RUPRI Rural Health Panel

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Providing decision makers with timely, objective, and expert analysis of the implications of policy for rural health

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Policy Paper

The Institute of Medicine Rural Health Report: *Next Steps in Legislation and Programs*

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The Rural Policy Research Institute (RUPRI) Health Panel was established in 1993 to provide science-based, objective policy analysis to federal policy makers. While panel members are drawn from a variety of academic disciplines and bring varied experiences to the analytical enterprise, panel documents reflect the consensus judgment of all panelists.

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EXECUTIVE SUMMARY

The purpose of this Rural Policy Research Institute (RUPRI) Health Panel policy paper is to recommend federal policies that will improve patient safety and health care quality in rural America. Advanced by the Institute of Medicine (IOM) *Quality Chasm* series (including the recent *Quality through Collaboration: The Future of Rural Health*), rural health care quality improvement efforts are underway. However, these efforts are not as coordinated or as effective as they could be. The Panel's recommendations include innovative resource redirection and program coordination that will increase the value of federal quality improvement programs and ultimately improve the health of rural people and communities.

Principal Recommendation

Federal programs already exist to facilitate improvement in patient safety and the quality of health care services. However, those programs were developed and are administered by separate agencies to meet specific agency goals. Those programs could be much more effective if integrated into a comprehensive package of specific but related activities. Therefore, the Panel recommends creating a **Rural Health Quality Advisory Commission.** The Commission would be authorized by and report to Congress. The Commission's specific responsibilities would be as follows:

- Develop a coordinated national plan for rural health quality improvement.
- Design demonstrations to test alternative models for quality improvement.
- Monitor, report, and make recommendations to Congress regarding performance toward the rural quality goals and objectives.

The national plan would include recommending changes to existing programs to ensure they contribute to an overall improvement in rural health care quality. The Panel has developed the following recommendations for changes to existing programs, paralleling the issues and ideas in *Quality through Collaboration*.

Program Recommendations

Developing the Rural Health Workforce

- Preferentially fund innovative educational programs within the authority of Title 7 and Title 8, and residency training programs, that target rural practice experience and more effectively teach core competencies[1] to both students and practicing professionals.
- Ensure adequate funding for programs with proven track records in recruiting, training, and placing health professions students in rural practice.

[1] Core competencies for health professionals include the following: provide patient-centered care, work in interdisciplinary teams, employ evidence-based practice, apply quality improvement, and utilize informatics.

- Create a Centers of Excellence program that provides training grants to those programs with proven success in preparing health professions faculty for rural training programs.

Building Rural Quality Improvement Infrastructure

- Provide assistance to rural health care organizations to engage in ongoing measurement of and support and accountability for culture change and quality improvement strategies.

- Design protocols for rural-prevalent clinical diagnosis and design techniques to adapt protocols to local circumstances.

- Ensure that measurement and reporting (especially public reporting) reflects the unique data and roles of rural health care providers.

Financing Rural Health Care

- Maintain rural payment adjustments designed to protect access to essential services in the context of changing Medicare payment policies (e.g., Medicare Advantage).

- Provide assistance to rural providers participating in programs such as public reporting of data for purposes of establishing quality ratings, perhaps including payment incentives to participate in programs otherwise unaffordable to those providers.

- Ensure that performance benchmarks are evidence-based, using the experiences of rural providers.

Furthering Information Technology Implementation and Utilization

- Facilitate the spread of successful health information technology programs through a federally supported technical assistance center.

- Provide grants, low-cost loans, and other financing options to ensure that information technologies do not place an undue burden on rural providers or communities.

- Continue the Universal Service Fund, extend eligibility to for-profit physician clinics, and monitor the program for barriers to effective use.

INTRODUCTION

The release of the Institute of Medicine's (IOM's) report *Crossing the Quality Chasm* in 2001 changed how policy makers, health care providers, and others think about strategies for improving health care for all Americans.[2] In that report, the IOM identified significant gaps between what is possible as a high-quality health care system and what existed at the time of the report. The report set forth six major aims for the health care system: health care should be safe, effective, patient-centered, timely, efficient, and equitable.

Beginning with *Crossing the Quality Chasm*, the IOM created a conceptual framework and specific road map for changing health care delivery. *Quality through Collaboration: The Future of Rural Health*,[3] a publication in the IOM Quality Chasm series, was written by a committee of experts in rural health care delivery and policy and presents a framework and recommendations for improving health care in rural America, consistent with the six aims of the original *Quality Chasm* report.

