Virginia University Institute for Health Policy*

*Principal Investigator: Jiexin (Jason) Liu, M.S., M.B.A., Ph.D., 410-328-1052 or jxliu@som.umaryland.edu*

*Expected completion date: August 2006*

*Funder: Federal Office of Rural Health Policy, HRSA*

A number of patients “bypass” their local healthcare providers and seek treatment outside their communities, often traveling longer distances. This pattern is referred to as “bypass” hereafter. The purpose of this study is to identify policy issues related to bypass in order to offer evidence and guidance to policymakers, hospital administrators, and planners on the location of healthcare resources, the alteration of planning programs, and the adjustment of policies in order to retain patients locally. This study will identify factors associated with bypass, reasons that some patients favor external (outside their immediate community) healthcare providers and bypass their local community hospitals, and ways to retain patients locally. This study will address these issues from the perspective of rural residents who have been hospitalized in the last 12 months or received outpatient care in the last six months. In addition, this study will assess how bypass patterns and travel distances/times impact rural residents’ health and their healthcare utilization.

Data will be collected through a random telephone-based survey of the general population within a 15-20 mile radius of each of 25 randomly selected IHPR designated rurally-defined, critical access hospitals. A sample size of 1,000 valid surveys will be collected with 40 responses from each of the twenty five (25) designated hospitals. Each group of 40 completed surveys will include 25 subjects above the age of 18 who had inpatient care in last 12 months and the remaining 15 who will have had outpatient care in last 6 months.

## **The Role of Rural Hospitals in Community-Centered Systems of Care: Supporting Population Health Improvement for Rural Communities**

*Upper Midwest Rural Health Research Center*

*Expected completion date: October 2006*

*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or mosco001@umn.edu*

*Contact Person: Walt Gregg at 612-627-4411 or gregg006@umn.edu.*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project will assess the degree to which rural hospitals engage in activities that facilitate community responsiveness and the provision of community-oriented services, and identify environmental and institutional factors that facilitate the successful implementation of the IOM “Quality through Collaboration for Rural America” report recommendations. The project will use a mix of descriptive and multivariate statistics to analyze cross-sectional data on hospital and community characteristics for the years 1996 to 2004 from the American Hospital Association Annual Survey and the Area Resource File.

## **Rural Hospital Participation in the 340B Drug Discount Program**

*University of North Carolina Rural Health Research and Policy Analysis Center and*

*Walsh Center for Rural Health Analysis*

*Expected completion date: August 2006*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or becky\_slifkin@unc.edu and Claudia*

*Schur, Ph.D., 301-951-5072, schur-claudia@norc.org*

*Contact Person: Pam Silberman, J.D., Dr.P.H., 919-966-2670 or silber@nciom.org*

*Funder: Federal Office of Rural Health Policy, HRSA*

The 340B drug discount program enables certain types of safety net organizations to obtain deeply discounted medications, at prices below the “best price” typically offered to Medicaid agencies. This study, conducted with staff from the Walsh Center, will use telephone interviews with key stakeholders (and possibly a mail survey) to explore the experiences that rural hospitals have had in seeking 340B eligibility status. The purpose is to identify barriers faced by rural hospitals in seeking 340B eligibility status and the magnitude of potential cost savings once participating. Project staff will examine whether barriers to participation are different for different types of rural hospitals (e.g., larger vs. smaller rural hospitals, adjacent vs. remote hospitals, public vs. non-profit, hospitals with retail pharmacies vs. those limited to in-house pharmacies). The Chief Financial Officer and the Director of Pharmacy (or a substitute selected by the hospital administrator) will be interviewed in each selected hospital as well as stakeholders from other organizations. There are rural hospitals in 37 states that are potentially eligible to participate in the 340B program. Data will be collected from rural hospitals in the majority of the 37 states and covering all Census regions. In addition, a five-hospital case study will be conducted to examine potential cost-savings in greater detail, as well as spill-over effects of the 340B drug program on the larger community.

Anticipated products include a working paper that includes a detailed description of the findings from the study. In addition, a series of findings briefs will be produced depending on the results of the study. One will include information on the five case-study hospitals, highlighting the potential savings and spillover effects on the community. Another will be targeted at policymakers and will discuss the policy implications of the study findings. Others may discuss barriers to participation for rural hospitals and how these barriers were overcome, or how state agencies or hospital associations can help facilitate participation in this program.



## Rural Hospital Flexibility Performance Monitoring Project

*University of Minnesota Rural Health Research Center*

*Ira Moscovice, Ph.D.*

*University of North Carolina Rural Health Research & Policy Analysis Center*

*Rebecca Slifkin, Ph.D.*

*University of Southern Maine Rural Health Research Center*

*Andrew F. Coburn, Ph.D.*

Under contract with the federal Office of Rural Health Policy, the Rural Health Research Centers at the Universities of Minnesota, North Carolina, and Southern Maine (the Flex Monitoring Team) are cooperatively conducting a performance monitoring project for the Medicare Rural Hospital Flexibility Program (Flex Program). The monitoring project will assess the impact of the Flex Program on rural hospitals and communities and the role of states in achieving overall program objectives, including improving access to and the quality of health care services; improving the financial performance of Critical Access Hospitals; and engaging rural communities in health care system development.

The monitoring project has three main components. The first component, **State Performance Management**, uses a Program Logic Model approach to track state program activities and develop tools that allow states to systematically monitor their accomplishments in the context of Flex Program goals. The second component, **Institutional Performance**, uses secondary and primary data to assess the impact of the Flex Program on hospital financial status and quality of care, and to develop benchmarks for financial performance and quality improvement for small rural hospitals. The third component, **Community Impact**, assesses the Flex Program impact at the community level, including the local availability and accessibility of health services, and the value of community partnerships developed with health care organizations.

The monitoring project has a strong dissemination component that emphasizes rapid distribution of information to key federal, state, hospital, and community stakeholders. The web site for the Flex Monitoring team includes the updated CAH list and conversion statistics along with an extensive publications list. The web address is <http://www.flexmonitoring.org>.

Full project descriptions, publications, lists of CAHs, and the Flex Conversion Process Statistics can be viewed at the Flex Monitoring Team website, <http://www.flexmonitoring.org>.

See the specific projects below:

## **State Performance Management**

### **Critical Access Hospital Conversion Tracking**

*University of North Carolina Rural Health Research & Policy Analysis Center*

*Expected completion date: August 2008*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or becky\_slifkin@unc.edu*

*Contact Person: Indira Richardson, 919-966-5541 or richardson@schsr.unc.edu*

This project will continue the tracking of Critical Access Hospital (CAH) conversions. A CAH management information dataset, housed at the University of North Carolina, will be updated with information on conversions supplied by the Centers for Medicare and Medicaid Services. These data are also used to update products on the Monitoring Team website (<http://www.flexmonitoring.org/cahlist>), including a spreadsheet that lists all certified CAHs, a map of current CAHs, and a new table that contains state-level totals of the number of CAHs, and the number with rehabilitation distinct part units (DPU) and the number with psychiatric DPUs. Because the data from CMS do not capture changes in bed size, by agreement with Flex coordinators, an email will be sent to all coordinators once a year requesting updated information on the bed size of CAHs in their state. This email will be sent in January or February, 2006.

### **Development of State Flex Program Logic Models and Related Toolkit**

*University of Southern Maine*

*Maine Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Andrew F. Coburn, Ph.D., 207-780-4435 or andyc@usm.maine.edu*

*Contact Person: John A. Gale, M.S., 207-228-8246 or jgale@usm.maine.edu*

Project staff will work with the Technical Assistance and Services Center (TASC) to conduct the logic modeling process in one additional state, Kansas, thereby completing the process of training TASC staff in the use of the Flex Program Logic Model (PLM). After final review, the PLM Toolkit will be posted to the Flex Monitoring Team web site early in 2006. Project staff will finalize plans to pass responsibility for the provision of Flex PLM technical assistance to TASC at the beginning of Year 4 (2006-07) of the grant, and prepare recommendations for the federal Office of Rural Health Policy on the use of the Flex PLM in the Flex Grant process as well as in the evaluation of the Flex Program.

## **State Flex Program Quality Improvement Activities**

*University of Southern Maine*

*Maine Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Andrew F. Coburn, Ph.D., 207-780-4435 or andyc@usm.maine.edu*

*Contact Person: John A. Gale, M.S., 207-228-8246 or jgale@usm.maine.edu*

This project will analyze the state Flex Grant Applications and related revisions to their budgets and work plans to identify and summarize the range and scope of activities undertaken in the core Flex Program areas related to quality and performance improvement. Data extraction tools are being developed to summarize the activities proposed by state Flex Programs. Completion of the analysis and summary of the grant applications is anticipated by early January 2006, which will be followed by interviews, using semi-structured interview protocols, of five to ten state Flex Coordinators to obtain additional information on their quality and performance improvement initiatives. Products of this project will include a briefing paper summarizing the range of quality and performance improvement activities undertaken by state Flex Programs.

## ***Institutional Performance***

### **Analysis of Critical Access Hospital Inpatient Hospitalizations and Transfers from CAHs to Other Acute and Post-Acute Care Settings Using State Inpatient Databases**

*University of Minnesota Rural Health Research Center*

*Expected completion date: September 2006*

*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or mosco001@umn.edu*

*Contact Person: Michelle Casey, M.S., 612-626-6252 or mcasey@umn.edu*

The purpose of this project is to analyze Critical Access Hospital (CAH) inpatient hospitalizations and transfers from CAHs in order to help inform the development of quality indicators for CAHs, especially quality indicators focused on the transfer process. The project will involve analysis of hospital inpatient discharge data from several states with State Inpatient Databases that include hospital identifiers.

Research questions to be addressed include:

- How many and what type of patients (according to admission type, diagnosis, demographic characteristics, length of stay) are being transferred from CAHs to other hospitals?
- How many and what type of patients (according to admission type, diagnosis, demographic characteristics, length of stay) are being transferred from CAHs to other types of care upon discharge, e.g., SNF, ICF, swing beds, rehabilitation facility, home health, or hospice?

## **Analyzing the Relationships among Critical Access Hospital Financial Status, Organizational Linkages, and Scope of Services**

*University of Minnesota Rural Health Research Center*

*Expected completion date: January 2006*

*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or mosco001@umn.edu*

*Contact Person: Michelle Casey, M.S., 612-626-6252 or mcasey@umn.edu*

This project systematically analyzed the relationships among pre- and post-conversion Critical Access Hospital (CAH) financial performance, the organizational linkages in which the hospital participates (e.g., health care systems and/or networks), and the scope of services (i.e., the number and type of services) provided. The project used data from four sources: Medicare cost reports, three national surveys of CAHs conducted by the Tracking Project and the Monitoring Team in 2000, 2001, and 2004, the American Hospital Association annual survey of hospitals, and the Area Resource File.

Research questions addressed by this project included the following:

- To what extent does improved financial performance (as reflected in operating margins) allow CAHs to add and/or expand specific services?
- Are expansions in these services most likely to occur within 2 years after conversion, or more than 2 years after conversion?
- Does participation in a system and/or a network increase the likelihood that a CAH will expand and/or add specific services post-conversion?
- Are CAHs that have stronger relationships with their support hospitals more likely to expand and/or add specific services?
- What are the characteristics (e.g. scope of services, organizational linkages) of CAHs that exhibit improved financial performance in the short term?

## **Critical Access Hospital Participation in the Hospital Quality Alliance and Initial Quality Measure Results**

*University of Minnesota Rural Health Research Center*

*Expected completion date: September 2006*

*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or mosco001@umn.edu*

*Contact Person: Michelle Casey, M.S., 612-626-6252 or mcasey@umn.edu*

The purpose of this project is to:

- Estimate the proportion of Critical Access Hospitals (CAHs) that are participating partially or fully in the Hospital Quality Alliance
- Assess the key factors related to CAH participation in the Hospital Quality Alliance
- Determine how many CAHs have sufficient sample sizes to calculate accurate rates for specific measures
- Compare the initial year of quality measure results for CAHs with relevant hospital subgroups.

This project will use secondary data from CMS on CAH participation in the Hospital Quality Alliance, as well as data from the AHA Annual Survey and the Area Resource File on hospital characteristics that may affect CAH participation.

## **Developing a Financial Performance Measurement System for Critical Access Hospitals**

*University of North Carolina Rural Health Research & Policy Analysis Center*

*Expected completion date: August 2008*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or becky\_slifkin@unc.edu*

*Contact Person: George Pink, Ph.D., 919-966-5541 or gpink@schsr.unc.edu*

This multi-year project uses research and expert opinion to select dimensions and indicators of financial performance, develop appropriate methods of peer comparison, and identify characteristics of high performing Critical Access Hospitals (CAHs). In year three of this project (2005-06) a Financial Indicators Report will be produced which will include indicator definitions and interpretations, CAH-specific indicator values, median values for CAHs, and comparative data for 4 peer groups (with and without long-term care, with and without rural-based provider health clinic, government and non-government owned, and greater than and less than \$10 million in total revenues). This CAH Financial Indicators Report will be disseminated through a web-based tool maintained by the University of North Carolina, where CAH administrators will be able to access and download their report directly from the website. During this project year, statistical analyses will be conducted to determine appropriate methods of combining the 20 financial indicators into an overall measure of financial performance.

## **Developing a Quality Performance Measurement System for Critical Access Hospitals**

*University of Minnesota Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or mosco001@umn.edu*

This project continues to support activities related to quality performance measurement relevant for Critical Access Hospitals. By the end of 2005, the technical expert panel had reviewed the findings of the initial field test of the small rural hospital quality measure set and made recommendations for revisions. Efforts to date have focused on the following activities:

- Refinement of the Emergency Department (ED) Measures — Since national quality measurement efforts are collecting detailed information on inpatient quality measures related to AMI, CHF, and pneumonia, we have concentrated the revisions to our measure set in the area of ED measures.
- Implementation of the Field Test of the Revised Quality Performance Measures with CAHs in One State — Our goal for this activity is to implement a field test of the revised ED measures in Washington state through a new training and support model that facilitates quality improvement in CAHs. We will use a train-the-trainer model, which will build state capacity to support CAH activities related to quality measurement, and data collection, reporting and use.

It is anticipated that up to 20 CAHs in Washington state will participate in this project. Data collection will begin in February 2006 and be completed by May 2006, followed by analysis of the data which will result in a final report. Each participating hospital will be provided a report that summarizes their results, all participating hospitals' results, and the results from rural hospitals that participated in our earlier field tests.

## **Financial Performance of Critical Access Hospitals, Pre- and Post-Conversion**

*University of North Carolina Rural Health Research & Policy Analysis Center*

*Expected completion date: August 2006*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or becky\_slifkin@unc.edu*

*Contact Person: G. Mark Holmes, Ph.D., 919-966-5541 or holmes@schsr.unc.edu*

One of the objectives of the Flex program is to provide a greater degree of financial stability for CAHs through the use of cost-based reimbursement. Making use of the financial indicators developed by project staff, the focus of this project will be a longitudinal analysis of the 6 domains and 20 indicators of financial performance pre- and post-conversion. Care will be taken to consider only those indicators and dimensions that are directly comparable under PPS and cost-based reimbursement. Although there has been some work on the effect of conversion, it has mostly been limited to effect on average margins. One of the central tenets of our work on this project is that the financial health of the hospital must be evaluated comprehensively on a multitude of factors and not simply total or operating margin. Descriptive analyses will be used to capture changes in all dimensions of financial performance. The product from this project will be a report and accompanying Findings Brief that will be distributed to policymakers.

## **Community Impact**

### **Measuring the Community Benefits and Impact of Critical Access Hospitals**

*University of Southern Maine*

*Maine Rural Health Research Center*

*Expected completion date: August 2007*

*Principal Investigator: Andrew F. Coburn, Ph.D., 207-780-4435 or andyc@usm.maine.edu*

*Contact Person: John A. Gale, M.S., 207-228-8246 or jgale@usm.maine.edu*

Project staff are developing a set of Critical Access Hospital (CAH) community benefits and impact indicators and measures along with accompanying data collection strategies with input and guidance from an expert panel of hospital industry representatives, CAH administrators, and Flex Program Coordinators/SORH representatives. These indicators and measures will be developed within a framework that includes core components of community benefits and impact such as:

- Improved hospital financial and quality performance
- Hospital involvement/leadership in the development of services including primary care, specialty services, preventive care, chronic care/disease management, and/or community health improvement services and programs
- Hospital leadership in the development of a “seamless continuum of care” through linkages with local EMS, physicians, primary care practices such as Rural Health Clinics and Federally Qualified Health Centers, public health agencies, home health, and nursing facilities
- Hospital involvement and leadership in the development of community partnerships designed to address community health needs



- Hospital involvement/leadership in the development of a community level or regional service mix that avoids unnecessary duplication/redundancy and best meets the needs of the community and its vulnerable populations.

These data collections strategies and tools will be pilot tested in the spring of 2006 using 10 CAHs who will be asked to evaluate the proposed community benefits indicators and data collection tools. Upon review of the results of this pilot test with the expert panel, project staff will prepare a Briefing Paper for dissemination in the fall of 2006 on measuring the community benefits and impact of CAHs including the results of the pilot test and recommendations for the future strategy.

## ***Special Study***

### **An Exploration of Issues Raised by the Diverse Face of EMS in Critical Access Hospital Communities**

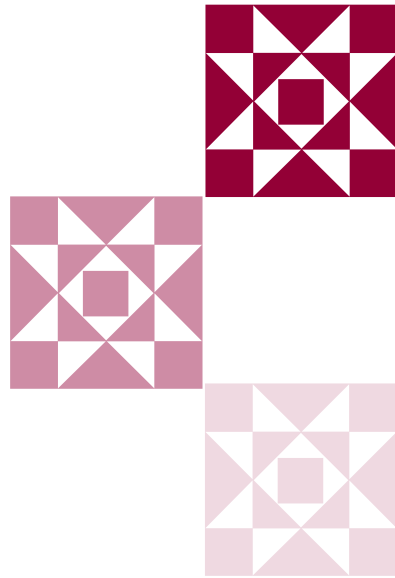
*University of North Carolina Rural Health Research & Policy Analysis Center*

*Expected completion date: August 2006*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or becky\_slifkin@unc.edu*

This project will address the challenges of implementing the Emergency Medical Services (EMS) component of the Flex program in CAH communities. Review of past findings, EMS-specific information from the six site visits currently being conducted, and telephone interviews with experts in the field will be used to write a paper that explores the diversity of EMS in CAH communities, and the issues that diversity raises for policy implementation and evaluation. The project team will begin by compiling a draft of the dimensions critical to EMS policy in CAH communities, based on experience from the six site visits, as well as from previous work by the Walsh Center. This draft will be shared with experts in the fields, and telephone interviews will be conducted to get feedback on the draft. Experts will be asked to verify the importance of issues listed, to add dimensions that the project team overlooked, and to discuss both their perceptions of how the Flex program is working now, and their thoughts on potential ways to improve and focus the program in the future.