In this policy paper, the RUPRI Health Panel responds to *Quality through Collaboration* and identifies specific policy choices and strategies for advancing and implementing the report's findings and recommendations. Part I discusses incremental strategies to generate greater value from existing programs in pursuit of the IOM's recommendations. Part II recommends a new Rural Health Quality Advisory Commission to develop and monitor a national rural patient safety and health care quality plan and report to Congress. Part III recommends an agenda of specific policy initiatives integral to a national rural patient safety and health care quality plan.

PART I: LEVERAGING EXISTING HEALTH POLICY AND PROGRAMS FOR RURAL HEALTH CARE IMPROVEMENT

Through its health care quality initiative, the IOM brought attention to the shortcomings of the current U.S. health care system and created a general road map for improving the system. In *Quality through Collaboration*, the IOM committee translated the emerging national quality agenda for application in rural communities. The report recognizes that the goals of making care safe, effective, patient-centered, timely, efficient, and equitable for rural communities requires approaches and systems that build on the human, financial, and other capital resources available in rural America. The IOM committee developed a five-pronged strategy to address the quality challenges in rural communities:

1. Adopt an integrated, prioritized approach to addressing both personal and population health needs at the community level.

2. Establish a stronger quality improvement support structure to assist rural health systems and professionals in acquiring knowledge and tools to improve quality.

[2] *Crossing the Quality Chasm.* (2001). Institute of Medicine. Washington, DC: National Academies Press.
[3] *Quality through Collaboration: The Future of Rural Health*. (2005). Institute of Medicine. Washington, DC: National Academies Press.

3. Enhance the human resource capacity of rural communities, including the education, training, and deployment of health care professionals, and the preparedness of rural residents to engage actively in improving their health and health care.

4. Monitor rural health care systems to ensure that they are financially stable, and provide assistance in securing the necessary capital for system redesign.

5. Invest in building an information communication technology infrastructure, which has enormous potential to enhance health and health care over the coming decades.[4]

A major contribution of the framework offered in *Quality through Collaboration* is its recognition of the importance of rural communities in both population and personal health strategies for health care improvement. In many rural communities, the burden of chronic illness is greater than in urban America, largely because of differences in age, health status, and incomes between rural and urban populations. As the IOM committee notes, there are many effective strategies for improving chronic care and outcomes. Some involve the development of better personal health care delivery systems; others involve the use of community-wide health improvement strategies.

The IOM report provides an important policy context and impetus for policy planning and coordination. To advance the findings and recommendations of the IOM report, federal and state policy makers, health care providers, and others will need to make use of the full range of options available for health care improvement. Many of our current quality improvement programs and tools focus on the personal health care system. There are, however, many existing national programs and systems aimed at improving population health that should be leveraged to provide a start on both personal and population health improvement. Specifically, the many service, quality improvement, information technology, and public health programs administered by federal agencies (especially the Department of Health and Human Services, Health Resources and Services Administration) offer opportunities for addressing some of the findings and recommendations of the IOM report. Some of the core policies and programs include the following:

- Extramural health information technology, patient safety, and other grant awards from the Agency for Healthcare Research and Quality (AHRQ)

- Grant programs in the Office of Rural Health Policy (ORHP), including the Medicare Rural Hospital Flexibility, Rural Network Development, Rural Research Centers, and Rural Outreach programs

- Health professions training programs funded by Titles 7 and 8 administered by the Bureau of Health Professions

- Programs directed by the Office of the National Coordinator for Health Information Technology, including setting standards and awarding grants and contracts

[4] *Quality through Collaboration: The Future of Rural Health.* (2005). Institute of Medicine. Washington, DC: National Academies Press.

- Disease management collaboratives and other special programs managed by the Bureau of Primary Health Care

- Quality improvement demonstration programs of the Centers for Medicare and Medicaid Services (CMS)

- Grants and direct assistance for installing and using telecommunications systems supported by the Office for the Advancement of Telehealth, the National Library of Medicine and the US Department of Agriculture (USDA)

- Grant awards from the National Institutes of Health (NIH) that support research on clinical, health service, and other topics relevant to rural health care quality

By way of example, the Medicare Rural Hospital Flexibility Program (Flex Program) is a $35 million grant program that targets performance and quality improvement in small, rural hospitals. Similarly, the Bureau of Primary Health Care has a major quality improvement initiative underway targeted to expanding the capacity of Community Health Centers to manage chronic disease. Rural providers are also among grantees in federal programs designed to test new approaches to quality improvement. For example, there are multiple rural providers participating in AHRQ's Health Information Technology initiative. The 8th Scope of Work for Quality Improvement Organizations (QIOs) issued by CMS includes an emphasis on patient safety and quality improvement in rural settings. The NIH's Roadmap (a strategic plan) emphasis on translation research represents another resource to move clinical research findings into rural practice.

With an appropriate degree of coordination, it is possible to capitalize on these and other policy and service programs to create targeted initiatives to advance the IOM committee findings and recommendations and to improve rural health care. Effective use of these programs requires two actions. First, the disparate sources of funding should be integrated to maximize the likelihood of transforming the health care delivery system in rural areas. This integration can be achieved by developing an overarching plan for rural quality improvement. Second, current funding should be redirected to achieve specific goals and objectives related to the overall plan. In some instances, this step may require little change beyond recognition that programs as they exist are already consistent with broader objectives; in other programs, new initiatives may be needed (some requiring new funding).

PART II: CREATING CAPACITY TO IMPLEMENT RURAL QUALITY IMPROVEMENT: THE RURAL HEALTH QUALITY ADVISORY COMMISSION

A. Form and Function

The IOM committee recommended the establishment of a Rural Quality Initiative to ensure that elements of a quality improvement infrastructure developed for national use are adaptable to rural circumstances. Key components of this initiative included creating an Advisory Panel on

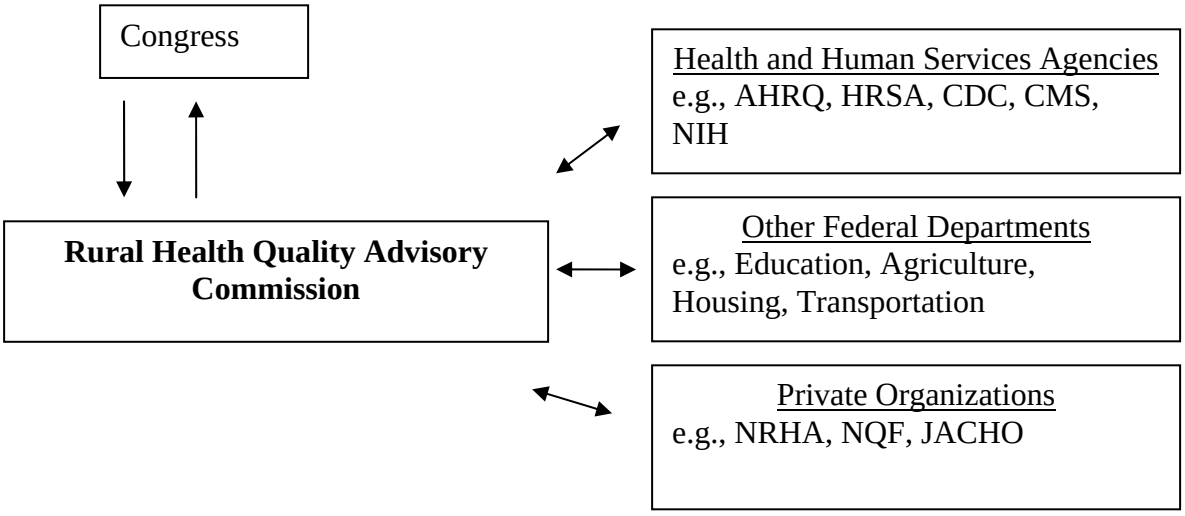
Rural Quality. The IOM vision for this panel was a body that could marshal public/private resources and policy development capacity to develop and implement a comprehensive rural quality improvement agenda.

The scope of the IOM committee's recommendations is substantial, involving complex policy development and coordination across multiple agencies and involving private sector organizations. The entity responsible for these functions requires the authority, resources, and reporting relationships that go beyond the advisory panel that the IOM committee envisioned. Therefore, the RUPRI Panel recommends creating an independent Rural Health Quality Advisory Commission (Commission). The Commission would be authorized by and report to Congress. The purpose of the Commission would be to develop and facilitate implementation of a national plan for rural health quality improvement. The specific responsibilities of the Commission would include the following:

- Develop a coordinated national plan for rural health quality improvement.
- Design demonstrations to test alternative models for quality improvement.
- Monitor, report, and make recommendations to Congress regarding performance toward the rural quality goals and objectives.

To meet these responsibilities, the Commission should have a structure that reflects its reporting relationship to the Congress and its broad engagement with multiple public and private agencies and organizations (Figure 1).

Figure 1.