The product of the project will be a paper that combines prior work, site visit information, and the information gathered through the telephone interviews, to inform discussions of the varied EMS structures found in CAH communities, the issues raised by the diversity of EMS systems and the role of CAHs, and potential policy options available to better focus EMS-related activities.





## **The Burden of Chronic Illness Among Rural Residents: A National Study**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Mark Doescher, M.D., M.S.P.H., 206-616-9207 or mdoesche@u.washington.edu*

*Funder: Federal Office of Rural Health Policy, HRSA; RWJ Foundation/AHRQ*

Better information about the prevalence of and trends in chronic illness is needed for rural Americans. This study used data from the Behavioral Risk Factor Surveillance System (BRFSS) to examine the prevalence of and trends in four important conditions—hypertension, diabetes, hypercholesterolemia, and asthma—by type of geographic location and by key risk factors. The study also explored patterns of screening for two of these conditions, hypertension and hypercholesterolemia. The aim was to determine the prevalence of and trends in each of these four conditions among all rural BRFSS respondents and also among rural minority group members and residents of remote rural counties. Similarly, the study assessed the prevalence of and trends in screening for hypertension and hypercholesterolemia among rural residents overall and among rural minority group members and residents of remote rural counties.

For this study, annual BRFSS data from 1994 to 2003 were used. Chi-square testing were used to compare unadjusted prevalence rates of each condition or screening by geographic category and race/ethnicity. Logistic regression analyses was performed to compare outcomes adjusted for sociodemographic, health and health care system factors. Trend assessment included time (in years) as an additional covariate in models. This project will result in at least two policy briefs and a working paper that will be distributed widely to researchers and policymakers interested in the health of rural Americans. Also, at least two manuscripts will be submitted for publication to a peer-reviewed journal emphasizing prevention or rural health. Presentations at appropriate regional and national conferences will also be given.

## **Rural-Urban Differences in Nursing Home Admissions, Service Usage and Discharge**

*George Mason University*

*Expected completion date: August 2006*

*Principal Investigator: Emily Zimmerman, Ph.D., 703-993-2993 or ezimmerm@gmu.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This study hypothesizes that persons from rural areas admitted to rural nursing homes will have higher functioning, receive fewer special nursing home services, and remain in care longer than rural admissions to urban nursing homes, urban admissions to urban nursing homes, or urban admission to rural nursing homes. Logistic, poisson and least squares regression will be used to evaluate the hypotheses, with rural-urban admission cohorts included as dummy variables.

This study involves the use of secondary data to conduct an in-depth examination of rural-urban differences in recent nursing home first admissions, their service utilization patterns, and their discharge status over 12 months. First admissions that are age 65 or older in the 50 states and Washington DC will be included. Using zip codes of residences prior to admission and zip codes of nursing homes, project staff will develop rural-urban admission cohorts by identifying persons who remain in the same county type based upon Urban Influence Codes (UIC) as that of their residence prior to admission (for example, rural to rural) and admissions that move from one UIC-based county type to another type. The analysis will be conducted using the Nursing Home Minimum Data Set (MDS), which contains administrative data on all individuals admitted to Medicare/Medicaid certified nursing homes in the United States during 2003. The MDS data will be combined with facility-based data from the CMS On-line Survey, Certification, and Reporting data file, and a special county-level Provider of Service file containing county-level data on nursing homes and alternative sources of care, such as home health care. County-level demographic data from the Area Resource File will also be used.

To disseminate the study findings to researchers and policymakers, we will present our findings at the annual meetings of the National Rural Health Association and the Gerontological Society of America, and will seek to publish them in peer-reviewed journals, such as *Health Services Research*, *Journal of Rural Health*, and *The Gerontologist*.



## **Access to Health Care for Young Rural Medicaid Beneficiaries**

*University of North Carolina Rural Health Research and Policy Analysis Center*

*Expected completion date: December 2005*

*Principal Investigator: Victoria Freeman, Dr.P.H., RN, 919-966-6168 or victoria\_freeman@unc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This study examined access to health care among rural children ages 0-17 who are enrolled in some type of Medicaid managed care program, and compared this access across types of programs and, within program type, to that of urban beneficiaries. Access to care was assessed by means of a mailed survey sent to the parents of Medicaid children in four states chosen for their geographic diversity. Questions focused on such issues as the ability to find a participating health care provider within a reasonable distance, coordination of care concerning services such as specialty care that are more likely to be located in urban areas, use of dental services, and transportation problems.

## **A National Study of Rural Medicaid Disease Management**

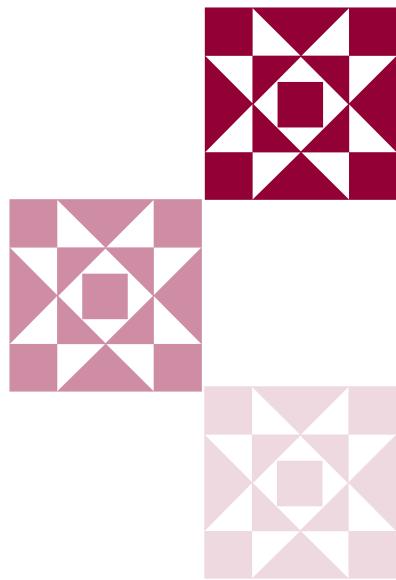
*The Council of State Governments*

*Expected completion date: August 2006*

*Principal Investigator: Trudi L. Matthews, M.A., 859-244-8157 or tmatthews@csg.org*

*Funder: Federal Office of Rural Health Policy, HRSA*

Currently there are differing estimates of the number of states offering disease management (DM) services through Medicaid. It is also not known how many Medicaid disease management programs offer services to rural clients. The Council of State Governments (CSG) will conduct a national study of Medicaid disease management programs to determine how many states provide DM services in rural areas and what the opportunities and challenges are for states establishing DM programs that serve rural areas. The primary research component will be a national survey of all state Medicaid programs. This survey will identify which states offer disease management (DM) through Medicaid managed care contracts or through stand alone disease management programs. The survey will also identify where these programs operate in rural areas and identify the unique challenges that state DM programs in rural areas face. CSG's research team will also produce an analysis of state and federal legislation and regulation related to Medicaid disease management in rural areas. Based on the survey results and legal analysis, CSG will conduct thorough interviews with four states that can serve as best practice case studies for operating Medicaid DM in rural areas. CSG will prepare a policy brief and other resources based on the study results that will be disseminated to state legislative and executive branch policymakers.





## **Access to Physician Care for the Rural Medicare Elderly**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: L. Gary Hart, Ph.D., 206-685-0402 or [ghart@u.washington.edu](mailto:ghart@u.washington.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

There is some concern that the care provided to elderly Medicare beneficiaries living in small and isolated rural towns is less, more distant, and reflects a different mix of specialist care than their urban and large rural city counterparts. This study described where Medicare beneficiaries in five states obtain their health care, how far they travel for that care, and the mix of physician specialties from which they obtain ambulatory care. Special attention was paid to beneficiaries who have dual Medicare-Medicaid status, who reside in poorer income areas, and who live in designated Health Professional Shortage Areas. Analyses examined the care obtained by beneficiaries with selected chronic conditions. The data upon which the analyses were based consisted of the 1998 Medicare Part B data for South Carolina, North Carolina, Idaho, Alaska, and Washington. These data contain information on physician visits, specialty type, patient home and encounter locations, diagnoses and procedures, and patient demographics. Demographic and Rural-Urban Commuting Area (RUCA) codes were linked to the encounter data, and road travel distances and times involved in obtaining care are being determined.

## **Access to State-of-the-Art Hospice Care for Rural and Minority Hospice Users**

*University of Minnesota Rural Health Research Center*

*Expected completion date: December 2006*

*Principal Investigator: Beth Virnig, Ph.D., 612-624-4425 or [virni001@umn.edu](mailto:virni001@umn.edu)*

*Funder: American Cancer Society*

This project will develop and map hospice care service areas that will allow for the measurement of access to hospice care for rural and minority Medicare beneficiaries who die of cancer, and recommend options for increasing access to hospice care in underserved rural areas. This project will incorporate the analysis of home health service areas conducted by Dr. Virnig. This analysis will use the Medicare 100% hospice and 100% denominator files for 1999, 2000, and 2001. Using Medicare cost report data, the project will also evaluate the effect of hospice size, ownership and rural/urban location on amount of Medicare payments allocated to pharmacy costs, use of radiation or chemotherapy; estimate the proportion of the population served by freestanding hospices providing limited availability to such treatments; and recommend options for improving access to these symptom management options for hospice patients with cancer. Final products will include a map of hospice service areas along with an analysis of both home health and hospice service areas.

## **Assessing the Community Impact of the MMA**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: February 2006*

*Principal Investigator: Keith J. Mueller, Ph.D., 402- 559-5260, kmueller@unmc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project measures the community-level impacts of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) and will provide immediate feedback to policymakers regarding the impact of the MMA on its policy targets (providers and beneficiaries), in the context of rural places. This project will also establish a methodology for studying community impacts of health policies that will be the basis of a broader effort within the Rural Policy Research Institute to study the impacts of national policies on rural places.

There are two levels to this analytical plan: (1) the proximate effects of policy change on the targeted persons and organizations, and (2) the effects on the broader community. Four rural communities were selected for detailed study from four different regions of the country. The immediate impacts of the MMA will be assessed with quantitative and qualitative data derived from activities of local providers, including pharmacies, hospitals, ambulance providers, home health agencies, skilled nursing homes, federally qualified health centers, rural health clinics, and physician clinics. A unique contribution of this study will be measuring the aggregate effect of the multiple changes to payment and regulatory policy on the health sector of rural communities. The immediate effect of the prescription drug discount card will be assessed by measuring its local use with qualitative assessments supplied by agencies serving the elderly of the community. The broader community impacts of the MMA will be assessed using a modification of the Social Accounting Matrix approach.

Products of this research will include a study methodology suitable for replication by others, a policy brief based on the quantitative analysis, a policy paper based on the total analysis, and journal submission based on the total analysis.

## **Colorectal Cancer Care Variation in Vulnerable Elderly**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Laura-Mae Baldwin, M.D., M.P.H., 206-685-0401 or*

*lmb@fammed.washington.edu*

*Funder: The National Cancer Institute*

This study, aimed at improving colorectal cancer care for the elderly, examined differences in receipt, diffusion, and cost of recommended colorectal cancer treatments between more and less vulnerable elderly populations, and evaluated different measures of comorbidity and costs.

The project was conducted by a multidisciplinary research team consisting of members of the Department of Family Medicine, Group Health, the Department of Gastroenterology, the Department of Surgery, and the Department of Radiology. A supplemental study, also funded by the National Cancer Institute, compared quality of surgical care for colorectal cancer and the extent of surgical complications across different Medicare populations. An additional NCI-funded study is comparing non-cancer care for Medicare beneficiaries with and without colorectal cancer. A study funded by the Centers for Disease Control is



examining health systems in which ovarian cancer patients receive care in eight states, to identify whether vulnerable populations receive care in systems associated with favorable outcomes. One paper from this study has just been published (see Baldwin LM, et al. Explaining black-white differences in receipt of recommended colon cancer treatment. *Journal of the National Cancer Institute*). Several papers are currently in draft form and will be submitted for publication.

## **Implementation of the Medicare Prescription Drug Benefit: What Is Available to Rural Beneficiaries?**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: August 2006*

*Principal Investigator: Timothy D. McBride, Ph.D., 314-977-4094 or mcbridet@slu.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project will focus on the impact of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 on rural beneficiaries, based on actual prescription drug plan contracts, comparing the impact of the legislation on rural beneficiaries to their urban counterparts. The project will have two phases. In the first phase, we will monitor and compile the submitted contracts from the prescription drug plans to the Centers for Medicare and Medicaid Services (CMS) to build a database that describes plan benefits and the service areas in which they locate, compiling all the data on the plans made available from CMS. In the second phase, we will use the database in descriptive analyses to address hypotheses regarding the rural impact of the legislation.

The results of this project will be presented in two policy papers. The first paper will outline prescription drug plan availability, by region, and with an urban-rural comparison. The second paper will focus on prescription drug plan benefit structure and will contain more detailed analysis of the plans and the areas in which they operate.

## **Monitoring Medicare Hospital Outpatient Payments: Trends and Evidence of Impacts of Payment Policy**

*Walsh Center for Rural Health Analysis*

*Expected completion date: January 2006*

*Principal Investigator: Curt D. Mueller, Ph.D., 202-887-2356 or mueller-curt@norc.org*

*Funder: Federal Office of Rural Health Policy, HRSA*

Under the new outpatient prospective payment system (OPPS), outpatient departments that face relatively high costs of producing certain services receive payments which may be less than the individual facility's costs. By contrast, a number of small rural hospitals are currently exempt from OPPS and are paid on a cost-basis, such as Critical Access Hospitals (CAHs) and Sole Community Hospitals (SCHs). In contrast to OPPS facilities, CAHs and SCHs are expected to receive payments that more closely approximate costs on average. This project documents recent trends in the provision of Medicare hospital outpatient services under both the new outpatient prospective payment system (OPPS) and cost-based mechanism used for critical access hospitals, and assesses evidence on the impacts of Medicare OPPS on Medicare and total outpatient revenue.

Research questions to be addressed included the following:

- What are characteristics of the supply-side of the market for hospital outpatient department services, and how is the supply-side changing in rural areas?
- How has Medicare's outpatient payment policy affected provision of outpatient services?
- What have hospitals done to help prepare for OPPTS?

Data sources for this project include Medicare Cost Reports, the American Hospital Association's 2000 and 2002 surveys, the Area Resources File, and qualitative information obtained from selected hospitals. Products will include a working paper that presents descriptive statistics and empirical results informed by discussions with administrators and a policy brief that summarizes analysis of outpatient revenue and trends and evidence on impacts of outpatient payment policy on rural facilities.

## **National Study of Rural-Urban Differences in Use of Home Oxygen for Chronic Obstructive Lung Disease: Are Rural Medicare Beneficiaries Disadvantaged?**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: L. Gary Hart, Ph.D., 206-685-0402 or [ghart@u.washington.edu](mailto:ghart@u.washington.edu), along with Leighton Chan, M.D., from CMS Region X*

*Funder: Federal Office of Rural Health Policy, HRSA*

Home oxygen has been clinically shown to be beneficial to patients with chronic obstructive pulmonary disease (COPD), who cannot otherwise maintain sufficient levels of oxygen in their body.

To understand disparities in care among rural and urban Medicare beneficiaries, data from Medicare's Durable Medical Equipment (DME) files were used to assess rural/urban variation in the home use of supplemental oxygen.

The project researched the following hypotheses:

- Significant rural/urban variation in the use of home oxygen equipment and supplies occurs within the United States
- Home oxygen use will be directly proportional to population density in the areas where patients live
- Beneficiaries in rural areas will have less access to specialists who prescribe supplemental oxygen.

In addition, the relationships between age, race, and income on the use of supplemental oxygen were explored. A retrospective cohort study was performed, examining Medicare beneficiaries (5% random sample) who were admitted to the hospital with a primary diagnosis of COPD or emphysema in 1999. Rural status was determined by linking the beneficiary ZIP code to its Rural-Urban Commuting Area Code (RUCA). A working paper and a one-page policy brief will be produced.

## Nationwide Analysis of New Entrants into Medicare+Choice Demonstrations

RUPRI Center for Rural Health Policy Analysis

Expected completion date: December 2005

Principal Investigator: Keith J. Mueller, Ph.D., 402-559-5260 or [kmueller@unmc.edu](mailto:kmueller@unmc.edu)

Funder: Federal Office of Rural Health Policy, HRSA

This project examined the effects of recent changes in the Medicare+Choice (M+C) program on enrollment in rural areas and on activities of rural-based health plans. Recognizing that closed-panel and staff-model health maintenance organizations (HMOs) are not practical in much of rural America, and that Provider Sponsored Organizations (PSOs) by and large have not been attractive to provider networks, the Centers for Medicare & Medicaid Services (CMS) created a demonstration program to test the assumption that Preferred Provider Organizations (PPOs) could gain a foothold in many regions of the country. The 33 new Medicare plans in 23 states were announced in August 2002, with enrollment to begin in January 2003.

This project is designed to explore the decisions of health plans to enter markets and beneficiaries to enroll in plans. Researchers working on this project will continue an earlier RUPRI Center project that reported rural enrollment in M+C plans and will replicate an earlier design of case studies to explore the reasons plans are active in rural areas and why they may or may not be successful.

A policy paper and two policy briefs will be produced.

## Urban and Rural Differences in Access to Care and Treatment for Medicare Beneficiaries with Cancer

Rand Corporation

Expected completion date: August 2006

Principal Investigator: Lisa R. Shugarman, Ph.D., 310-393-0411 x 7701 or [Lisa\\_Shugarman@rand.org](mailto:Lisa_Shugarman@rand.org)

Funder: Federal Office of Rural Health Policy, HRSA

This study builds upon work addressing differences in the quality of cancer care across populations. The literature on the quality of cancer care generally, and the literature exploring differences in the incidence of cancer and outcomes of care provided to cancer patients based on selected socio-demographic characteristics (e.g., gender, age, race, income or socio-economic status) is large; however, little is known about the differences in the diagnosis, treatment and outcomes of care for cancer patients across urban and rural regions of the country.

The overall goals of this project are to:

- Investigate hypothesized relationships between urban and rural residence and a range of outcomes of care for Medicare beneficiaries with cancer
- Explicitly evaluate selected market and provider supply characteristics of selected regions through which geographic variations are hypothesized to affect health outcomes
- Assess differences in personal (e.g., gender, race) and community (e.g., poverty rate) characteristics in observed patterns of association within and across urban and rural regions
- Explore how changes in the supply of providers in urban and rural areas over time may have influenced the outcomes of interest.

Using Surveillance, Epidemiology, and End Results (SEER) data merged with Medicare claims data available from the Centers for Medicare and Medicaid Services (CMS), project staff will examine a series of models testing hypothesized relationships between individual and community characteristics and the outcomes of interest (timing of diagnosis, timing from diagnosis to first treatment, disease-free survival, overall survival). First, urban and rural differences will be estimated in the incidence and prevalence of disease, as well as the treatment, follow-up, and mortality/survival. Second, personal and community characteristics (including provider supply) will be explored in order to explain urban and rural differences in these selected measures. Finally, changes in the supply of providers will be examined to determine the extent these changes have resulted in changes in the outcomes of care over time across urban and rural regions.



## **Diabetes Burden and the Lack of Preventive Care in the Rural United States**

*Saint Louis University*

*Expected completion date: August 2006*

*Principal Investigator: Santosh Krishna, Ph.D., Ed.S., M.B.A., 314-977-8280 or krishnas@slu.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

There is evidence that diabetes patients residing in rural areas, especially those with lower socio-economic status and from minority groups, are less likely to receive guideline-based diabetes preventive care in some areas. However, it is not known if disparities between rural and urban areas in diabetes care exist throughout the United States. The purpose of this study is to find out if there is a difference in prevalence, diabetes care received, and health care resource utilization for diabetes among rural populations as compared to the urban populations. This study will analyze data from two nationally conducted surveys, the Behavioral Risk Factor Surveillance System (BRFSS) and the Medical Expenditure Panel Survey (MEPS) to find out if rural populations when compared to urban populations differ in the prevalence of diabetes, health care received, and in diabetes related health care resource utilization. Project staff will also determine if the results of the above examinations are the same across these two national data sets.