The Commission must be given sufficient resources to conduct independent reviews of public and private activities and to commission in-depth analyses. These resources should include:

- Funding at a level sufficient to support a core staff (recommend a minimum of $3.0 million annually)

- A sufficient number of commissioners to ensure significant rural and quality expertise from clinical, quality research, population/public health, national health care quality, and purchaser organizations (recommend 11 commissioners)

- Contracting authority for special studies

B. Core Responsibilities of the Rural Health Quality Advisory Commission

1. Develop a coordinated national plan for rural health quality improvement.

The Commission would develop a plan that identifies strategies to eliminate known gaps in rural health system capacity to improve quality. Many of the IOM committee recommendations for health system improvement require an integrated personal and population/community health strategy. As reflected in Figure 1, the Commission's plan would therefore require review of programs across multiple agencies to identify opportunities for strengthening and aligning policies and programs to improve rural health quality.

2. Design demonstrations to test alternative models for quality improvement.

The IOM "suggests a set of bottom-up strategies for health system reform that would enable states and communities to mount demonstrations to test alternative strategies for creating a twenty-first century [rural] health system".[5] A major function of the Commission would be to develop the parameters of demonstrations aimed at testing alternative models for implementing quality improvement integration of personal and population/community health (Figure 2). The Commission would make recommendations to Congress to authorize demonstrations, to be implemented and evaluated by administrative agencies. The Commission would do the following:

- Propose specific demonstration goals, objectives, and approaches.

- Recommend linkages in the demonstration activities of independent agencies, including creative use of existing programs and resources to advance coordinated policy and program development.

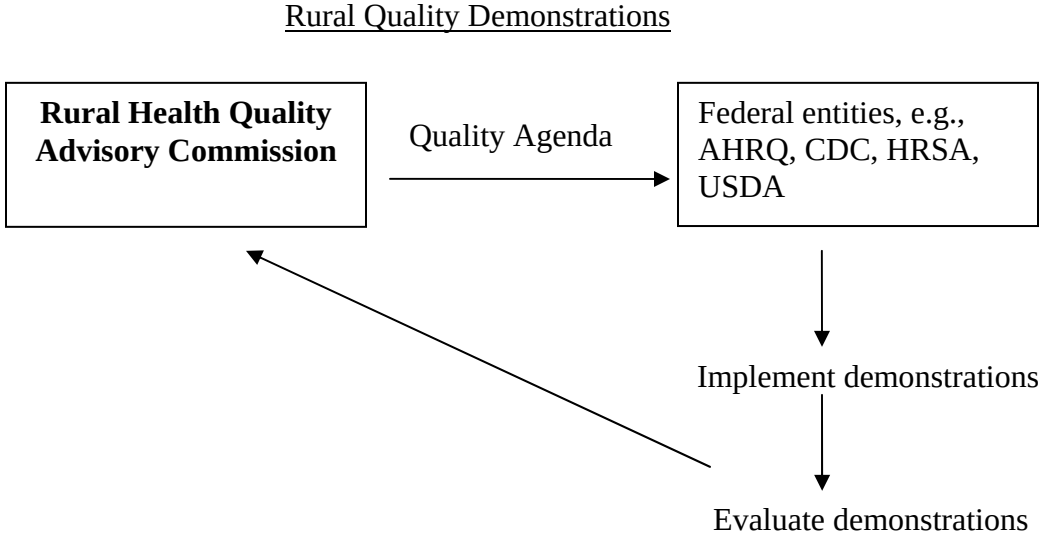
- Delineate expectations for demonstration evaluations.

[5] *Quality through Collaboration: The Future of Rural Health*. (2005). Institute of Medicine. Washington, DC: National Academies Press.

- Recommend federal regulatory and payment policies to enhance rural quality improvement capacity and outcomes, based on the results of demonstrations.

These demonstrations may require new funding but could also be supported with existing program funds.

Figure 2.



3. Monitor, report, and make recommendations to Congress regarding performance toward the rural quality goals and objectives.

The Commission would prepare an annual report to Congress on rural health quality. Key elements of that report would include the following:

- An inventory of relevant programs and recommendations for quality improvement through improved coordination and integration of policy and programs

- An assessment of achievement of goals and objectives from the national plan for rural health quality

- Recommendations for changes to the existing plan given quality activities of public and private organizations and initiatives

- Recommendations for federal regulatory and payment policies to realize the objectives of the rural quality initiative

The Commission would also have the responsibility of responding to specific requests from Congress.

PART III: IMPLEMENTING PROGRAMS TO ADVANCE THE RURAL QUALITY AGENDA

The IOM report *Quality through Collaboration* provides a framework for improving rural health care quality. Existing federal programs can be used to develop new directions for rural quality improvement. Many health quality improvement strategies aim to engage health care providers and support systems that deliver health care to individuals, but efforts to improve population health will require broader community-based approaches. The IOM report identified four broad areas for improvement: health workforce development, building rural quality improvement infrastructure, financing the delivery system (including linking finance to performance), and effective use of information technology.