## **Pharmaceutical Data Validity in Estimating Rural Health**

*Mississippi State University*

*Expected completion date: August 2006*

*Principal Investigator: Ronald Cossman, Ph.D., 662-325-4801 or rcossman@ssrc.msstate.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Chronic diseases account for more than 60% of total medical expenditures in the U.S., and 70% of all deaths. Yet, morbidity rates for the vast majority of chronic illnesses are not reported, and those reportable diseases (e.g., cancer, tuberculosis, etc.) are not reported at the county level. Thus there is no means for mapping the prevalence rates of chronic diseases in rural areas. This project will use a proprietary data base of drug prescriptions filled in the U.S. as a proxy for prevalence of both the top mortality-causing diseases (e.g., heart attack, stroke, asthma and diabetes), as well as selected non-fatal illnesses that have disability implications (e.g., sinusitis, arthritis, ADHD and chronic pain). This project will allow for the quantification of variation in morbidity (via prescription use) across rural areas; identify locations that might be at risk for stunted economic development due to high levels of chronic illness in the working population; and potentially lead to the development of a valid and reliable measure of county-level rates of chronic illness using prescription data as a proxy.

## **Rural Public Health Structure and Infrastructure**

*Kansas Health Institute*

*Expected completion date: August 2006*

*Principal Investigator: Anthony Wellever, M.A., 785-233-5443 or [twellever@khi.org](mailto:twellever@khi.org)*

*Funder: Federal Office of Rural Health Policy, HRSA*

The organizational structure of local health departments (LHDs) is key to their effectiveness. Resource shortages in some rural areas may compromise some components of structure, leading to poor outcomes. Poor performance may be remedied by rural LHD networking, mergers, or regionalization, to compensate for structural deficiencies. Which components of LHD structure make the largest contribution to outcomes is not known. This project is intended to generate hypotheses about the relationship of LHD structure and infrastructure to performance. It is hoped that subsequent researchers will use the structural characteristics identified in this project to more fully describe rural LHDs through survey research and to establish relationships between structure and various measures of local public health department performance.

Investigators will conduct site visits to six states. In each of the six, investigators will visit the office in the state Department of Health or its equivalent responsible for LHD management, coordination, or liaison and interview the chief administrative officer for LHD affairs. In each of the six states, site visits to two rural LHDs will also be conducted. LHD sites will be selected to reflect differences in governance (i.e., centralized, decentralized, mixed model), primary industries, managed care penetration, and poverty to name a few. Using standard protocols, the administrator of the LHD, a member of the governing board, the medical director, and others will be interviewed. Documents also will be collected from the sites (e.g., budgets, staffing tables, contracts, studies) during the visit. Data collected before, during, and following the site visits will be analyzed and findings reported in individual case studies and a summative report of cross-cutting themes and structural characteristics of LHDs by environmental attributes such as population served, and relationship with state government. A list of characteristics of LHD structure will be produced that are sufficiently common across geography, rurality, and governance to serve as independent variables for future studies of LHD performance.



## **Assessment of Small Rural Hospital Activities to Report Medication Errors**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: February 2006*

*Principal Investigator: Keith J. Mueller, Ph.D., 402-559-5260 or [kmueller@unmc.edu](mailto:kmueller@unmc.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This research will determine how small rural hospitals (SRHs) have responded to the environmental pressure to improve patient safety and quality by implementing safe medication practices and reporting and monitoring medication errors. SRHs will be surveyed, in two random samples. For both Critical Access Hospitals (CAHs) and SRHs, the estimates of interest are the proportion that employ a full time pharmacist, the proportion that use automation in dispensing and administering medications, and the proportion that use safe medication practices.

This research will be of interest to decision makers at national, state, and local levels. At the national level, a description of the consequences of limited pharmacy support on medication use and medication error reporting in SRHs can provide the rationale for leveraging technological innovations such as telepharmacy to achieve more equitable hospital medication use systems for rural populations. At the state level, an understanding of the consequences of limited pharmacy support for medication error reporting behavior will provide a context for the importance of establishing relationships between network hospitals and CAHs (and peer groups of non-CAH SRHs with more than 25 beds). At the local level, this research can provide administrators, governing boards, and providers with a rationale to build collaborative relationships with peers, network hospitals, academic medical centers, and national error reporting systems. Aggregate error reporting systems can provide the means to monitor the outcome of patient safety in the nation's smallest hospitals as the structure and process of medication use changes through such practices as bar coding, automated dispensing machines, and telepharmacy.

Products of this research will include a policy brief describing the medication use process in SRHs with emphasis on incorporation of safe medication practices despite limited resources, a policy paper discussing unique characteristics of SRHs that affect how projects to improve patient safety should be approached, a policy brief summarizing the results of hypotheses testing and implications for federal policy initiatives and private sector activities designed to enhance patient safety and quality improvement, and scholarly products for dissemination at professional meetings.

## **Evaluation of an Outpatient Modified Paper Prescription Form**

*University of Vermont*

*Expected completion date: August 2006*

*Principal Investigator: Amanda G. Kennedy, Pharm.D., B.C.P.S., 802-847-8268 or*

*Amanda.kennedy@vtmednet.org*

*Funder: Federal Office of Rural Health Policy, HRSA*

Outpatient prescribing errors are a national problem. Due to the substantial morbidity and mortality in the United States caused by outpatient medication errors, there is an urgent need for low-cost solutions. The broad goal of this proposal is to reduce outpatient prescribing errors in rural primary care practices. The specific aims of this project are to determine whether a modified paper prescription form decreases overall prescribing errors compared to a standard paper prescription form and whether a modified paper prescription form decreases omission errors compared to a standard paper prescription form. In addition, the project will ascertain prescriber satisfaction with the modified prescription form.

Rural prescribers from four states will be randomly recruited to write prescriptions on standard and modified forms. Prescription duplicates of both types will be analyzed for errors. Prescriber satisfaction with the modified form will be evaluated using surveys and focus groups.

The final product of this project is a thoroughly tested intervention that will be accessible and generalize to any rural primary care prescriber in the nation. Additionally, this project will result in presentations at national meetings and publication in peer-reviewed journals.

## **Examining the Applicability of AHRQ's Inpatient Quality Indicators to Rural Hospitals and the Implications of the Relationship Between the Indicators and Financial Measures for Medicare Payment Policies**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: April 2006*

*Principal Investigator: Li-Wu Chen, Ph.D., 402-559-5260 or liwuchen@unmc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

Since the populations served by rural hospitals and urban hospitals are quite different, their quality concerns may also be different. As standardized quality measures for hospital reporting are developed, it is critical that differences between rural hospitals and urban hospitals are considered. This study will determine whether the Agency for Healthcare Research and Quality's (AHRQ's) inpatient quality indicators (IQIs), which were developed without consideration of an urban/rural difference, are appropriate for use in rural hospitals.

This study will be divided into two components. The first component will investigate how AHRQ's IQIs can be applied to rural hospitals. The second component will explore the application of AHRQ's IQIs in answering relevant policy questions. The findings of this study are expected to inform policymakers about how standardized quality measures can be adjusted for rural hospitals and to provide useful information about the relationship between standardized quality measures and financial performance among rural hospitals, information that can be used when policymakers try to incorporate a quality element into Medicare's payment system.

Products of this research will include policy briefs and journal manuscripts.



## **Improvement in the Quality of Care for Acute Myocardial Infarction (AMI): Have Rural Hospitals Followed National Trends?**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Laura-Mae Baldwin, M.D., M.P.H., 206-685-4799 or [lmb@fammed.washington.edu](mailto:lmb@fammed.washington.edu)*

*Funder: Federal Office of Rural Health Policy, with computer access time and data donated by CMS*

AMI is one of the leading causes of death in the United States and a common cause for admission to U.S. hospitals. AMI requires immediate care in a hospital setting to minimize morbidity and mortality. In rural hospital settings, transport of patients with AMI to urban settings could result in delays in care. Some of the most effective and immediate treatments for AMI require only basic intravenous access and should be equally accessible in rural and urban hospitals.

This project determined whether overall improvements in the quality of care for AMI among Medicare patients have taken place in both rural and urban hospital settings. This study had three primary hypotheses:

- Quality of care for AMI has improved in all types of rural hospital (large, small, and remote small) between 1995 and 2000
- The rate of improvement in the quality of care for AMI in rural hospitals lags behind that in urban hospitals
- The smallest and most remote rural hospitals demonstrated lesser improvements in the quality of care for AMI than larger rural hospitals.

This study included Medicare beneficiaries 65 years and older with an AMI confirmed by specific medical criteria who were directly admitted for the AMI care (rather than transferred). Rates of AMI guidelines adherence by the three types of rural and urban hospitals were calculated for these hospitals nationally, by region, division, and state in the two time periods. A working paper will be produced, and an article will be submitted for publication to a peer-reviewed journal.

## **Pay-for-Performance and Quality Improvement in Rural Hospitals**

*Upper Midwest Rural Health Research Center*

*Expected completion date: February 2006*

*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or [mosco001@umn.edu](mailto:mosco001@umn.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project has three primary purposes:

- To estimate the impact on rural hospitals in the U.S. of a pay-for-performance (PFP) program similar to the CMS-sponsored Premier, Inc. Hospital Quality Incentive Demonstration
- To complete a synthesis of the major factors that will influence the inclusion of rural hospitals in PFP programs
- To make recommendations for the design of PFP programs that will appropriately reward rural hospitals for improving quality.

This project will empirically assess how rural hospitals in the U.S. would fare financially (i.e., receive bonus payments, be eligible for reduced DRG payments) if they participated in the CMS-sponsored Premier HQID; identify and thoroughly examine the key factors that facilitate or constrain rural hospital participation in pay for performance programs; and describe options for the design of pay for performance programs that are relevant for rural hospitals that seek quality improvement. This study will use data from several sources, including data on the CMS 7th Scope of Work measures and data from a telephone survey of key representatives from major stakeholders (e.g., CMS, Premier, AHA, rural hospitals, rural relevant physician associations) involved with pay-for-performance projects.

## **Rural and Frontier Hospital Patients with Ambulatory Care Sensitive Conditions: Predictors of Health Care Quality and Outcomes**

*University of North Dakota, School of Medicine and Health Sciences, Center for Rural Health  
Expected completion date: August 2006*

*Principal Investigator: Michael Cogan, Ph.D., 701-777-6046 or [mcogan@medicine.nodak.edu](mailto:mcogan@medicine.nodak.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

There is a paucity of information concerning quality of care in rural and frontier hospitals. This project will assess trends, patterns and predictors of health care quality among rural and frontier residents, one of the Agency for Healthcare Research and Quality (AHRQ) "priority populations." More specifically, the study will involve the examination of 2003 Nationwide Inpatient Sample (NIS) data to measure AHRQ Prevention Quality Indicators (PQI) to identify inpatient visits involving Ambulatory Care Sensitive Conditions (ACSC) in rural and frontier settings. In addition, 2003 American Hospital Association (AHA) Survey data and 2000 Rural Urban Commuting Area (RUCA) Codes will be linked to the NIS in order to conduct a detailed analysis of potential differences in quality between rural and frontier inpatients and hospitals.

Results will have national, regional and local implications for improving health care quality and hospital outcomes in rural and frontier regions of the country. The project team will actively seek to publish research results in peer-reviewed journals and submit abstracts to present results at various national and regional conferences. It is also expected that an Issue Brief and several Fact Sheets will be developed during the research period. This information should prove useful to health care professionals, policymakers, and safety net providers interested in preventing avoidable hospitalizations and reducing the cost of health care in rural and frontier areas.

## **Rural Emergency Department Staffing: Implications for the Quality of Emergency Care Provided in Rural Areas**

*Upper Midwest Rural Health Research Center*

*Expected completion date: October 2006*

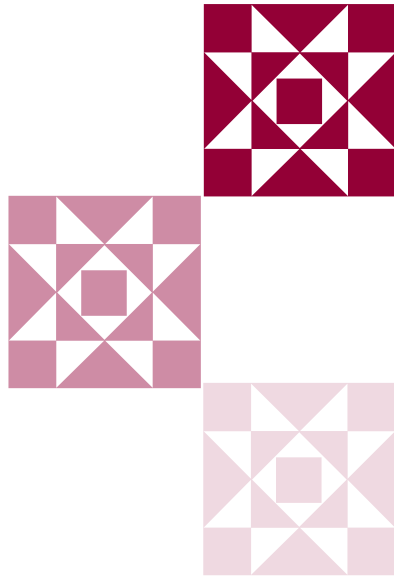
*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or mosco001@umn.edu*

*Contact Person: Michelle Casey, M.S., 612-626-6252 or mcasey@umn.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project will describe emergency department (ED) staffing patterns of rural hospitals in different regions of the country; determine how the certification, training, and experience of ED physicians and other providers in different ED staffing models vary; and assess the implications of rural ED staffing for the quality of emergency care in rural areas, continuity of care, and rural EDs' role as safety net providers.

The project includes collection of primary data from a phone survey of a national sample of rural hospitals, analysis of the survey data in conjunction with secondary data from the AHA Annual Survey and Area Resource File, and interviews of health policy staff in several key states with significant rural populations regarding state initiatives related to ED staffing.





## **The Impact of Health Insurance Coverage on Native Elder Health: Implications for Addressing the Health Care Needs of Rural American Indian Elders**

*Upper Midwest Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or mosco001@umn.edu*

*Contact Person: Alana Knudson, Ph.D., 701-777-4205 or aknudson@medicine.nodak.edu*

*or Jacque Gray, Ph.D., 701/777-0582 or jgray@medicine.nodak.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project determined what types of health insurance coverage rural Native American elders have and examined how different types of health insurance coverage and lack of health insurance coverage impact access to health care services among Native American elders by geographic location (rural frontier, rural non-frontier and urban).

The study addressed the following research questions:

- What is the rate of health insurance coverage among Native American elders living in rural frontier, rural non-frontier and urban counties?
- What types of health insurance coverage do Native American elders living in rural frontier, rural non-frontier and urban counties have?
- Who are the uninsured Native American elders and what is their demographic make-up?
- What is the relationship between health insurance coverage, geographic location, key demographic factors and health status indicators among Native American elders?
- What is the relationship between health insurance coverage and access to health care services among Native American elders?

The study analyzed national data from Identifying Our Needs: A Survey of Elders II, a Native elder social and health needs assessment project conducted by the NRCNAA in collaboration with tribes throughout the country. To allow analyses by rural, frontier, and urban location, the Native Elder II survey data were linked to Urban Influence Code variables from the Area Resource File and frontier variables from the Census data using county FIPS codes.

## **National Trends in the Perinatal and Infant Health Care of Rural and Urban American Indians (AIs) and Alaska Natives (ANs)**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Laura-Mae Baldwin, M.D., M.P.H., 206-685-0401 or [lmb@famned.washington.edu](mailto:lmb@famned.washington.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

While there have been dramatic improvements in AI/AN maternal and child health, significant disparities persist between AI/AN and non-AI/AN populations in the U.S. This study examined trends in prenatal care use, low birth weight rate, and the neonatal and post-neonatal mortality rates in rural and urban AI/AN populations nationally between 1985 and 1997, and compared these trends in the white and African-American populations during the same time period. Additionally, trends in causes of death for rural and urban AI/AN populations nationally between 1985 and 1997 were examined and compared to the non-AI/AN population during the same time period. Trends in our study measures for AI/AN and non-AI/AN populations were analyzed by Census region, division, and Indian Health Service (IHS) Service Areas. The study used the National Linked Birth Death Data Set at three points in time: 1985-1987, 1989-1991, and 1995-1997, and compared rates of inadequate prenatal care, low birth weight, neonatal and post-neonatal death, and causes of death between rural and urban AI/ANs in each of the three time periods, as well as over time. Rates of these same outcome measures are provided for white and African-American populations during the same time periods for reference. A working paper is in draft form.

## **The Role of English Proficiency and Area of Residence in the Use of Adult Preventive Health Services Among Latino Subgroups**

*South Carolina Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Myriam Torres, Ph.D., 803-251-6317 or [torresme@gwm.sc.edu](mailto:torresme@gwm.sc.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

Little is known about the use of preventive services among Hispanic subgroups residing in rural areas. The present study is exploratory and descriptive. It will analyze the use of preventive health services among Mexican-Americans, Puerto Ricans, Cuban-Americans and other Latinos and its relationship to language and place of residence (urban vs. rural). The results will be compared to non-Hispanic Whites and non-Hispanic African Americans. We will perform a cross-sectional analysis using data from the National Health Interview Survey (NHIS) data for the years 1998, 1999, and 2000. An exploratory analysis, not separating rural from urban residents, suggests differences in preventive health services use across Latino populations, as well as in contrast with other groups.

## **Rural Minority Health: A Comprehensive Assessment**

*South Carolina Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Janice C. Probst, Ph.D., 803-251-6317 or jprobst@gwm.sc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

The objectives of this comprehensive study were to:

- Profile demographics of rural African Americans by region of the U.S.
- Describe clinical problems prevalent in rural African American populations
- Explore available health care facilities and practitioners in rural areas
- Investigate outpatient treatment provided to rural African American populations, by type of practitioner
- Explore expenditures for health care among rural African Americans, by region of the U.S.
- Determine barriers to care such as insurance, provider availability, and health beliefs/behaviors.

Six reports have been submitted to date as part of the comprehensive assessment of minority health, and a final report is underway summarizing sources of funding for health care among rural minorities based on the Medical Expenditure Panel Survey.

## **Tribal Long-Term Care: Barriers to Best Practices in Policy and Programming for a National Sample of Rural Tribes**

*West Virginia University Research Corp.*

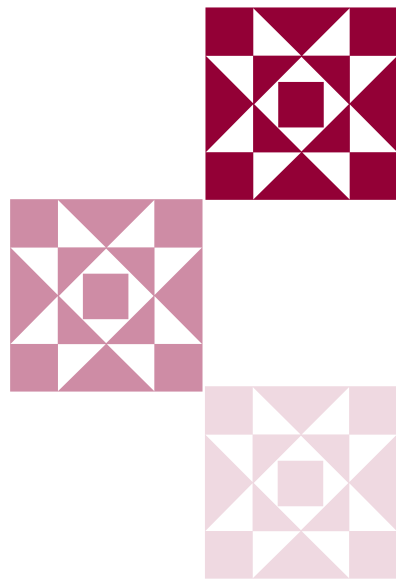
*Expected completion date: August 2006*

*Principal Investigator: R. Turner Goins, Ph.D., 304-293-2081 or rgoins@hsc.wvu.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project represents a systematic effort to improve the ability of the health care delivery systems to respond to the needs of disabled AI/ ANs.