A. Developing the Rural Health Workforce

The IOM report highlights the need to develop a pipeline of clinical and non-clinical health professionals to serve rural communities. Sustaining an adequate number of health professionals is a necessary condition to providing quality health care in rural areas. However, certain core competencies are required of those professionals and the institutions that prepare them, including the ability to provide patient-centered care, work in interdisciplinary teams, employ evidence-based practice, apply quality improvement, and utilize informatics.

These competencies should be emphasized in training programs, especially those supported by the federal government. While changes in the priorities of federally supported training programs provide immediate action consistent with the IOM recommendations, current capacities in those and potentially other programs must increase to train the number and variety (e.g., nursing, medicine, pharmacy) of providers needed in the future. Further, the relationships between provider training and quality outcomes are not fully established—questions remain regarding the mix of professionals needed and the integration of services (clinical and non-clinical) required to benefit the patient. To further develop clinical and non-clinical health professionals to serve rural communities, the following activities need to occur: (1) redirect existing workforce development programs, (2) increase the capacity for training rural providers, and (3) increase research into the linkages between the characteristics of the rural health care workforce and quality outcomes.

1. Redirect existing workforce development programs.

Existing programs for undergraduate and post-graduate health professions students and continuing education for practicing rural health professionals do not adequately target rural practice experience. Moreover, existing educational programs do not adequately address the core competencies needed for quality care. Therefore the following action is recommended:

- Preferentially fund innovative educational programs within the authority of Title 7 and Title 8, and residency training programs, that target rural practice experience and more effectively teach core competencies[6] to both students and practicing professionals.

[6] Core competencies for health professionals include the following: provide patient-centered care, work in interdisciplinary teams, employ evidence-based practice, apply quality improvement, and utilize informatics.

2. Increase the capacity for training rural providers.

There are health professions training programs with proven records of graduating professionals who practice in rural areas. However, the number of such programs is modest, and interest in the relevant professions (e.g., primary care) and in rural practice has declined in recent years. Therefore, resources supporting health professions training should prioritize funding to training programs that meet rural public needs. This can be accomplished in the following ways:

- Ensure adequate funding for programs with proven track records in recruiting, training, and placing health professions students in rural practice. (Programs must supply evidence of excellence in teaching the core competencies.)

- Create a Centers of Excellence program that provides training grants to those programs with proven success in preparing health professions faculty for rural training programs.

- Create a scholarship program for training health professions faculty to develop core competencies (as above).

3. Increase research into the linkages between rural health care workforce characteristics and quality outcomes.

Very little research has examined the optimal health professions supply needs in rural communities necessary to ensure a high quality health system. Therefore, the following topics should be funded through existing research funding mechanisms in ORHP, AHRQ, or NIH:

- Develop and test a model for the appropriate use of health care professionals with various levels of educational training to ensure quality outcomes in patient care.

- Describe the optimal use of infrastructure, including health information technology, to support the work of rural health care professionals.

B. Building Rural Quality Improvement Infrastructure

Health professionals trained in the core competencies of quality care require a quality improvement infrastructure to deliver health care that is safe and effective. This infrastructure includes an organizational culture of excellence and improvement, the discipline of quality improvement (statistics, human factors science, standardization and simplification, etc.), analytical tools (statistical charts, root cause analysis, failure modes and effects analysis, etc.), performance measurement, and performance feedback mechanisms.

The IOM report highlights many of the organizations and resources currently engaged in quality improvement. Federal organizations engaged in quality improvement include AHRQ, which develops evidence-based care protocols to improve standardization, and CMS, which provides measurement and public reporting and awards contracts to QIOs that measure quality performance and provide quality improvement technical assistance. Programs administered by ORHP provide quality improvement research and technical assistance to rural health care

providers and rural communities. The Flex program directed by ORHP supports rural health care quality improvement through initiatives focused on care provided in Critical Access Hospitals. Lastly, non-government organizations, such as the Institute for Healthcare Improvement and the Institute for Safe Medication Practices are developing progressive tools and resources for improving health care quality and patient safety.

Despite the existence of the quality improvement programs listed above, the quality infrastructure is inadequately distributed to rural health care providers and systems. Rural health care providers, and therefore rural people and places, are at risk for falling behind in the national movement to improve health care quality and patient safety. Rural health care quality improvement requires an aggressive strategy to modify current quality improvement tools and resources for rural scales and situations, create new tools and resources when necessary, and disseminate tools and resources to rural health care providers eager to improve health care quality and patient safety. Specific actions should include disseminating scientific knowledge of quality improvement and patient safety, developing and disseminating rural-appropriate clinical support knowledge, measuring performance and providing feedback to health care providers, and disseminating quality improvement process knowledge and resources.

1. Disseminate the scientific knowledge of quality improvement and patient safety.

Developing an organizational culture of quality and safety is a deliberate process that begins at the highest leadership level. Health care leaders need an understanding of quality improvement basics and culture change strategies. Similarly, the discipline of quality improvement requires specific knowledge, resources, and tools. Essential to health care organizations, rural quality improvement professionals require rural-appropriate knowledge to develop an environment of quality improvement. To develop rural leadership and quality improvement professional competencies, the following actions are recommended:

- Disseminate leadership development resources that foster an organizational culture of improvement and excellence.

- Make available quality improvement tools including statistical process methodologies, engineering principles, and human factors science to rural professionals.

- Provide assistance to rural health care organizations to engage in ongoing measurement of and support and accountability for culture change and quality improvement strategies.

2. Develop and disseminate rural-appropriate clinical support knowledge.

Scientific evidence-based standardization of clinical processes is a core strategy for quality improvement. However, current care protocols (clinical guidelines, etc.) are infrequently adopted in rural areas. New information technologies can make the application of care protocols easier. The following actions are recommended to markedly increase the use of current clinical knowledge and evidence-based care standards:

- Determine the obstacles to care protocol implementation and design processes to eliminate them.

- Design protocols for rural-prevalent clinical diagnoses and design techniques to adapt protocols to local circumstances.

- Make computer-aided clinical decision-making tools and training accessible to rural health care providers.

3. Measure performance and provide feedback to health care providers.

Quality performance measurement and feedback is essential to quality improvement. Yet, the techniques for performance measurement often do not consider the unique aspects of rural health care such as low patient or contact volumes, measurement and reporting resource limitations, and special health care provider roles (e.g., primary care, stabilization and transfer). To ensure that performance measurement is rural-appropriate, the following actions are recommended:

- Ensure that measurement and reporting (especially public reporting) reflects the unique data and roles of rural health care providers.

- Provide performance feedback that is timely, accurate, and associated with constructive recommendations to improve performance.

- Develop rural-specific performance benchmarking strategies that encourage best practice and continuous improvement.

4. Disseminate quality improvement process knowledge and resources.

There is a need to disseminate quality improvement process knowledge and resources to rural providers because rural providers lack access to educational materials, technical assistance, and expert knowledge related to quality improvement strategies. To ensure adequate quality improvement knowledge dissemination and care coordination, the following actions are recommended:

- Develop quality improvement content for rural quality improvement professionals and disseminate it to rural areas.

- Provide quality improvement technical assistance to rural providers with the goal of fostering locally self-sustaining quality improvement processes.

C. Financing Rural Health Care

The IOM report discusses health care finance in the context of sustaining a high quality health care delivery system in rural areas. There are two critical elements to this discussion: first, financing must be sufficient to sustain the system, and second, payment systems must facilitate innovations that improve quality in health care delivery. The IOM report recognizes that timely

access to essential services is necessary to ensure quality outcomes. Payment policies in Medicare, paralleled in other payment systems, are designed to pay some rural providers more than national rates because the providers are critical in ensuring access. Examples include bonus payments to physicians practicing in shortage areas, exceptions to national prospective payment rates for Sole Community Hospitals and Medicare Dependent Hospitals, and cost-based payment for Critical Access Hospitals and Rural Health Clinics. Sustaining those policies is a necessary condition for financing that promotes quality in rural health care delivery.

Changes in payment policies, both public and private, can facilitate or inhibit change in health care delivery that increases the likelihood of quality outcomes. Various innovations in payment have been implemented in the past 25 years that could influence decisions in delivery, such as the prospective payment system in 1983 and capitated payment through managed care plans. Health care pay-for-performance payment is a new and rapidly expanding force for change. Some private insurance plans are adopting pay-for-performance schemes now, and CMS is supporting demonstration projects to bring pay-for-performance techniques to both hospital and physician payment. A wide range of specific incentives are used in pay-for-performance, such as public reporting of performance measures, payment bonuses for achieving performance goals, penalties for low performance, and bonus payments for adopting information systems.

The application of pay-for-performance will pose special challenges for rural physician practices and hospitals. Underdeveloped data collection and reporting capacity, technology limitations, limited quality improvement infrastructure, minimum operating margins, low service volumes, and poor population health status all may place rural providers at a significant disadvantage in rapidly expanding pay-for-performance payment systems. To promote quality delivery and outcomes in rural health care, it is critically important in the context of any changes in Medicare payment policies that rural payment adjustments designed to protect access to essential services are maintained. Additionally, pay-for-performance schemes must be designed to be appropriate for the context of rural health care.