The project will examine barriers experienced by rural American Indian and Alaska Native (AI/ AN) reservation tribes in developing long term care policy and service provision, identify tribes which exemplify best practices in the area of long term care policy, and document what other tribes would need to know to develop successful long term care programs (i.e., lessons learned). The research project and resultant information will be national in scope. This project will survey a nationally representative sample of 130 federally recognized rural AI/ AN tribes. To generate the list of best practice tribes, the National Coordinator of the IHS Elder Health Care Initiative will be contacted along with members of the project's Advisory Committee. These individuals will be asked to identify tribes with best practices and/or recommend others who may be able to identify tribes for this purpose. Thus, the second sample will be a purposive sample of tribal health board members recruited to participate in in depth interviews. In an effort to capture all tribes nationwide that exemplify best practices, the purposive sample will be complete when no new tribes are recommended. In a population as beset by health concerns as AI/ ANs, the identification of barriers to developing needed long term care policy and programs achieves tremendous importance.







## **Database for Rural Health Research in Progress**

*Maine Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: David Hartley, Ph.D, 207-780-4513 or davidh@usm.maine.edu*

*Contact Person: Karen Pearson, M.L.I.S., M.A., 207-780-4553 or karenp@usm.maine.edu*

This project is comprised of two main components: a web-based national Database for Rural Health Research in Progress (<http://www.rural-health.org>) and an annual monograph of the current rural health research and policy analysis projects of the Rural Health Research and Policy Analysis Centers funded by the Federal Office of Rural Health Policy (ORHP). The annual monograph is produced and disseminated to coincide with the Rural Policy Institute. A summary report booklet is provided to the ORHP prior to the full printing of the monograph. This booklet is also distributed to members of the Senate Rural Caucus and the House Rural Health Care Coalition, and copies are sent to the federally funded Rural Health Research Centers and each Individual Grantee. The Database is updated quarterly and a feature project is highlighted three to four times a year. This project provides policymakers with a concise source of rural health services research currently underway in the Rural Health Research Centers, allowing them to have a context for legislation current and proposed that affects rural health services and populations.

## **Developing and Using a Classification Schema to Identify Sentinel Communities in the U.S.**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: December 2005*

*Principal Investigator: Keith J. Mueller, Ph.D., 402-559-5260 or kmueller@unmc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

The purpose of this project was to develop a template for identifying communities in the U.S. that would be eligible for inclusion in the Sentinel Communities Project of the Rural Policy Research Institute (RUPRI) to study the impact of multi-sector policies at the local level. Health policy will be a cornerstone of the RUPRI project, the goal of which is to apply the best techniques of research to developing approaches to improve policies in multiple sectors (e.g., health, human services, transportation, economic development, etc.) for the purpose of creating sustainable rural communities offering optimal quality of life for the residents of those communities. The Sentinel Communities Project will enable rural researchers to track the effect of current policies on rural communities, anticipate the effect of proposed policies, and demonstrate policy effects that link one sector to another.

This project had two levels of analysis. First, project staff defined “communities.” Following the previous work of RUPRI Center investigators, political jurisdictions will not be relied upon to define rural communities. Instead, the language of rural “place” is used in a manner parallel to how vulnerable places have been defined in the Center’s work. The second level of analysis described each place using a set of variables. A detailed project report, a policy paper, and a policy brief will be produced.

## **Evaluating Need for Assistance Criteria and Weighting of Overall Criteria in the Requirements of Funding New Start and Grant Applications for Health Centers**

*University of North Carolina Rural Health Research Program*

*Expected completion date: September 2006*

*Principal Investigator: Thomas Ricketts, Ph.D., 919-966-5541 or tom\_ricketts@unc.edu*

*Funder: Bureau of Primary Health Care, HRSA*

Providers of services who wish to become part of, or continue to receive funding through, the health centers program must apply through the Bureau of Primary Health Care (the Bureau) as part of a stringent application process. A key component of the application is the completion of a Need for Assistance (NFA) worksheet that represents the first phase of a multi-tiered screening and award process. This project will extend and enhance work done previously for the Bureau by examining the current and proposed changes to the Need for Assistance (NFA) criteria. Data submitted by applicants for assistance through the Bureau will be examined, and then the effects of optional weighting and scaling of the data for the development of scores that allow for ranking and comparison of applications will be tested. The project will support the review and decision making process the Bureau uses to fund and support community-based programs.

The project will answer two key questions: Does the modified methodology for the NFA proposed by the Sheps Center under prior contract work accurately reflect and improve the assessment of relative need of different applicants? Are the review criteria properly selected and weighted appropriately to help assure that the Health Center program accurately and effectively targets the neediest areas?

Statistical evaluation of the NFA data from the entire FY 2004 New Start and Expansion applications (1<sup>st</sup> Round) will be conducted. These data will be supplemented by data sets developed to support the development and testing of revised HPSA-MUA, data collected in support of the Data Warehouse project within HRSA, as well as shared data provided by the Primary Care Service Area Project and in house data sets maintained by the Sheps Center. Findings will be presented in a final report to be submitted to the Project Officer.

## **Rapid and Flexible Analysis of Data from the Centers for Medicare and Medicaid Services (CMS)**

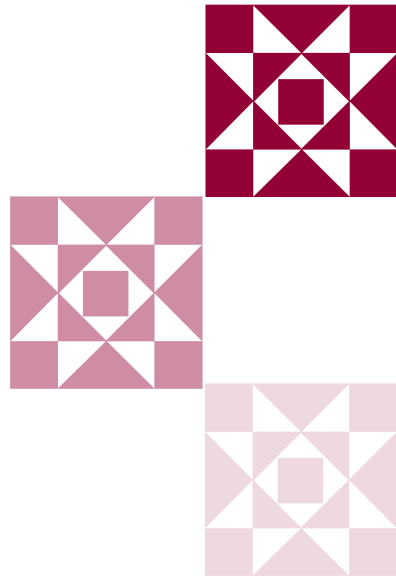
*University of North Carolina Rural Health Research & Policy Analysis Center*

*Expected completion date: August 2006*

*Principal Investigator: Rebecca Slifkin, Ph.D. 919-966-5541 or becky\_slifkin@unc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project provides rapid and flexible analysis of CMS data in response to requests from the federal Office of Rural Health Policy (ORHP) staff, which often requires information that is only available through analysis of databases maintained by CMS. To fully supply information needed to support rural health policy development and evaluation, these databases need to be transformed into analysis files and linked to geographic identifiers and demographic characteristics, requiring data storage capacity, statistical and GIS software, demographic data files and computer programming expertise. This project will make use of secondary data files archived at the University of North Carolina Rural Health Research & Policy Analysis Center, including datasets on Medicare provider costs and revenues, health professional supply, healthcare organizations and population characteristics. Work will be ongoing.





## **Access to Cancer Services for Rural Colorectal Cancer Medicare Patients: A Multi-State Study**

*WWAMI Rural Health Research Center*

*Expected completion date: January 2005*

*Principal Investigator: Laura-Mae Baldwin, M.D., M.P.H., 206-685-0402 or [lmb@fammed.washington.edu](mailto:lmb@fammed.washington.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This study examined a comprehensive database to quantify the distance and access to four types of cancer services in a sample of rural, Medicare-insured, colorectal cancer (CRC) patients of different racial and ethnic groups. CRC is the second most common cause of cancer death in the U.S., and disproportionately impacts racial and ethnic minorities. Cancer care requires a sophisticated set of surgical and medical resources more common in large urban settings. Greater proportions of rural cancer patients are diagnosed at later stages than urban patients and are less likely than urban patients to receive state-of-the-art cancer treatments. The database links Surveillance Epidemiology and End Results (SEER) cancer registry, Medicare claims, AMA Masterfile, and American Hospital Association data. This study will inform future work designed to understand discrepancies in cancer service use by the rural elderly in different racial and ethnic groups.

## **Describing Geographic Access to Physicians in Rural America Using Statistical Applications in GIS**

*University of North Carolina Rural Health Research and Policy Analysis Center*

*Expected completion date: February 2006*

*Principal Investigator: Rebecca Slifkin, Ph.D., 919-966-5541 or [becky\\_slifkin@unc.edu](mailto:becky_slifkin@unc.edu)*

*Contact Person: Thomas Ricketts, Ph.D., 919-966-5541 or [tom\\_ricketts@unc.edu](mailto:tom_ricketts@unc.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This study is using a geographic approach to assess the influence of distance and travel time on the distribution of physicians in rural America. The Medicare Modernization Act contains financial provisions aimed at changing the distribution of physicians, and called for a revision in the determination of areas eligible for Medicare bonus payment support. There continues to be a need to accurately characterize primary care distribution and measure access to care for rural places. The goal of this work is to improve our measures of access by identifying the extent to which cross border resources can be considered in indices of access.

There are four specific goals for the proposed research:

- To identify more accurately how supply in adjacent areas can be used to adjust ratios or to characterize overall geographic access

- To analyze county boundaries to determine where they are effective proxies for service areas for shortage determination and how to make best use of the Primary Care Service Areas (PCSAs) developed by the Dartmouth and the Medical College of Virginia team in the assessment of geographic access to care
- To repeat analyses that characterize the distribution of physicians as more adequate using more current data and optional assumptions that capture the range of possible policy options
- To develop summary indices of supply for small areas, regional areas, and guidance for using smoothed supply estimate.

Findings will be presented in a report presenting a more accurate representation of the distribution of physicians across the nation and the access to those physicians for the rural population. An article for a peer-reviewed journal and a findings brief will be produced describing our findings of national physician availability and distribution, considering the urban-rural gradient in particular.

## **Do Communities Make a Difference in Access? A National Study**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: January 2006*

*Principal Investigator: Timothy D. McBride, Ph.D., 314-977-4094 or [mcbriDET@slu.edu](mailto:mcbriDET@slu.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project examined the effect of community-level resources on an individual's access to health care, particularly whether urban and rural individuals' access to health care differs, given community differences. If rural residents lack access to appropriate and needed health care services as a function of where they live, they may have lower health care utilization and, therefore, diminished outcomes. Lack of access may lead to a lack of preventive care, delays in seeking needed care, and other inappropriate health care use.

Community-level variables may limit health care access for low-income people, especially in rural areas. Community-level resources affect an individual's ability to use health care resources if the institutions that deliver health care are not accessible.

This project used empirical research, differentiated at the urban and rural levels, to test the following hypotheses:

- Access to care is affected by enabling, predisposing, and need characteristics of the individual, but also by community demand, community support, and community structure variables
- Community-level variables will play a more significant role in rural communities.

A policy paper and policy brief will be produced based on the findings.

## Effect of Safety Net Providers on Ambulatory Care Sensitive Hospitalization Rates in Rural Counties

*South Carolina Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Jim Laditka, Ph.D., 803-777-6852 or [jladitka@gwm.sc.edu](mailto:jladitka@gwm.sc.edu) and Jan Probst, Ph.D., 803-251-6317 or [jprost@gwm.sc.edu](mailto:jprost@gwm.sc.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

Access to primary care in rural counties, particularly those with high concentrations of minority persons, is handicapped by two factors: proportionately more poor and uninsured persons, coincident with fewer health care providers. In this environment, safety net providers can have notable effects on population health, as measured by rates of ambulatory care sensitive (ACS) hospitalization. The purpose of the study is to determine if the presence of a community health center or rural health clinic impact ambulatory care sensitive hospitalizations for children, working age adults, and older adults. A cross sectional design will be used, with rural counties as the unit of analysis. It is hypothesized that rural counties with a community health center or rural health clinic will have lower rates of admission for ACS diagnoses, and that these effects will be additive, that is, that a county with both types of facility will have the lowest rates.

## Locating Community Pharmacies (Independent and Chain) in Rural America

*RUPRI Center for Rural Health Policy Analysis*

*Expected Completion Date: August 2006*

*Principal Investigator: Michael D. Shambaugh-Miller, Ph.D., 402-559-5260 or [mdmiller@unmc.edu](mailto:mdmiller@unmc.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

Project staff will develop a database and maps of all rural U.S. pharmacies for use by policymakers and rural researchers. Rural definition will be determined via the established Rural Urban Commuting Code schema. The database will include the following data variables at a minimum: pharmacy name, pharmacy type (chain or independent), town, ZIP code, county, state, RUCA code, and Federal Information Processing Standards numbers for all spatial variables.

Maps showing national, regional, and state configurations of the pharmacy data will be constructed. The tabular listing created for the mapping process will also be formatted so as to make the data usable in most widely used statistics and geographic information systems (GIS) software packages.

The maps and database products will be made openly available on the Center's Web site. In addition the data sets will be offered for use on the Rural Policy Research Institute's Community Informatics and Resources Center GIS Web site and the Rural Assistance Center's data and information Web site.

Use of the maps and data sets will help to assess the impact of the Medicare Modernization Act of 2003 on rural pharmacies and beneficiaries, and will enable the study of predictors of utilization, service quality, and access to rural pharmacy services nationally. On the basis of this research, the RUPRI Center will publish maps and policy briefs.

## **Mode of Travel and Actual Distance Traveled for Medical or Dental Care by Rural Residents**

*South Carolina Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Jan Probst, Ph.D., 803-251-6317 or [jprobst@gwm.sc.edu](mailto:jprobst@gwm.sc.edu) and Sarah Laditka, Ph.D., 803-777-3332 or [sladitka@gwm.sc.edu](mailto:sladitka@gwm.sc.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

Research using geographic information systems (GIS) has begun to confirm what appears intuitively obvious: rural populations travel further for medical or dental facilities than urban populations, and, in many cases, greater travel time is associated with reduced access to care. This project will use the National Household Transportation Survey, conducted by the US Department of Transportation, to explore patterns of travel for care by rural residents, calculate distances traveled by rural white and minority residents, and explore whether rural residents perceive road conditions (congestion, poor surface) to be more of a barrier than do urban residents.

## **Rural Safety Net Provision and Hospital Care in 10 States**

*Georgia Health Policy Center*

*Principal Investigator: Patricia Ketsche, M.B.A., Ph.D., 404-651-2993 or [pketsche@gsu.edu](mailto:pketsche@gsu.edu)*

*Expected completion date: August 2006*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project will evaluate whether access to primary care is more effective at improving health and reducing cost in rural than urban markets, and identify the characteristics of communities which determine the effectiveness of primary care access.

There is substantial evidence that access to primary and preventive services can reduce the necessity for hospital care and hence indicate improved health. Reductions in unnecessary hospital care for the uninsured are important for rural hospitals concerned about cost containment.

This project will use a cross-sectional analysis of secondary data from multiple sources to compare the effectiveness of rural and urban publicly funded primary care in 10 diverse states. This research will inform policy relating to the best balance of funding between access provision through public clinics and coverage expansion to reduce the burden of uncompensated care on financially strained rural hospitals. This study will also help identify those community characteristics such as population demographics, income levels, numbers and types of private providers, and the degree of organization of the private market that contribute to greater effectiveness of public primary care access.



## **Trends in Access to Health Care among Rural Residents: A National Study**

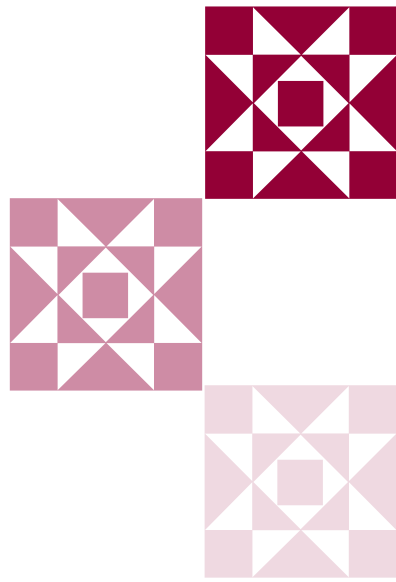
*WWAMI Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Mark Doescher, M.D., M.S.P.H., 206-616-9207 or mdoesche@u.washington.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This study is using national data from the Behavioral Risk Factor Surveillance System (BRFSS) to ascertain the extent to which individual rural residents lack adequate health care access. BRFSS is a nationally representative study of the U.S. non-institutionalized adult population and collects health-related data annually on a range of measures, including access to care. It is a state-based random-digit telephone survey including over 260,000 respondents in 2003. This study will examine access to care by type of geographic location and by key risk factors for inadequate access to health care. Degrees of rurality will be measured using county-level Urban Influence Codes. Specifically, the project will determine whether the prevalence of and recent trends in having a personal doctor or health care provider varies for rural versus urban respondents; whether the reported prevalence of and trends in adults being unable to see a doctor in the prior 12 months because of cost varies for rural versus urban respondents; whether the prevalence of not having a personal doctor or health care provider and being unable to see a doctor in the past 12 months because of cost increases as the degree of rural isolation increases; and whether rural respondents with special health care needs have a greater prevalence of being unable to see a doctor in the past 12 months because of cost than their lower risk counterparts. The project will result in at least one working paper and policy brief.





## **Changes in U.S. Rural Perinatal and Infant Health Care During the Last Decade**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Eric Larson, Ph.D., 206-685-0401 or [eric\\_larson@u.washington.edu](mailto:eric_larson@u.washington.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

Little is known about long-term national trends in birth outcomes and use of prenatal care in the rural population of the United States, or about intra-rural differences in adverse outcomes and inadequate prenatal care. This project examined changes in rates of adverse birth outcomes and prenatal care among U.S. rural residents between 1985-1987 and 1995-1997, and examined how rates of adverse outcomes and prenatal care have changed during these periods among rural residents from racial and ethnic minority groups. The study involved analyses of data from the Linked Birth Death Data Set, a national compilation of birth certificate data from all 50 states and the District of Columbia. The study is assessing inter-decade changes in rural/urban areas and intra-rural differences in the rate of low birthweight, neonatal death, post neonatal mortality, and inadequate prenatal care. A working paper and policy brief are in draft form.

## **Hospitalizations of Rural Children for Ambulatory Care Sensitive Conditions**

*Upper Midwest Rural Health Research Center*

*Expected completion date: October 2006*

*Principal Investigator: Ira Moscovice, Ph.D., 612-624-8618 or [mosco001@umn.edu](mailto:mosco001@umn.edu)*

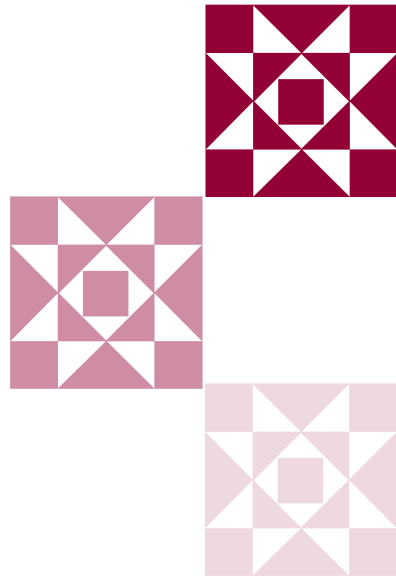
*Contact Person: Alana Knudson, Ph.D., 701-777-4205 or [aknudson@medicine.nodak.edu](mailto:aknudson@medicine.nodak.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

The purpose of this project is to:

- Determine what conditions for which rural children are hospitalized, what procedures they undergo, and to what extent they are hospitalized for ambulatory care sensitive conditions (ACSC)
- Determine where rural children are hospitalized and the characteristics of hospitals admitting rural children
- Analyze which patient-level factors and which characteristics of the local health care system are related to ACSC admissions for rural children.