1. Preserve payment policies that sustain rural health care delivery systems.

Changes underway in Medicare following the Medicare Modernization Act (MMA) could change payment to rural health care providers. Medicare Advantage plans will set payment policies for all providers seen by enrolled beneficiaries, and prescription drug plans will set payment for pharmacists dispensing medications to beneficiaries. There are limited protections in federal statutes for rural providers to maintain current payment, but for most, payment will be determined by the private plan, perhaps after negotiation with the provider. Providers who decline contracts may be labeled as out-of-network providers. This creates a potential marketing disadvantage and may cause additional out-of-pocket payments for beneficiaries who continue to use those providers. Rural providers with very small or negative operating margins may be even less able to afford the costs associated with quality initiatives. Policy makers should consider incorporating the following provisions into policies related to Medicare modernization and private plans:

- Maintain rural payment adjustments designed to protect access to essential services in the context of changing Medicare payment policies (e.g., Medicare Advantage).

- Provide assistance to rural providers participating in programs such as public reporting of data for the purposes of establishing quality ratings, perhaps including payment incentives to participate in programs otherwise unaffordable to those providers.

2. Make the design of pay-for-performance systems appropriate for the context of rural health care.

Pay-for-performance reimbursement strategies must be appropriate for the context of rural health care providers and systems. For example, pay-for-performance goals that determine enhanced reimbursement must be achievable by rural providers. The lower volume and patient mix typical of many rural health care providers make quality comparisons difficult. Pay-for-performance measures must be aligned with the services a rural provider delivers. For example, rural hospitals are likely to be much more involved than large urban hospitals in preparing patients for transfer to other institutions. Measures could be developed to reward optimum preparation of patients for transfer. When clinical outcomes are used as measures of quality, application to rural practice will require sophisticated and validated risk-adjustment techniques. Otherwise, a small number of high-risk cases distort the measure of quality. Therefore, public policies supporting pay-for-performance methodology should do the following:

- Ensure performance benchmarks are evidence-based, using the experiences of rural providers.

- Use statistical techniques appropriate to small sample sizes when assessing achievement of rural providers in sparsely populated areas.

- Target infrastructure support to resource-poor ("vulnerable") areas in which market forces do not allow pay-for-performance to function well.

- Develop new techniques to ensure appropriate access for rural consumers to publicly reported performance measures.

D. Furthering Information Technology Implementation and Utilization

Technology should serve as a means to an end; that is, it should improve health care quality and increase efficient resource use. Technological innovation in itself is not the measure of success or the goal. Rather, the goals are patient safety, health care quality, and improved quality of life for rural people and places. Technological innovation will play an important part in the pursuit of these goals. To further information technology implementation and utilization, the following activities should occur: (1) ensure availability of new information technology, (2) make new information technology affordable to rural provider, and (3) adapt information systems to the scale of rural health care providers.

1. Ensure availability of new information technology.

A prerequisite for rural provider technological innovation is connectivity to high-speed communications. The size of information files that will need to be transferred is such that single

transmissions could preempt other uses of slower systems for excessive lengths of time. Video transmission is accomplished most effectively with high-speed communications. Additionally, even when high-speed connections are available, multiple systems may be used. For optimal communication of health information, disparate systems must share common connectivity protocols. Public development of common and consistent electronic formats can facilitate connectivity. Rural providers unfamiliar with new technologies and who have limited resources (constraining ability to hire technical help) will need technical assistance. To be most effective, assistance must be convenient to the providers and supported in part through public resources (grants). Technical assistance could also be used to help providers negotiate connections and fees with local and regional communications companies. A final technical assistance function could be to explore new technologies that promote connectivity through public-private partnerships. Specific policies should be developed to do the following:

- Provide needs-based grants to facilitate connections.

- Facilitate the spread of successful health information technology programs through a federally supported technical assistance center.

2. Make new information technology affordable to rural providers.

As new systems are developed and promoted for widespread use, hardware, software, and training costs are barriers to implementation. Much of the consideration in a rural context has been related to the initial capital investment, some of which can be obtained through federal grant programs. Public policy changes in the MMA and subsequent regulations have enabled hospitals to help finance expansion of systems into clinics, which could accelerate rural adoption. However, the total cost of new systems includes more than initial capital and costs for updating software. Other, and significant, costs include time spent learning new systems and the consequent loss of productivity during training and beyond. Furthermore, new system implementation often results in unintended problems requiring time and resources to correct. Those costs must be included in technical assistance programs to facilitate widespread adoption of new systems. Specific public policies to help make new technology affordable include the following:

- Provide grants, low-cost loans, and other financing options to ensure that information and communication technologies (e.g., hardware, software, and charges for high speed communications) do not place an undue burden on rural providers or communities.