HCUP State Inpatient Databases (SID), data from the Area Resource File (ARF), and data from the American Hospital Association Annual Survey, and the AHRQ Prevention Quality Indicators (PQIs) that are applicable to pediatric inpatients will be used to examine inpatient admissions in general and specifically ACSC admission rates for rural children.





## **The North Carolina Rural Health Guide**

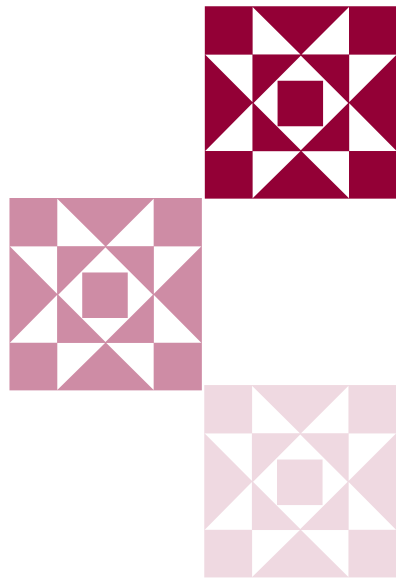
*University of North Carolina Rural Health Research and Policy Analysis Center*

*Expected completion date: December 2006*

*Principal Investigator: Katie Gaul, M.A., 919-966-6529 or [gaul@mail.schsr.unc.edu](mailto:gaul@mail.schsr.unc.edu)*

*Funder: The North Carolina Hospital Association (NCHA)*

This project will provide assistance in the production of an online rural health guide entitled, "The North Carolina Rural Health Guide," to be utilized by North Carolinians. The product of this project is an online resource system that can be used by rural hospitals and communities who wish to better understand the health care needs and current capacity in their local communities and facilities. The online product will be updated every two years with current data.





## **Contribution of J-1 Visa International Medical Graduates to the Rural Physician Workforce**

*WWAMI Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: L. Gary Hart, Ph.D., 206-685-0402 or garyhart@u.washington.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

International Medical Graduates (IMGs) account for a quarter of the nation's physician workforce, and are an important source of physicians for rural areas, and in particular, Critical Access Hospitals. Many IMGs obtain their green cards and eventually citizenship during their training in U.S. residencies, and then receive a J-1 visa waiver, which allows them to waive their obligation to leave the country after residency training. J-1 visa waiver IMGs are obligated to practice in designated physician shortage areas through an employment agreement with a private or public entity, including federal health clinics. While it is known that the J-1 visa waiver program is important in placing IMGs in rural practice, little is known about their location and actual numbers, and research to date has not differentiated IMGs based on whether they previously obtained a J-1 visa waiver. This project is determining the contribution of J-1 IMGs to the rural physician workforce by obtaining aggregate summary information on their location and adding 2005 American Medical Association data on other physicians to determine the contribution of J-1s to the physician supply in different types of rural areas, as measured by Rural-Urban Commuting Areas (Version 2.0) and regions. The numbers and percentages of J-1s will be compared to U.S. medical graduates and non J-1 visa waiver IMGs. The product for this project will be a policy-relevant working paper.

## **Development of a New Methodology for Dental Health Professional Shortage Area Designation**

*University of North Carolina Rural Health Research and Policy Analysis Center*

*Expected completion date: December 2005*

*Principal Investigator: Thomas Ricketts, Ph.D., 919-966-5541 or tom\_ricketts@unc.edu*

*Funder: Health Resources and Services Administration*

This project developed a methodology for designating dental health professional shortage areas within the United States, through the application of a conceptual model of dental access and use derived from empirical studies. The model will guide the analysis of national dental utilization data and their relationship to the socio-demographic characteristics of potential dental care service areas in the United States. The analysis will create a set of factor weights that can be applied to areas to determine those that have shortages of dental professionals.

Findings will be presented in a detailed methodology; a detailed analysis and summary of the effects of the proposed methodology on designations; and data, summaries, and a detailed description of the application of the proposed methodology.

## **The Future of Family Medicine and Implications for Primary Care Physician Supply**

*WWAMI Rural Health Research Center*

*Expected completion date: August 2006*

*Principal Investigator: Frederick Chen, M.D., M.P.H., 206-685-0402 or fchen@u.washington.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project will investigate the implications of the declining medical student interest in pursuing careers in primary care, particularly as this impacts rural and underserved areas of the nation. It will explore sociological and economic factors as well as national and regional policies that have contributed to this trend. Analyses will be conducted with data from multiple sources, including the American Association of Medical Colleges, the 2005 American Medical Association Masterfile and the American Osteopathic Association Masterfile, the annual family medicine residency director's survey, local data on medical students' interests from the University of Washington School of Medicine, our 2001 family medicine residency director survey, data from the Robert Graham Center, and the literature.

Specifically, this study will describe recent trends in medical student interest and national match rates for family medicine and primary care; describe related trends such as the increasing proportion of women generalist physicians, who are less likely to practice in remote rural settings; describe the potential impact of reductions in the number of primary care physicians on the health of the nation, especially in rural and underserved areas; discuss implications of declining interest in primary care on the national and regional health workforce; and recommend policy options for counteracting the current trends in declining medical student interest on primary care.

## **Is Rural Residency Training of Family Physicians an Endangered Species? An Interim Follow-up to the 1999 National BBA Study**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Roger Rosenblatt, M.D., M.P.H., 206-685-1361 or rosenb@u.washington.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

The shortage of physicians in rural America has persisted as physicians continue to settle preferentially in metropolitan and suburban areas. One of the strategies to ameliorate this situation is the establishment of rural residency training. Since the completion of our earlier survey of family medicine residencies in the United States after the passage of the Balanced Budget Act (BBA) of 1997, there has been a precipitous decline in the proportion of U.S. medical school graduates (USMGs) who have chosen to pursue residency training in family medicine. As a result, match rates of U.S. programs have been declining rapidly, and quite a few programs have closed. The impact of these trends on rural family medicine training capacity is unknown.

This study examined the proportion of rural-based family medicine residencies that have ceased operations since 2000, the residency-match experiences of the surviving programs, the proportion of USMGs and international medical graduates, major issues confronting these rural residencies, and likely impacts of these changes on the preparation of future family physicians for rural America.



It was hypothesized that:

- Family medicine residencies in rural areas have experienced a more rapid decline in match rates than the entire population of family medical residencies
- Rural-based family medicine residencies are beginning to close as a result of falling match rates, and a substantial number are planning to close in subsequent years.

For this national study we used a combination of data collected in the landmark baseline survey of 1999 with primary data collected through a mail survey of the rural-based family medicine residency-training programs. The survey examined the match rates of the rural-based programs over the last five years; which programs have downsized, consolidated, or actually closed since 1999; what the plans are of these programs for the next two years, and to what extent would continuing decline in match rates affect them; and the implications for the rural areas that these programs serve. The final product will be a working paper plus a publication submitted to a refereed journal. Results of this study will be presented at local, regional, and national meetings.

## **Long Term Trends in Characteristics of the Rural Nurse Workforce: A National Health Workforce Study**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: L. Gary Hart, Ph.D., 206-685-0402 or [ghart@u.washington.edu](mailto:ghart@u.washington.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This national study characterized the evolution of the rural/urban and regional geography of the current distribution and shortage of Registered Nurses (RNs), as it emerged between 1980 and 2000. The study used data from the National Sample Survey of Registered Nurses (NSSRN) collected between 1980 and 2000, supplemented with demographic, professional and health resource information from the Area Resource File to examine changes in the demographic, professional, and locational profiles of the RN population over two decades. Nurse shortages were examined through trends in the ratio of the number of nurses working in short-term general hospitals to measures of hospital capacity and utilization. Trends in overall nurse population ratios also were examined.

## **National Changes in Physician Supply**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: L. Gary Hart, Ph.D., 206-685-0402 or garyhart@u.washington.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

National rural health policy development depends on an accurate and up-to-date assessment of physician supply. This project described the supply of generalist physicians and osteopaths in rural areas of the U.S. The study results provide a current picture of rural (defined by Version 2.0 RUCAs) physician supply and its variation by state and by region. Data from the American Medical Association Physician Masterfile and the Area Resource File were used to determine the total supply of practicing physicians in metropolitan and nonmetropolitan counties in 2005. Assessment was made of the supply of physicians in the smallest and most isolated areas of the country, and rural physician supply was analyzed on a state-by-state and regional basis. A working paper and associated policy brief and article are the anticipated products of this project.

## **Rural Health Center Expansion and Recruitment Survey**

*WWAMI Rural Health Research Center and*

*South Carolina Rural Health Research Center*

*Expected completion date: March 2006*

*Principal Investigators: L. Gary Hart, Ph.D., 206-685-0402 or*

*ghart@u.washington.edu and Janice C. Probst, Ph.D., 803-777-7426 or jprobst@gwm.sc.edu*

*Funder: Federal Office of Rural Health Policy, HRSA*

This collaborative project will examine and describe the current staffing needs of rural health centers (RHCs), ascertain the staffing, recruitment, and retention issues that rural health center CEOs regard as most critical; distinguish how issues differ between CEOs contemplating development of expansion sites versus those who are not; and describe how these findings correlate with the literature and current national supply projections for the categories of health professions needed by the RHCs.

RHCs face major barriers in recruiting and retaining health professionals, yet there are no projections of key health professions' staffing needs for RHCs and proposed new RHCs. While RHCs report on staffing via the Uniform Data System, this does not include critical information on vacancies, recruitment and retention, and other important issues. The National Association of Community Health Centers administered a mail questionnaire to the CEOs of all RHCs that examines current vacancies, projected staffing needs, recruitment and retention issues, center site expansion plans, and CEO perception of policies that would facilitate recruitment and retention. The WWAMI Rural Health Research Center is involved in the analysis of these data, and a joint report with the South Carolina Rural Health Research Center will be produced. This project is a collaboration between the federal Office of Rural Health Policy, the Bureau of Primary Health Care, and the Bureau of Health Professions.

## **Rural-Urban Physician Payment Differences Across the Nation: Methodological Changes**

*RUPRI Center for Rural Health Policy Analysis*

*Expected completion date: January 2006*

*Principal Investigator: A. Clinton MacKinney, M.D., M.S., 320-363-8150 or [clintmack@cloudnet.com](mailto:clintmack@cloudnet.com)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This project simulates the effects of changes to the methodologies used to calculate the three geographic practice cost indices (GPCIs) used to adjust physician payment across the 89 Medicare payment areas in the U.S. and territories. Health services researchers are concerned about the methodology used to determine the GPCIs. In particular, concerns have been raised about the timeliness of updates to the indices, the appropriateness of the data used to compute the indices, and the methodology in general.

This project is designed to provide a dispassionate explanation of payment differences as a function of payment area, with illustration of specific differences that result from separate GPCIs, and analyze changes to the payment formula to determine potential impact on payment across areas and revenues for rural physician practices.

The following hypotheses were tested:

- Payment to rural primary care physicians would increase if the work GPCI were calibrated using more recent data and a different mix of occupational categories
- Payment to rural primary care physicians would increase if the practice expense GPCI was calibrated using different input variables
- Overall practice income would increase for rural primary care physicians a significant amount (5% or more) with changes in Medicare payment that closed the gap between the lowest and highest GPCIs (all three components aggregated).

Two policy papers and three policy briefs will be produced.

## **Southeast Regional Center for Health Workforce Studies**

*University of North Carolina Rural Health Research Program*

*<http://www.healthworkforce.unc.edu>*

*Director and Principal Investigator: Thomas Ricketts, Ph.D., 919-966-5541 or [tom\\_ricketts@unc.edu](mailto:tom_ricketts@unc.edu)*

*Funder: Bureau of Health Professions, HRSA*

The Southeast Regional Center for Health Workforce Studies is supported by a cooperative agreement with the National Center for Health Workforce Analysis in the Bureau of Health Professions, HRSA, and is one of six federally designated regional workforce analysis centers. The Center conducts research and analysis with the goal of improving access to an appropriate and effective health workforce in the Southeast and North Carolina. The Center draws on the resources of the Chapel Hill Campus with its five health professions schools: medicine, pharmacy, dentistry, public health, and nursing, as well as the 16-campus University of North Carolina system to respond to the information and analysis needs of health workforce policy makers in the state, the region, and the nation. The Center also collects and maintains data describing the need for and supply of health professionals, and makes these data available for research and policy analysis purposes. The Center's current

research agenda consists of seven projects. Each project will produce different products, such as research papers, articles, or informational pamphlets, depending on the nature of the work involved.

The Center's current and ongoing projects are:

- Allied Health Workforce Needs Assessments: Lesson Learned
- Developing Productivity Measures for Workforce Programs
- Development of Model Access to Nursing
- Development of Model Physician Data Standards
- Do NHSC Dentist Alumni Remain in the Oral Health Safety Net?
- Outcomes of Racially Matched Doctors and Patients in the Rural South
- Physician Supply Modeling Review
- Physician Workforce Growth Among Counties in the Rural South: A Consequence of Favorable Recruitment, Favorable Retention, or Both?
- Population Characteristics and Nursing Employment Patterns
- Service Requiring Scholarships and Loan Repayment for Nurses
- Technical Assistance to Region IV

## **Stay or Leave:**

### **Evidence from a Cohort of Young Rural Physicians**

*Walsh Center for Rural Health Analysis*

*Expected completion date: December 2005*

*Principal Investigator: Curt D. Mueller, Ph.D., 301-951-5070 or [mueller-curt@norc.org](mailto:mueller-curt@norc.org)*

*Funder: Federal Office of Rural Health Policy, HRSA*

The goal of this project is to improve our understanding of the dynamics of physician practice location decision-making. The inability of rural areas to attract and retain physicians has been of concern to health services researchers and policymakers for many years. Workforce supply constraints may adversely affect access to care and outcomes in these areas. Much of the evidence on how physicians make practice location decisions is static which tends to overestimate behavior of those who serve rural areas for longer periods of time. A better understanding of the dynamics of behavior is needed, e.g., studies of observed changes in practice locations over time by a cohort of providers.

This project tracked practice locations of a cohort of physicians using information on physicians who were identified during the early stages of their medical careers as part of the National Survey of Rural Physicians (NSRP), conducted in 1993-1994 with funding from the Robert Wood Johnson Foundation. We supplemented these data with data obtained from the American Medical Association when the NSRP sampling frames were constructed, with information on the current practice locations of physicians in the cohort, and with data from a follow-up survey. We examined changes in practice locations for all physicians in the sampling frame. For the subset of sampled physicians who responded to the NSRP, we identified factors correlated with the decision to maintain a rural practice. Contingency tables were used to test a variety of hypotheses concerning factors affecting the physician's decision to continue practice in a rural community, along with statistical analyses to examine relationships between these factors.

## University of Washington Center for Health Workforce Studies

<http://www.fammed.washington.edu/CHWS/>

Director and Principal Investigator: L Gary Hart, Ph.D., 206-685-0401 or  
ghart@u.washington.edu

Funder: Bureau of Health Professions, HRSA

The University of Washington Center for Health Workforce Studies (CHWS) was established at the University of Washington in 1998 with funding from the Bureau of Health Profession's National Center for Health Workforce Analysis. It is based in the Research Section of the Department of Family Medicine, University of Washington School of Medicine, and is directed by L. Gary Hart who also directs the WWAMI Rural Health Research Center. The Workforce Center's major goals are to conduct relevant health workforce research and policy analysis in collaboration with federal and state agencies; provide consultation to local, state, regional, and national policymakers on health workforce issues; contribute to the understanding of health workforce issues and findings; and disseminate study results to a wide audience for application by policymakers.

The Center's current projects are:

- An Analysis of Factors that Affect the Acceptance of American Indians/Alaska Natives into Medical School Training Programs
- Dental Hygienists in Washington: 2004 Survey of Demographics, Education and Work Characteristics
- Effects of the Increasing Number of International Medical Graduates in Primary Care Residencies
- International Medical Graduates and Their Role in U.S. Physician Supply
- International Nurse Graduates in the U.S. - Geographic Trends
- Longitudinal Analysis of International Medical Graduates
- Student Debt and the Decline in Primary Care: Can Medical School Graduates Still Afford to Become Primary Care Doctors?
- Survey of Registered Nurses Who Have Not Renewed Their Washington Licenses
- Washington's Obstetrics Provider Survey: Practice Characteristics and Effects of Changes in Liability Insurance
- Washington State Hospitals: Results of 2003-4 Workforce Survey

## **Which Training Programs Produce Rural Physicians? A National Health Workforce Study**

*WWAMI Rural Health Research Center*

*Expected completion date: December 2005*

*Principal Investigator: Frederick Chen, M.D., M.P.H., 206-685-0402 or [fchen@u.washington.edu](mailto:fchen@u.washington.edu)*

*Funder: Federal Office of Rural Health Policy, HRSA*

This national study is using comprehensive, longitudinal data on medical school specialty and practice location choice to determine the extent to which the nation's medical schools and residency programs vary in their production of rural physicians. This information will be used to identify the medical school and residency training characteristics that result in the highest yield of rural physicians. This project updates and builds on previous WWAMI RHRC studies by including elements not previously available: The type and location of residency training, a more sophisticated method for defining rurality, and a new approach to determining physician supply at the level of the Primary Care Service Area.

The project will show variation by medical schools in the number and proportion of their graduates who practice in rural areas, identify how this production varies by residency type, compare the production of rural physicians between osteopathic and allopathic schools, examine the comparative production of male and female physicians within and across medical schools, and compare these findings with those from our 1992 project.



## Part 2: Rural Health Research Centers Descriptions and Publications

Fiscal Years 2005-2008:

### **Analytic Centers:**

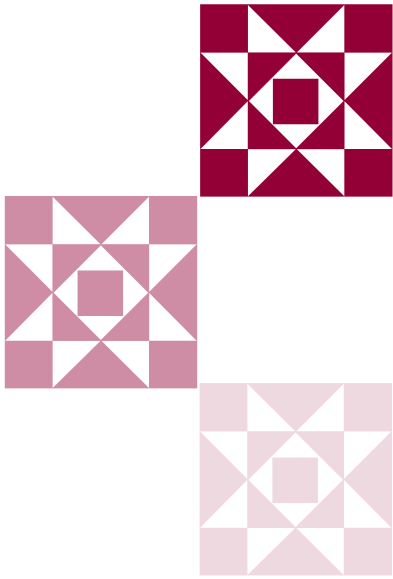
RUPRI Center for Rural Health Policy Analysis  
University of North Carolina Rural Health Research and  
Policy Analysis Center  
Walsh Center for Rural Health Analysis

### **General Centers:**

Maine Rural Health Research Center  
South Carolina Rural Health Research Center  
Upper Midwest Rural Health Research Center  
WICHE Rural Mental Health Research Center  
WWAMI Rural Health Research Center

### **Center Descriptions and Publications:**

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## Maine Rural Health Research Center

Director: David Hartley, Ph.D.

Deputy Director: Andrew F. Coburn, Ph.D.

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<http://muskie.usm.maine.edu/ihp/ruralhealth>*



Maine Rural Health Research Center

Established in 1992, the Maine Rural Health Research Center draws on the multidisciplinary faculty, research resources and capacity of the Institute for Health Policy within the Edmund S. Muskie School of Public Service, University of Southern Maine. Rural health is one of the primary areas of research and policy analysis within the Institute for Health Policy, and builds on the Institute's strong record of research, policy analysis, and policy development in the following focus areas:

- Chronic Illness, Disability, and Aging
- Health Care Access and Finance
- Mental Health
- Public Health
- Health Care Quality Management and Improvement
- Children's Health and Welfare

The mission of the Maine Rural Health Research Center is to inform health care policymaking and the delivery of rural health services through high quality, policy relevant research, policy analysis and technical assistance on rural health issues of regional and national significance. The Center is committed to enhancing policymaking and improving the delivery and financing of rural health services by effectively linking its research to the policy development process through appropriate dissemination strategies. The Center's portfolio of rural health services research addresses critical, policy relevant issues in health care access and financing, rural hospitals, primary care and behavioral health. The Center's core funding from the federal Office of Rural Health Policy is targeted to behavioral health.

## Current Publications

For publications prior to 2005, please visit the Center's website at <http://muskie.usm.maine.edu/ihp/ruralhealth/>

## Working Papers, Reports, and Briefing Papers

33. Ziller EC, Coburn AF, Yousefian AE. (2005). *Out-of-pocket health care spending and the rural underinsured*.  
<http://muskie.usm.maine.edu/Publications/rural/wp33.pdf>
32. Hartley D, Ziller E, Loux S, Gale J, Lambert D, Yousefian AE. (2005). Mental health encounters in Critical Access Hospital ERs: A national survey.  
<http://muskie.usm.maine.edu/Publications/rural/wp32.pdf>
- BP5. Hartley D. (2005). *Scope of services in Critical Access Hospitals*.  
[http://flexmonitoring.org/documents/BriefingPaper5\\_ScopeofServices.pdf](http://flexmonitoring.org/documents/BriefingPaper5_ScopeofServices.pdf)
- Pearson KB. (Ed.). (2005). *Rural health research in progress in the Rural Health Research Centers Program* (9th ed.). Portland, ME: University of Southern Maine, Edmund S. Muskie School of Public Service, Institute for Health Policy, Maine Rural Health Research Center

## Other Publications

- Loux SL, Payne SMC, Knott A. (2005). Comparing patient safety in rural hospitals by bed count. In *Advances in patient safety: From research to implementation*. (Vols. 1-4), (pp. 391-402). Rockville, MD: Agency for Healthcare Research and Quality.  
<http://www.ahrq.gov/downloads/pub/advances/vol1/Loux.pdf>
- Mueller KJ, Coburn AF, MacKinney AC, McBride TD, Slifkin RT, Wakefield MK. (2005). Understanding the impacts of the Medicare Modernization Act: Concerns of congressional staff. *Journal of Rural Health*, 21(3), 194-197.



## **Rural Policy Research Institute (RUPRI)**

Center for Rural Health Policy Analysis

Director: Keith J. Mueller, Ph.D.

*University of Nebraska Medical Center*

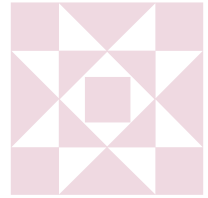
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Rural Policy Research Institute (RUPRI)

The mission of the Rural Policy Research Institute (RUPRI) Center for Rural Health Policy Analysis is to provide timely analysis to federal and state health policymakers based on the best available research.

The research of the RUPRI Center focuses on rural health care financing/system reform, rural systems building, and meeting the health care needs of special rural populations. Specific objectives include:

- Conducting original research and independent policy analysis that provides policymakers and others with a more complete understanding of the implications of health policy initiatives
- Disseminating policy analysis that assures policymakers will consider the needs of rural health care delivery systems in the design and implementation of health policy.

The RUPRI Center for Rural Health Policy Analysis is based at the University of Nebraska Medical Center, in the Department of Preventive and Societal Medicine, Section on Health Services Research and Rural Health Policy.

## **Current Publications**

For publications prior to 2005, please visit the RUPRI website at <http://www.rupri.org>

## **Policy Briefs**

PB2005-4. Fraser-Maginn R, King J, Lenardson J, Mason M, Muller C, Muller K, Radford A, Silver L, Slifkin R. (2005, December). *Contracting with Medicare Advantage Plans: A brief for Critical Access Hospital administrators*. <http://www.rupri.org/ruralHealth/publications/PB2005-4.pdf>

PB2005-3. Chen L, Puumala S, Mueller K, Xu L, Minikus K, Makhanu C. (2005, November). *Assessing the financial effect of Medicare payment on rural hospitals: Does the source of data change the result?* <http://www.rupri.org/healthpolicy/Pubs/PB2005-3.pdf>

PB2005-2. Mueller KJ, Bottsford L. (2005, August). *Preparing for Medicare Part D: An opportunity for State Offices of Rural Health and State Rural Health Associations*.

## **Other Publications**

Mueller KJ, MacKinney AC. (2005). Care across the continuum: Access to health care services in rural America. *Journal of Rural Health*. In press.

Muller K, Coburn A, MacKinney C, McBride T, Slifkin R, Wakefield M. (2005). Understanding the impacts of the Medicare Modernization Act: Concern of congressional staff. *Journal of Rural Health*, 21(3), 194-197.

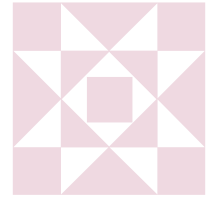
Mueller KJ, McBride TD, Andrews C, Fraser R, Xu L. (2005). The Federal Employees' Health Benefits Program: A model for competition in rural America? *Journal of Rural Health*, 21(2), 105-113.



## South Carolina Rural Health Research Center

Director: Janice C. Probst, Ph.D.

*Arnold School of Public Health  
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jprobst@gwm.sc.edu  
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South Carolina Rural Health Research Center

The mission of the South Carolina Rural Health Research Center is to shed light on persistent inequities in health status among the population of the rural U.S. with an emphasis on factors related to socioeconomic status, race and ethnicity, and access to healthcare services. Through the attainment of this mission, the Center also hopes to achieve the following:

- Develop and conduct the research necessary to provide a clear picture of health status, health care needs, health service use, and health outcomes among rural, minority groups
- Investigate the effectiveness of policies aimed at improving health and reducing the barriers to health care for rural poor and minority individuals
- Promote the development of minority researchers and clinical providers interested in addressing the problems of rural poor and minority populations
- Stimulate health services research, demonstration, clinical trial, and services capacity in the rural minority communities
- Provide expert advice to national, state, and local governments as well as to rural and minority constituency groups to empower policy development and advocacy
- Develop a repository of knowledge and information on poor and minority health issues.

The Center is based in the Department of Health Services Management and Policy, Arnold School of Public Health, University of South Carolina. Our research partners include: Office of Research, South Carolina Budget and Control Board, Department of Family and Preventive Medicine, University of South Carolina School of Medicine, College of Nursing and Department of Family Medicine, Medical University of South Carolina.

## **Current Publications**

For publications prior to 2005, please visit the Center's website at <http://rhr.sph.sc.edu>

## **Working Papers and Reports**

Laditka JN, Laditka SB, Olatosi B, Elder K. (2005). *Disability burdens among older Americans associated with gender and race/ethnicity in rural and urban areas.*

Martin A, Probst JC, Moore CG, Patterson D, Elder K. (2005). *Trends in uninsurance among rural minority children.*

Mink M, Wang H, Bennett KJ, Moore CG, Powell MP, Probst JC. (2005). *Early alcohol use, rural residence, and adulthood employment.*

Mink MD, Moore CG, Johnson AO, Probst JC, Martin AB. (2005). *Violence and rural teens: Teen violence, drug use, and school-based prevention services in rural America.*

Moore CG, Mink M, Probst JC, Johnson A, Hughley S. (2005). *Mental health risk factors, unmet needs and provider availability for rural children.*

Moore CG, Probst JC, Tompkins M, Cuffe S, Martin AG. (2005) *Poverty, parental stress, and violent disagreements in the home among rural families.*

Probst JC, Moore CG, Powell MP, Pearson W, Martin AB. (2005) *Effects of uninsurance during the preceding 10 years on health status among rural working age adults.*

Probst JC, Laditka SB, Moore CG, Harun N, Powell MP (2005). *Depression in rural populations: Prevalence, effects on life quality, and treatment-seeking behavior.*

## **Other Publications**

### **Forthcoming**

Laditka SB, Laditka JN, Probst JC. (forthcoming). Racial and ethnic disparities in potentially avoidable delivery complications among pregnant Medicaid beneficiaries in South Carolina. *Maternal and Child Health Journal.*

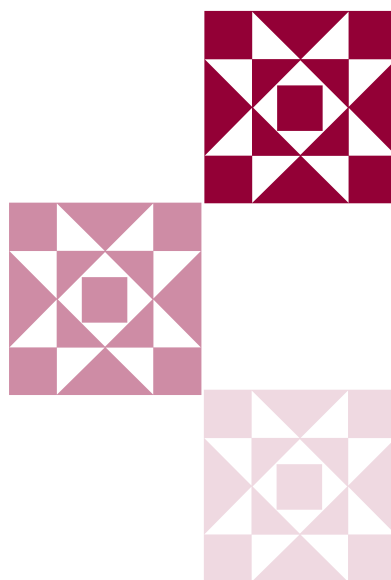
Laditka SB, Laditka JN, Bennett KJ, Probst JC. (forthcoming). Rural/urban differences in outcomes associated with prenatal care access among Medicaid-insured mothers and infants. *Journal of Rural Health.*

Mainous AG, King DE, Garr DR, Pearson WS. (forthcoming). The influence of race and rural residence on disparities in diagnoses and control of diabetes and hypertension. *American Journal of Public Health.*

Patterson PD, Probst JC, Leith K, Corwin S, Powell MP. (forthcoming). Recruitment and retention of EMTs: A qualitative study. *Journal of Allied Health.*

## 2005

- Laditka JN, Laditka SB, Probst, JC. (2005). More may be better: Evidence of a negative relationship between physician supply and hospitalization for ambulatory care sensitive conditions. *Health Services Research, 40*(4), 1148-1166.
- Laditka SB, Laditka JN, Bennett KJ, Probst JC. (2005). Delivery complications associated with prenatal care access for Medicaid-insured mothers in rural and urban hospitals. *Journal of Rural Health, 21*(2), 158-66.
- Probst JC, Moore CG, Baxley EG. (2005). Update: Health insurance and utilization of care among rural adolescents. *Journal of Rural Health, 21*(4), 279-287.
- Probst JC, Moore CG, Baxley EG. (2005). Effects of race and poverty on perceived stress among rural women. In Coward RT, Davis LA et al, Eds., *Rural women's health: Mental, behavioral and physical issues*. New York, NY: Springer Publishing Company.



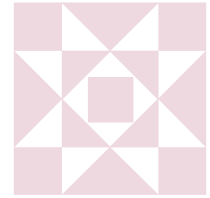




## University of North Carolina Rural Health Research and Policy Analysis Center

Director: Rebecca T. Slifkin, Ph.D.

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The North Carolina Rural Health Research and Policy Analysis Center is one of three federally designated Rural Health Policy Analysis Centers funded by the Federal Office of Rural Health Policy. The Center is built on the 30-year history of rural health services research at the University of North Carolina's Cecil G. Sheps Center for Health Services Research, and is able, through that relationship, to draw on the experience of a wide variety of scholars, researchers, analysts, managers and health service providers. The Center also has an ongoing partnership with the Foundation for Alternative Health Programs of the Office of Rural Health and Resource Development in the North Carolina Department of Human Resources.

The Center seeks to address problems in the rural health arena through policy-relevant analyses, the geographic and graphical presentation of data, and the dissemination of information to organizations and individuals in the health care field who can use this material for policy or administrative purposes. The Center's research involves primary data collection, analysis of large secondary data sets, and in-depth policy analysis. The Center brings together a diverse, multidisciplinary team including clinicians in medicine, nursing, pharmacy, allied health, mental health and other professions and disciplines along with experts in biostatistics, geography, epidemiology, sociology, anthropology and political science to address complex social issues affecting rural populations.

The Center's present agenda focuses on federal insurance programs (Medicare and Medicaid) and their effect on rural populations. Current projects include the examination of rural hospital participation in the 340B drug discount program, analysis of the Hospital Occupation Mix Survey data, and a study of rural emergency medical services.

## Current Publications

For publications prior to 2005, please visit the Center's website at:  
[http://www.schsr.unc.edu/research\\_programs/rural\\_program/papers.html](http://www.schsr.unc.edu/research_programs/rural_program/papers.html)

## Working Papers

WP83. Dalton K, Park J, Howard A, Slifkin R. (2005). *Trends in skilled nursing and swing-bed use in rural areas, 1996-2000.*

[http://www.shepscenter.unc.edu/research\\_programs/rural\\_program/WP83.pdf](http://www.shepscenter.unc.edu/research_programs/rural_program/WP83.pdf)

WP82. Silberman P, Rudolf M, Brogan L, Poley S, Slifkin R, Moore C. (2005). *The impact of Medicaid cuts on rural communities.*

[http://www.shepscenter.unc.edu/research\\_programs/rural\\_program/WP82.pdf](http://www.shepscenter.unc.edu/research_programs/rural_program/WP82.pdf)

WP81. Freeman V, Walsh J, Rudolf M, Slifkin R. (2005). *Intensive care in Critical Access Hospitals.*

[http://www.shepscenter.unc.edu/research\\_programs/rural\\_program/WP81.pdf](http://www.shepscenter.unc.edu/research_programs/rural_program/WP81.pdf)

## Reports, Briefing Papers, & Findings Briefs

BP7. Pink G, Holmes GM, D'Alpe C, Strunk L, McGee P, Slifkin R. (2005). Financial indicators for Critical Access Hospitals.

[http://www.flexmonitoring.org/documents/BriefingPaper7\\_FinancialIndicators.pdf](http://www.flexmonitoring.org/documents/BriefingPaper7_FinancialIndicators.pdf)

BP6. Poley S, Slifkin R. (2005). Community involvement of Critical Access Hospitals.

[http://www.flexmonitoring.org/documents/BriefingPaper6\\_CommunityInvolvement.pdf](http://www.flexmonitoring.org/documents/BriefingPaper6_CommunityInvolvement.pdf)

DR1. Pink G. (2005). CAH financial indicators report: Summary indicator medians by state. (Data Summary Report no. 1)

[http://flexmonitoring.org/documents/DataSummaryReportNo1\\_Oct05.pdf](http://flexmonitoring.org/documents/DataSummaryReportNo1_Oct05.pdf)

FB80. Fraser-Maginn R, King, J, Lenardson, J, Mason M., Muller C, Muller K, Radford A, Silver L, Slifkin, R. (2005, December). *Contracting with Medicare Advantage Plans: A brief for Critical Access Hospital administrators.* Joint policy brief with RUPRI and the Walsh Center for Rural Health Analysis. [http://www.schsr.unc.edu/research\\_programs/rural\\_program/FB80.pdf](http://www.schsr.unc.edu/research_programs/rural_program/FB80.pdf)

FB79. Greene S, Holmes M, Slifkin RT, Freeman V, Howard A. (2005). *Cesarean section rates in rural hospitals.*

[http://www.shepscenter.unc.edu/research\\_programs/rural\\_program/FB79.pdf](http://www.shepscenter.unc.edu/research_programs/rural_program/FB79.pdf)

## Other Publications

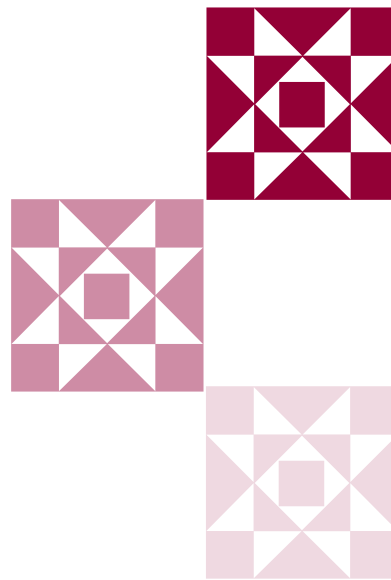
### Forthcoming

Pink G, Holmes GM, D'Alpe C, McGee P, Strunk L, Slifkin R. (forthcoming). Financial indicators for critical access hospitals. *Journal of Rural Health.*

Skinner AC, Slifkin R & Mayer M. (forthcoming). The effect of rural residence on dental unmet need for children with special health care needs. *Journal of Rural Health.*

## 2005

- Fraher EP, Slifkin RT, Smith L, Randolph R, Rudolf M, Holmes GM. (2005). How might the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 affect the financial viability of rural pharmacies? An analysis of preimplementation prescription volume and payment sources in rural and urban areas. *Journal of Rural Health, 21*(2), 114-121.
- Mayer M, Slifkin RT, Skinner AC. (2005). The effects of rural residence and other social vulnerabilities on subjective measures of unmet need. *Medical Care Research and Review, 62*(5), 617-628.
- Muller K, Coburn A, MacKinney C, McBride T, Slifkin RT, Wakefield M. (2005). Understanding the impacts of the Medicare Modernization Act: Concern of congressional staff. *Journal of Rural Health, 21*(3), 194-197.
- Pathman DE, Fryer GE, Green LA, Phillips RL. (2005). Changes in age-adjusted mortality rates and disparities for rural physician shortage areas staffed by the National Health Service Corps: 1984-1998. *Journal of Rural Health, 21*(3), 214-220.
- Ricketts TC. (2005). Workforce issues in rural areas: A focus on policy equity. *American Journal of Public Health, 95*(1), 42-48.



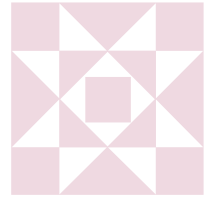


## Upper Midwest Rural Health Research Center

Director: Ira Moscovice, Ph.D.

Deputy Director: Mary Wakefield, Ph.D., R.N.

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The Upper Midwest Rural Health Research Center is a partnership that brings together the resources and expertise of two research centers with extensive experience conducting policy-relevant rural health research and disseminating research findings to federal and state policymakers. The lead organization for the collaborative effort, the University of Minnesota Rural Health Research Center, is located in the Division of Health Services Research, School of Public Health, University of Minnesota. The second partner, the University of North Dakota Center for Rural Health, is located in the University of North Dakota School of Medicine and Health Sciences.

The Center's mission is to conduct high quality, empirically driven, policy-relevant research that can be disseminated in an effective and timely manner to help shape the delivery and financing of rural health services. The specific aims of the Center are:

- To conduct quantitative and qualitative health services research and policy analysis in a conceptually sound and methodologically rigorous manner on rural health issues that are important to both short- and long-term rural health policy formulation
- To disseminate the results of original research to local, state, and federal policymakers who play key roles in the development of legislation and the administration of rural health care programs
- To provide technical assistance to health care policymakers, helping them to understand the unique characteristics of rural health care systems and to implement programs and interventions that address rural health care needs
- To train and develop future rural health services researchers by providing opportunities for doctoral student research assistant positions on our research projects.

The Center's area of concentration is quality of care in rural areas. The Center's projects address key forces that are shaping quality of care and quality improvement in rural areas, including: The use of technology and health professional staffing to improve quality of care and patient safety; the quality measurement and public reporting as tools for improving quality; and the provision of financial incentives for improving care.

## **Upper Midwest Rural Health Research Center**

<http://www.uppermidwestthrc.org>

### **Working Papers**

WP1. Casey M. (2005). *Successful implementation of medication safety initiatives in rural hospitals: The role of pharmacists and technology.*

## **University of Minnesota Rural Health Research Center**

### **Current Publications**

For publications prior to 2005, please visit the Center's website at <http://www.hsr.umn.edu/rhrc/>

### **Working Papers, Reports, and Briefing Papers**

56. Wright GE, Moscovice I. (2005). *Is large really beautiful? Physician practice in small versus large scale communities.* <http://www.hsr.umn.edu/rhrc/pdfs/wpaper/wpaper056.pdf>

BP4. Gregg W. (2005). The availability and use of capital by Critical Access Hospitals. [http://flexmonitoring.org/documents/BriefingPaper4\\_Capital.pdf](http://flexmonitoring.org/documents/BriefingPaper4_Capital.pdf)

### **Other Publications**

Casey M, Moscovice I, Virnig B, Durham S. (2005). Providing hospice care in rural areas: Challenges and strategies to address them. *American Journal of Hospice and Palliative Medicine*, 22(5), 363-8.

Christianson JB, Warrick LH, Wholey DR. (2005). Physicians' perceptions of managed care: A review of the literature. *Medical Care Research and Review*, 62(6), 635-675.

## **University of North Dakota Center for Rural Health**

### **Current Publications**

For publications prior to 2004, please visit the Center's website at: <http://medicine.nodak.edu/crh>

### **Working Papers and Policy Briefs**

King B, Moulton P. (2005). *Three-year comparison of North Dakota nurses: Results and implications.*

Moulton P, Speaker K. (2005). *Three-year comparison of nurses in North Dakota health care facilities: Results and implications.*

King B, Moulton P. (2005). *North Dakota nursing programs use of technology: A statewide assessment.*

Kruger G. (2005). *Suicide in North Dakota: A dialogue across state and tribal boundaries. North Dakota State and Tribal Health Policy Forums.*

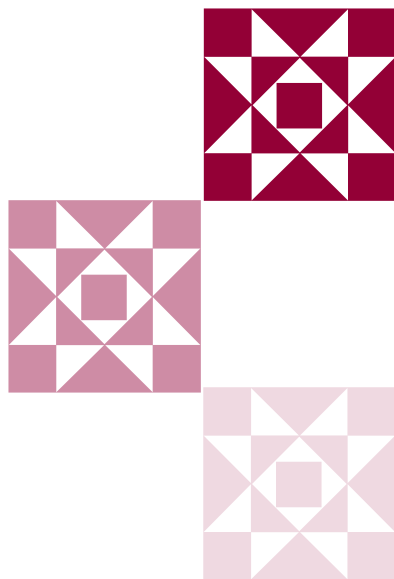
### **Other Publications**

Ferraro FR, McDonald LR. (2005). Culturally sensitive neuropsychological tests (and normative data) needed. *Alzheimer Disease and Associated Disorders, 19(2), 122-123.*

Moulton PL, McDonald LR, Muus KJ, Knudson AD, Ludtke RL. (2005). Chronic disease in American Indian/Alaska Native elders. *The IHS Primary Care Provider, 30(5), 53-54.*

Mueller KJ, Coburn AF, MacKinney AC, McBride TD, Slifkin RT, Wakefield MK. (2005). Understanding the impacts of the Medicare Modernization Act: Concerns of congressional staff. *Journal of Rural Health, 21(3), 194-197.*

Poltavski D, Muus KJ. (2005). Factors associated with incidence of inappropriate ambulance transport in rural areas in cases of moderate to severe head injury in children. *Journal of Rural Health, 21(3), 272-277.*







## **Walsh Center for Rural Health Analysis**

Director: Curt D. Mueller, Ph.D.

Associate Director: Julie A. Schoenman, Ph.D.

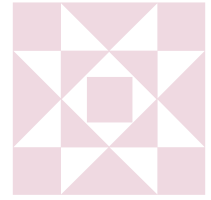
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The Walsh Center for Rural Health Analysis at the National Opinion Research Center was established in 1996 to study policy issues affecting health care in rural America. The Walsh Center's current focus is on the impact of Medicare policies on rural communities. Center products have addressed implications of Medicare payment policies, access to care, and home health issues. Other products have addressed public health infrastructure, emergency preparedness, workforce, and access issues. Center researchers have conducted simulations on changes in provider payment methodologies and conduct research and analysis using data collected by the Center and data from other sources, including Medicare claims, the Medicare Cost Reports, the National Health Interview Survey (NHIS), and the Medicare Current Beneficiary Survey (MCBS). NORC Walsh Center researchers have presented study findings to Congressional commissions and contributed to Department of Health and Human Services reports to Congress.

Walsh Center for Rural Health Analysis

## **Current Publications**

For publications prior to 2005, please contact the Walsh Center at 301-951-5070.

## **Policy Papers and Policy Analysis Briefs**

Mueller C, Ketchel A, Silver L. (2005). *Attention from the top? Roles of state offices of rural health policy in preparing for bioterrorism and other health system emergencies.*

Schoenman J, Sutton J, Zhao L (2005). *Revisions to Medicare's disproportionate share payment policy to incorporate bad debt and charity care.*

Sutton JP. (2005). *Patterns of post-acute utilization in rural and urban communities: Home health, skilled nursing, and inpatient medical rehabilitation.*

Sutton JP. (2005). *Performance of rural and urban home health agencies in improving patient outcomes.*

Sutton JP. (2005). *Utilization of home health services among rural Medicare beneficiaries before and after the PPS.*

Zhao L. (2005). *Declining access to hospital-based obstetric services in rural counties: Causes and impact.*

No. 7. Fraser-Maginn R, King J, Lenardson J, Mason M, Muller C, Muller K., Radford A, Silver L, Slifkin R. (2005, December). *Contracting with Medicare Advantage Plans: A brief for Critical Access Hospital administrators.* Joint policy brief with RUPRI and the North Carolina Rural Health Research & Policy Analysis Center.

No. 6. Sutton JP. (2005). *Home health payment reform: Trends in the supply of rural agencies and availability of home-based skilled services.*  
<http://www.norc.uchicago.edu/issues/NORCMarchCX2.pdf>

## **Other Publications**

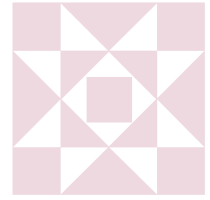
O'Day B, Kileen MB, Sutton J. (2005). Primary care experiences of people with psychiatric disabilities: Barriers to care and potential solutions. *Psychiatric Rehabilitation Journal*, 28(4), 339-345.

Schoenman JA, Mueller CD. (2005). Rural implications of Medicare's post-acute-care transfer payment policy. *Journal of Rural Health*, 21(2), 122-130.



## WICHE Rural Mental Health Research Center

Co-Directors: Kathryn R. Rost, Ph.D. and Dennis Mohatt



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The purpose of the WICHE Rural Mental Health Research Center is to develop and evaluate implementation strategies to promote the adaptation and adoption of evidence-based mental health care in rural settings. Implementation strategies will focus on improving care for affective disorders and serious mental illness. Implementation strategies will target primary care settings, and the integration of primary care with available specialty mental health services.

The closely coordinated set of quantitative research projects for 2004-2005 include:

- Identifying at-risk areas within rural America to target for depression care model adoption
- Determining whether and why existing care models differentially improve depression treatment in rural and urban populations
- Exploring promising hospitalization prevention strategies which have the potential to provide more funding for outpatient specialty care.

## Current Publications

For publications prior to 2005, please visit the Center's website at <http://www.wiche.edu/mentalhealth/ResearchCenter.asp>

## Working Papers

Fortney J, Rushton G, Wood S, Zhang L, Rost K. (2005). *Identifying community-level predictors of depression hospitalizations*.  
<http://www.wiche.edu/mentalhealth/ResearchCenter/FortneyidentifyingExecSumm.pdf>

Adams SJ, Xu S, Don F, Fortney J. (2005). *Differential effectiveness of enhanced depression treatment for rural and urban primary care patients*.  
<http://www.wiche.edu/mentalhealth/ResearchCenter/AdamsdifferentialExecSumm.pdf>

Adams SJ, Xu S, Don F, Rost K. (2005). *Preventing hospitalization in depressed rural patients*.  
<http://www.wiche.edu/mentalhealth/ResearchCenter/AdamspreventingExecSumm.pdf>

## Other Publications

Fortney J, Maciejewski M, Warren J, Burgess J. (2005). Does improving geographic access to VA primary care services impact patients' patterns of utilization and costs? *Inquiry*, 42(1), 29-42.

Fortney JC, Steffick DE, Burgess JF, Maciejewski ML, Petersen LA. (2005). Are primary care services a substitute or complement for specialty and inpatient services? *Health Services Research*, 40(5, Part 1), 1422-42.

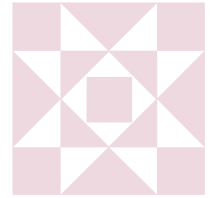
Pyne JM, Rost KM, Farahati F, Tripathi S, Smith J, Williams DK, Fortney J, Coyne JC. (2005). One size fits some: The impact of patient treatment attitudes on the cost-effectiveness of a depression primary care intervention. *Psychological Medicine*, 35(6), 839-854.



## **WWAMI Rural Health Research Center**

Director: L. Gary Hart, Ph.D.

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The Washington, Wyoming, Alaska, Montana, Idaho (WWAMI) Rural Health Research Center (RHRC) is one of eight rural health research centers funded by the Federal Office of Rural Health Policy to perform policy-oriented research on issues related to rural health care. The WWAMI RHRC, established in 1988, is based in the Department of Family Medicine at the University of Washington School of Medicine and works closely with the University of Washington Center for Health Workforce Studies, other departments and schools, the Washington State Department of Health, and Area Education Centers in the five WWAMI states (Washington, Wyoming, Alaska, Montana, and Idaho).

Major areas of inquiry at the WWAMI RHRC are:

- Training and supply of rural health care providers and the content and outcomes of the care they provide
- Availability and quality of care for rural women and children, including obstetric and perinatal care
- Access to high-quality care for vulnerable and minority rural populations.

The WWAMI Rural Health Research Center conducts its studies in the context of the changing health care environment.

## Current Publications

For publications prior to 2005, please visit the Center's website at <http://www.fammed.washington.edu/wwamirhrc>

## Working Papers

104. Skillman SM, Andrilla CHA, Phippen E, Hutson T, Bowditch E, Praseuth T. (2005). *Washington State Hospitals: Results of the 2005 Workforce Survey*. WWAMI Center for Health Workforce Studies.
103. Hart LG, Larson EH, Lishner DM. (2005, July). *Rural definitions for health policy and research*.
102. Hart LG, Skillman SM, Hagopian A, Fordyce MA, Thompson MJ, Konrad, TR. (2005, March). *International medical graduate physicians in the U.S.: Changes since 1981*. WWAMI Center for Health Workforce Studies.
101. Hollow WB, Buckley A, Patterson DG, Olsen PM, Dorscher J, Medora R, Morin L, Padilla RS, Tahsequah J, Baldwin LM. (2005, July). *Clearing the path to medical school for American Indians and Alaska Natives: New strategies*. WWAMI Center for Health Workforce Studies.
100. Skillman SM, Hart LG, Bowditch E, Kirlin BA. (2004, December). *Retail pharmacies in Washington State: Results of the 2003 Workforce Survey*. WWAMI Center for Health Workforce Studies.
99. Hagopian A, Johnson KE, Skillman SM, Blades S. (forthcoming). *Staffing and stressors in Washington State hospital business offices*. WWAMI Center for Health Workforce Studies.
98. Chen FM, Fordyce MA, Hart LG. (2005, May). *WWAMI physician workforce 2005*. WWAMI Center for Health Workforce Studies.
97. Chan L, Hart LG, Goodman DC. (2005, April). *Geographic access to health care for rural Medicare beneficiaries*.
96. Johnson KE, Hagopian A, Veninga C, Fordyce MA, Hart LG. (2005, March). *The changing geography of Americans graduating from foreign medical schools*. WWAMI Center for Health Workforce Studies.
95. Jackson JE, Doescher MP, Hart LG. (2005, February). *Heavy and binge drinking in rural America: A comparison of rural and urban counties from 1995/1997 through 1999/2001*.
91. Skillman SM, Palazzo L, Keepnews D, Hart LG. (2005). *Characteristics of registered nurses in rural vs. urban areas: Implications for strategies to alleviate nursing shortages in the United States*. WWAMI Center for Health Workforce Studies.
78. Baldwin LM, et al. (forthcoming). *Access to specialty health care for rural American Indians in two states*.

## Other Publications

### Forthcoming

Baldwin LM, Patanian MM, Larson EH, Lishner DM, Mauksch LB, Katon WJ, Walker E, Hart, LG. (in press). Modeling the mental health workforce in Washington State: Using state licensing data to examine provider supply in rural and urban areas. *Journal of Rural Health*.

Jackson JE, Doescher MP, Saver BG, Hart, LG. (in press). Trends in professional advice to lose weight among obese adults, 1994-2000. *Journal of General Internal Medicine*.

### Monographs

Hart LG, Lishner DM, Larson EH, Chen FM, Andrilla CHA, Norris, T, Schneeweiss R, Henderson TM, Rosenblatt RA. (2005). *Pathways to rural practice: A chartbook of family medicine residency training locations and characteristics*. Seattle, WA: WWAMI Rural Health Research Center, University of Washington.

### 2005

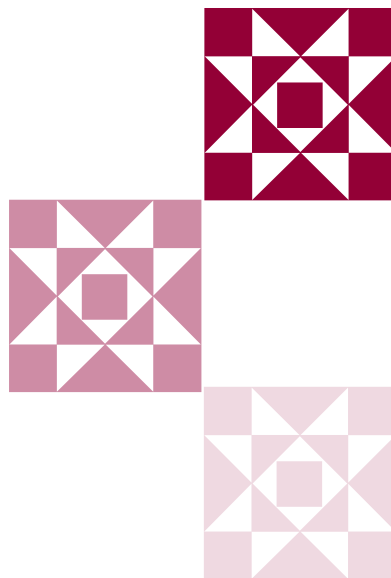
Baldwin LM, Dobie SA, Billingsley K, Yong C, Wright GE, Dominitz J, Barlow W, Warren JL, Taplin SE. (2005). Explaining black-white differences in receipt of recommended colon cancer treatment. *Journal of the National Cancer Institute*, 97(16), 1211-12210.

Hart LG, Larson EH, Lishner DM. (2005). Rural definitions for health policy and research. *American Journal of Public Health*, 95(7), 1149-1155.

Jackson JE, Doescher MP, Jerant AF, Hart, LG. (2005). A national study of obesity prevalence and trends by type of rural county. *Journal of Rural Health*, 21(2), 140-148.

Rosenblatt RA, Andrilla CHA. (2005). The impact of U.S. Medical students' debt on their choice of primary care careers: An analysis of data from the 2002 Medical School Graduation Questionnaire. *Academic Medicine*, 80(9), 815-819.

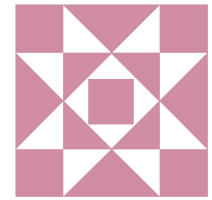
Thompson MJ, Lynge DC, Larson EH, Tachawachira P, Hart LG. (2005). Characterizing the general surgery workforce in rural America. *Archives of Surgery*, 140(1), 74-79.





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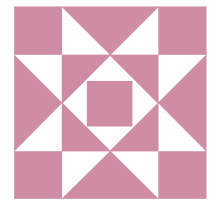
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# Part 3: Indexes

## List of Projects by Center



### Maine Rural Health Research Center

Director: David Hartley, Ph.D., M.H.A.

Deputy Director: Andrew Coburn, Ph.D.

*Institute for Health Policy, Muskie School of Public Service  
University of Southern Maine  
PO Box 9300, Portland, Maine 04104-9300  
207-780-4430 • Fax 207-228-8138  
davidh@usm.maine.edu  
<http://muskie.usm.maine.edu/ihp/ruralhealth>*

**Topic of Concentration:** Rural Behavioral Health

#### **2005-06 projects:**

- Database for Rural Health Research in Progress
- The Financial Impact of Mental Health Services on Rural Individuals & Families
- The Provision of Specialty Mental Health Services by Rural Health Clinics
- The Role of Inpatient Psychiatric Units in Small Rural Hospitals & Rural Mental Health Systems

#### **Ongoing projects:**

- Evaluation of New Hampshire's Rural Hospital Flexibility Program
- The Impact of Mental and Emotional Stress on Rural Employment Patterns
- Maine Mental Health Evidence-Based Practice Planning Initiative
- National Study of Substance Abuse Prevalence and Treatment Services in Rural Areas

#### **Flex Monitoring Team Projects:**

- Development of State Flex Program Logic Models and Related Toolkit
- Measuring the Community Benefits and Impact of Critical Access Hospitals
- State Flex Program Quality Improvement Activities

## **RUPRI Center for Rural Health Policy Analysis**

Director: Keith J. Mueller, Ph.D.

*University of Nebraska Medical Center  
984350 Nebraska Medical Center  
Omaha, NE 68198-4350  
402-559-5260 • Fax: 402-559-7259  
kmueller@unmc.edu  
<http://www.rupri.org/healthpolicy>*

**Topic of Concentration:** Medicare: Impact of Payment and Quality Policy on the Delivery of Health Care in Rural Areas

### **2005-06 Projects:**

- Examining the Magnitudes, Geographic Variations, and Determinants of Expenditures Due to Ambulatory Care Sensitive Conditions in Rural Hospitals
- Implementation of the Medicare Prescription Drug Benefit: What is Available to Rural Beneficiaries?
- Locating Community Pharmacies (Independent and Chain) in Rural America

### **Ongoing Projects:**

- Assessing the Community Impact of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA)
- Assessment of Small Rural Hospital Activities to Report Medication Errors
- Developing and Using a Classification Schema to Identify Sentinel Communities in the U.S.
- Do Communities Make a Difference in Access? A National Study
- Examining the Applicability of AHRQ's Inpatient Quality Indicators to Rural Hospitals and the Implications of the Relationship Between the Indicators and Financial Measures for Medicare Payment Policies
- Nationwide Analysis of New Entrants into Medicare+Choice Demonstrations
- Rural-Urban Physician Payment Differences Across the Nation: Methodological Changes
- Uninsurance and Welfare Reform in Rural America
- Why Are Health Care Costs Increasing and Is There a Rural Differential in National Data?

## **South Carolina Rural Health Research Center**

Director: Janice C. Probst, Ph.D.

*Arnold School of Public Health  
University of South Carolina  
220 Stoneridge Drive, Suite 204  
Columbia, SC 29210  
803-251-6317 • Fax: 803-777-1836  
jprobst@gwm.sc.edu; cgmoore@gwm.sc.edu  
<http://rhr.sph.sc.edu>*

**Topic of Concentration:** Health Disparities

### **2005-06 projects:**

- Effect of Safety Net Providers on Ambulatory Care Sensitive Hospitalization Rates in Rural Counties
- Mode of Travel and Actual Distance Traveled for Medical or Dental Care by Rural Residents
- The Role of English Proficiency and Area of Residence in the Use of Adult Preventive Health Services Among Latino Subgroups

### **Ongoing projects:**

- Rural Health Center Expansion and Recruitment Survey (with WWAMI Rural Health Research Center)
- Rural Minority Health: A Comprehensive Assessment

**University of North Carolina Rural Health  
Research & Policy Analysis Center**

Director: Rebecca T. Slifkin, Ph.D.

*Cecil G. Sheps Center for Health Services Research  
University of North Carolina at Chapel Hill  
725 Airport Road CB 7590, Chapel Hill, NC 27599-7590  
919-966-5541 • Fax: 919-966-5764  
becky\_slifkin@unc.edu  
<http://www.shepscenter.unc.edu>*

**Topic of Concentration:** Federal Insurance Programs (Medicare and Medicaid) and Their Effect on Rural Populations and Providers

**2005-06 projects:**

- Occupational Mix Differences Across PPS Hospitals: Analysis of the Hospital Occupation Mix Survey Data and Implications for Rural Hospital Payments
- Rapid and Flexible Analyses of Data from Centers for Medicare and Medicaid Services
- Rural Emergency Medical Services: Workforce and Medical Direction (2 year project)
- Rural Hospital Participation in the 340B Drug Discount Program (Joint with Walsh Center)

**Ongoing projects:**

- Access to Health Care for Young Rural Medicaid Beneficiaries
- Describing Geographic Access to Physicians in Rural America Using Statistical Applications in GIS
- Development of a New Methodology for Dental Health Professional Shortage Area Designation
- Evaluating Need for Assistance Criteria and Weighting of Overall Criteria in the Requirements of Funding New Start and Grant Applications for Health Centers
- The North Carolina Rural Health Guide
- Premium Assistance Programs: Exploring Public Private Partnerships as a Vehicle of Expanding Health Insurance to Rural Uninsured
- Southeast Regional Center for Health Workforce Studies



***Flex Monitoring Team Projects:***

- Critical Access Hospital Conversion Tracking
  
- Developing a Financial Performance Measurement System for Critical Access Hospitals
  
- An Exploration of Issues Raised by the Diverse Face of EMS in Critical Access Hospital Communities
  
- Financial Performance of Critical Access Hospitals, Pre- and Post-Conversion

## **Upper Midwest Rural Health Research Center**

Director: Ira Moscovice, Ph.D.

Deputy Director: Mary Wakefield, Ph.D.

*University of Minnesota Rural Health Research Center  
420 Delaware Street SE, MMC 729, Minneapolis, Minnesota 55455  
612-624-8618 • Fax: 612-624-2196  
mosco001@umn.edu  
<http://www.hrs.umn.edu/rhrc>*

**Topic of Concentration:** Quality of Care in Rural Areas

### **2005-06 Projects:**

- Hospitalizations of Rural Children for Ambulatory Care Sensitive Conditions
- The Role of Rural Hospitals in Community-Centered Systems of Care
- Rural Emergency Department Staffing: Implications for the Quality of Emergency Care Provided in Rural Areas

### **Ongoing Projects:**

- The Impact of Health Insurance Coverage on Native Elder Health: Implications for Addressing the Health Care Needs of Rural American Indian Elders
- Pay-for-Performance and Quality of Care in Rural Hospitals

### **Minnesota Rural Health Research Center:**

- Access to State of the Art Hospice Care for Rural and Minority Hospice Users
- Assessing Demand and Capacity for Behavioral Health Services in Northern Minnesota

### **Flex Monitoring Team Projects:**

- Analysis of Critical Access Hospital Inpatient Hospitalizations and Transfers from CAHs to Other Acute and Post-Acute Care Settings Using State Inpatient Databases
- Analyzing the Relationships among Critical Access Hospital Financial Status, Organizational Linkages, and Scope of Services
- Critical Access Hospital Participation in the Hospital Quality Alliance and Initial Quality Measure Results
- Developing a Quality Performance Measurement System for Critical Access Hospitals

## **Walsh Center for Rural Health Analysis**

Director: Curt D. Mueller, Ph.D.

Associate Director: Julie A. Schoenman, Ph.D.

*National Opinion Research Center (NORC)  
7500 Old Georgetown Road, Suite 620, Bethesda, Maryland 20814  
301-951-5070  
mueller-curt@norc.org  
<http://www.norc.uchicago.edu/issues/health6.asp>*

**Topic of Concentration:** Impact of Medicare Policies on Rural Communities

### **2005-06 Projects:**

- Financing Rural Public Health Activities in Chronic Disease Prevention and Health Promotion
- Impact of CAH Conversion on Hospital Costs and Mix of Services
- Rural Hospital Participation in the 340B Drug Discount Program (Joint with North Carolina Rural Health & Policy Analysis Center)

### **Ongoing Projects:**

- Advantages and Disadvantages of Hospital-based Emergency Medical Services in Rural Areas
- Investments in Health Information Technology by Rural Hospitals
- Monitoring Medicare Hospital Outpatient Payments: Trends and Evidence on Impacts of Payment Policy
- Stay or Leave: Evidence from a Cohort of Young Rural Physicians

## **WICHE Rural Mental Health Research Center**

Co-Directors: Kathryn R. Rost, Ph.D. and Dennis Mohatt

*Western Interstate Commission for Higher Education  
Mental Health Program  
PO Box 9752, Boulder, Colorado 80301  
303-541-0311 • Fax 303-541-0291  
krost@wiche.edu; dmohatt@wiche.edu  
<http://www.wiche.edu/mentalhealth/ResearchCenter.asp>*

**Topic of Concentration:** Rural Mental Health

### **2005-06 Projects:**

- Distance Learning in Depression for Rural Primary Care Physicians
- Identifying At-Risk Rural Areas for Targeting Enhanced Schizophrenia Treatment
- Identifying Stakeholders To Pay For Enhanced Depression Treatment In Rural Populations

## **WWAMI Rural Health Research Center**

Director: L. Gary Hart, Ph.D.

*Department of Family Medicine, Box 354982  
University of Washington,  
Seattle, Washington 98195-4982  
206-685-0402 • Fax: 206-616-4768  
ghart@u.washington.edu  
<http://www.fammed.washington.edu/wwamirhrc>*

**Topic of Concentration:** National Rural Health Workforce Research

### **2005-06 Projects:**

- Contribution of J-1 Visa International Medical Graduates to the Rural Physician Workforce
- Introduction to, and Description of, the 2004 (Version 2) Rural-Urban Commuting Areas
- The Future of Family Medicine and Implications for Primary Care Physician Supply
- Trends in Access to Health Care among Rural Residents: A National Study

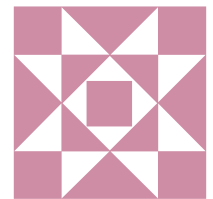
### **Ongoing Projects:**

- Access to Cancer Services for Rural Colorectal Cancer (CRC) Medicare Patients: A Multi-State Study
- Access to Physician Care for the Rural Medicare Elderly
- Breast, Cervical, Colorectal, and Prostate Cancer Screening in Rural America: Does Proximity to a Metropolitan Area Matter?
- The Burden of Chronic Illness among Rural Residents: A National Study
- Changes in U.S. Rural Perinatal and Infant Health Care During the Last Decade
- Colorectal Cancer Care Variation in Vulnerable Elderly
- Improvement in the Quality of Care for Acute Myocardial Infarction (AMI): Have Rural Hospitals Followed National Trends?
- Is Rural Residency Training of Family Physicians an Endangered Species? An Interim Follow-up to the 1999 National BBA Study
- Long-Term Trends in Characteristics of the Rural Nurse Workforce 1980-2000: A National Health Workforce Study

- National Changes in Physician Supply
- National Study of Rural-Urban Differences in Use of Home Oxygen for Chronic Obstructive Lung Disease: Are Rural Medicare Beneficiaries Disadvantaged?
- National Trends in the Perinatal and Infant Health Care of Rural and Urban American Indians and Alaska Natives
- Rural Health Center Expansion and Recruitment Survey (with South Carolina Rural Health Research Center)
- University of Washington Center for Health Workforce Studies
- Which Training Programs Produce Rural Physicians? A National Health Workforce Study

# Part 3: Indexes

## List of Projects by Funding Source



### **American Cancer Society**

Access to State-of-the-Art Hospice Care for Rural and Minority Hospice Users

### **Bureau of Health Professions, Health Resources and Services Administration**

Evaluation of New Hampshire's Rural Hospital Flexibility Program

Southeast Regional Center for Health Workforce Studies

University of Washington Center for Health Workforce Studies

### **Federal Office of Rural Health Policy, HRSA**

Access to Cancer Services for Rural Colorectal Cancer (CRC) Medicare Patients:

A Multi-State Study

Access to Health Care for Young Rural Medicaid Beneficiaries

Access to Physician Care for the Rural Medicare Elderly

Advantages and Disadvantages of Hospital-Based Emergency Medical Services in Rural Areas

Analysis of Critical Access Hospital Inpatient Hospitalizations and Transfers from CAHs to Other Acute and Post-Acute Care Settings Using State Inpatient Databases

Analyzing the Relationships among Critical Access Hospital Financial Status, Organizational Linkages, and Scope of Services

Assessing the Community Impact of the MMA

Assessment of Small Rural Hospital Activities to Report Medication Errors

Breast, Cervical, Colorectal, and Prostate Cancer Screening in Rural America: Does Proximity to Metropolitan Area Matter?

Burden of Chronic Illness Among Rural Residents: A National Study

Changes in U.S. Rural Perinatal and Infant Health Care During the Last Decade

Contribution of J-1 Visa International Medical Graduates to the Rural Physician Workforce

Critical Access Hospital Conversion Tracking

Critical Access Hospital Participation in the Hospital Quality Alliance and Initial Quality Measure Results

Database for Rural Health Research in Progress

Describing Geographic Access to Physicians in Rural America Using Statistical Applications GIS

Developing a Financial Performance Measurement System for Critical Access Hospitals

Developing a Quality Performance Measurement System for Critical Access Hospitals

Developing and Using a Classification Schema to Identify Sentinel Communities in the U.S.

Development of State Flex Program Logic Models and Related Toolkit

Diabetes Burden and the Lack of Preventive Care in the Rural United States

Distance Learning in Depression for Rural Primary Care Providers

Do Communities Make a Difference in Access? A National Study

Effect of Safety Net Providers on Ambulatory Care Sensitive Hospitalization Rates in Rural Counties

Evaluating Need for Assistance Criteria and Weighting of Overall Criteria in the Requirements of Funding New Start and Grant Applications for Health Centers

Evaluation of an Outpatient Modified Paper Prescription Form

Examining the Applicability of the AHRQ's Inpatient Quality Indicators to Rural Hospitals and the Implications of the Relationship Between the Indicators and Financial Measures for Medicare Payment Policies

Examining the Magnitudes, Geographic Variations, and Determinants of Expenditures Due to Ambulatory Care Sensitive Conditions in Rural Hospitals

An Exploration of Issues Raised by the Diverse Face of EMS in Critical Access Hospital Communities

Financial Impact of Mental Health Services on Rural Individual & Families

Financial Performance of CAHs, Pre- and Post-Conversion

Financing Rural Public Health Activities in Chronic Disease Prevention and Health Promotion

The Future of Family Medicine and Implications for Primary Care Physician Supply

Hospitalizations of Rural Children for Ambulatory Care Sensitive Conditions

Identifying At-Risk Rural Areas for Targeting Enhanced Schizophrenia Treatment

Identifying Stakeholders to Pay for Enhanced Depression Treatment in Rural Populations

Impact of Bioterrorism on Rural Mental Health Needs

Impact of CAH Conversion on Hospital Costs and Mix of Services

Impact of Health Insurance Coverage on Native Elder Health: Implications for Addressing the Health Care Needs of Rural American Indian Elders

Impact of Mental and Emotional Stress on Rural Employment Patterns

Implementation of the Medicare Prescription Drug Benefit: What is Available to Rural Beneficiaries?

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Long Term Trends in Characteristics of the Rural Nurse Workforce: A National Health Workforce Study

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Mode of Travel and Actual Distance Traveled for Medical or Dental Care by Rural Residents

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National Changes in Physician Supply

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Pay-for-Performance and Quality Improvement in Rural Hospitals

Pharmaceutical Data Validity in Estimating Rural Population Health

Premium Assistance Programs: Exploring Public-Private Partnerships as a Vehicle for Expanding Health Insurance to Rural Uninsured



Provision of Speciality Mental Health Services by Rural Health Clinics  
Rapid and Flexible Analysis of Data from the Centers for Medicare and Medicaid Services (CMS)  
Role of English Proficiency and Area of Residence in the Use of Adult Preventive Health Services among Latino Subgroups  
Role of Inpatient Psychiatric Units in Small Rural Hospitals & Rural Mental Health Systems  
Role of Rural Hospitals in Community-Centered Systems of Care: Supporting Population Health Improvements for Rural Communities  
Rural and Frontier Hospital Patients with Ambulatory Care Sensitive Conditions: Predictors of Health Care Quality and Outcomes  
Rural Emergency Department Staffing: Implications for the Quality of Emergency Care Provided in Rural Areas  
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Tribal Long-Term Care: Barriers to Best Practices in Policy and Programming for a National Sample of Rural Tribes  
Uninsurance and Welfare Reform in Rural America  
Urban and Rural Differences in Access to Care and Treatment for Medicare Beneficiaries with Cancer  
Which Training Programs Produce Rural Physicians? A National Health Workforce Study  
Why Are Health Care Costs Increasing and Is There a Rural Differential in National Data?

### **Generation Health Care Initiatives**

Assessing Demand and Capacity for Behavioral Health Services in Northern Minnesota

Health Resources and Services Administration

Development of a New Methodology for Dental Health Professional Shortage Area Designation

### **National Cancer Institute**

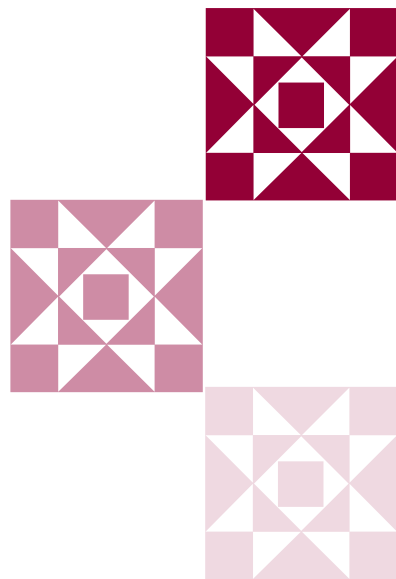
Colorectal Cancer Care Variation in Vulnerable Elderly

### **National Institutes of Mental Health**

Maine Mental Health Evidence-Based Practice Planning Initiative

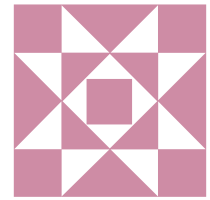
### **North Carolina Hospital Association (NCHA)**

North Carolina Rural Health Guide



# Part 3: Indexes

## Individual Grantees



**Cogan, Michael, Ph.D., University of North Dakota**

- Rural and Frontier Patients with Ambulatory Care Sensitive Conditions: Predictors of Health Care Quality and Outcomes

**Cossman, Ronald, Ph.D., Mississippi State University**

- Pharmaceutical Data Validity in Estimating Rural Health

**Goins, R. Turner, Ph.D., West Virginia University**

- Tribal Long-Term Care: Barriers to Best Practices in Policy and Programming for a National Sample of Rural Tribes

**Kennedy, Amanda, Pharm.D., B.C.P.S., University of Vermont**

- Evaluation of Outpatient Modified Prescription Form

**Ketsche, Patrica, M.B.A., Ph.D., Georgia Health Policy Center**

- Rural Safety Net Provision and Hospital Care in 10 States

**Krishna, Santosh, Ph.D., Ed.S., M.B.A., Saint Louis University**

- Diabetes Burden and Lack of Preventive Care in Rural United States

**Liu, Jiexin (Jason), M.S., M.B.A., Ph.D., University of Maryland**

- Patient Bypass Behavior and Critical Access Hospitals: Implications for Patient Retention

**Matthews, Trudi L., M.A., The Council of State Governments**

- National Study of Rural Medicaid Disease Management

**Shugarman, Lisa, Ph.D., Rand Corporation**

- Urban and Rural Differences in Access to Care and Treatment for Medicare Beneficiaries with Cancer

**Tsao, Jennie C. I., Ph.D., University of California, Los Angeles**

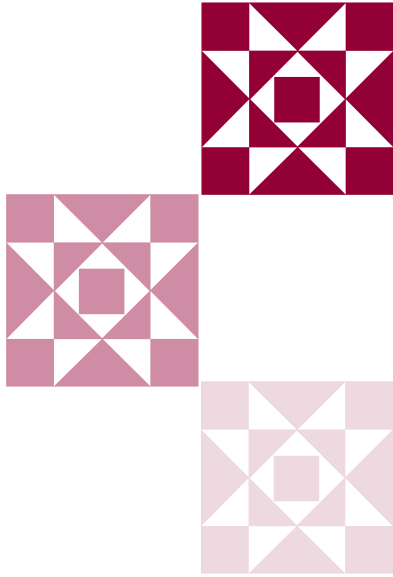
- Impact of Bioterrorism on Rural Mental Health Needs

**Wellever, Anthony, M.A., Kansas Health Institute**

- Rural Public Health Structure and Infrastructure

**Zimmerman, Emily, Ph.D., George Mason University**

- Rural-Urban Differences in Nursing Home Admissions, Service Usage and Discharge



THE MUSKIE SCHOOL OF PUBLIC SERVICE at the University of Southern Maine educates leaders, informs public policy, and strengthens civic life. The School links scholarship with practice to improve the lives of people of all ages in every county in Maine and every state in the nation.

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