- Continue the Universal Service Fund; extend eligibility to other health care providers such as for-profit physician clinics, nursing facilities, and home health agencies; and monitor the program for barriers to effective use.

- Create a capital fund and allow access on a needs basis.

3. Adapt information systems to the scale of rural health care providers.

Rural providers and communities do not have the capacity to support large urban-focused information systems, and trying to import such systems to rural environments will likely fail. However, urban and rural systems will need to communicate to ensure that appropriate information follows patients transitioning between care delivery sites. Therefore, rural providers require information systems scaled for rural settings but designed to interface with urban information systems. Public policies should be designed to do the following:

- Assess current rural needs for telehealth applications.
- Mandate rural representation on panels that advise the Office of the National Coordinator for Health Information Technology.
- Assess the potential value and feasibility of regional health information systems for improving rural health care quality.
- Expand the AHRQ program of planning, implementation, and demonstration grants for health information technology in rural areas.

RUPRI Rural Health Panel

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Keith J. Mueller, Ph.D., is a Professor and the Director of the Nebraska Center for Rural Health Research, University of Nebraska Medical Center. He is also the Director of the RUPRI Center for Rural Health Policy Analysis. He was the 1996-7 President of the National Rural Health Association and the recipient of the Association's Distinguished Rural Health Researcher Award in 1998. He served a four-year term on the National Advisory Committee on Rural Health and Human Services, and is beginning service on the Advisory Panel on Medicare Education for the Centers for Medicare and Medicaid Services. He has published more than 40 articles on health planning, access to care for vulnerable populations, rural health, and access to care among the uninsured. His RUPRI publications include a summary of the rural-relevant provisions of the Medicare Modernization Act of 2003. Dr. Mueller has directed major health services studies funded by the U.S. Agency for Health care Research and Quality, the Federal Office of Rural Health Policy, and the Robert Wood Johnson Foundation. He has testified on numerous occasions before committees of Congress and in other forums, including the Institute of Medicine and the Medicare Payment Advisory Commission.

Rebecca T. Slifkin, Ph.D., is the Director of the North Carolina Rural Health Research and Policy Analysis Center, one of eight centers funded by the federal Office of Rural Health Policy. She is also Director of the Program on Health Care Economics and Finance at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill, and a Research Associate Professor in the Department of Social Medicine in the Medical School. Her work has spanned a broad array of topics, including Medicare payments, Medicaid managed care, Critical Access Hospitals, and access to care for rural minorities.

Mary K. Wakefield, Ph.D., R.N., is Professor and Director of the Center for Rural Health at the University of North Dakota. Before assuming her current responsibilities, Dr. Wakefield was Professor and Director of the Center for Health Policy at George Mason University, Fairfax, Virginia. From January 1993 to January 1996, Dr. Wakefield was the Chief of Staff for United States Senator Kent Conrad (D-ND). Prior to that she served as Legislative Assistant and Chief of Staff to Senator Quentin Burdick (D-ND). Throughout her tenure on Capitol Hill, Dr. Wakefield advised on a range of public health policy issues, drafted legislative proposals, and worked with interest groups and other Senate offices. From 1987 to 1992, she co-chaired the Senate Rural Health Caucus Staff Organization. Dr. Wakefield served on President Clinton's Advisory Commission on Consumer Protection and Quality in the Health Care Industry. She was appointed to the Institute of Medicine's Committee on Quality of Health Care in America and was a member of the Medicare Payment Advisory Commission.

RUPRI Coordinating Center

Charles W. (Chuck) Fluharty, M.Div., is Founding Director of the Rural Policy Research Institute (RUPRI), the only national policy institute in our country solely dedicated to assessing the rural impacts of public policies. A Research Professor and Associate Director for Rural Policy Programs in the Harry S. Truman School of Public Affairs at the University of Missouri-Columbia, he also holds an Adjunct Faculty appointment in the UMC Department of Rural Sociology. He is the 2002 recipient of the Distinguished Service to Rural Life Award from the Rural Sociological Society, the 2002 USDA Secretary's Honor Award for Superior Service (jointly to RUPRI), the 2002 President's Award from the National Association of Development Organizations, the 1999 National Rural Development Partnership Recognition Award, the 1998 Distinguished Service Award from the National Association of Counties, and the 1998 Recognition Award from the National Organization of State Offices of Rural Health. Chuck was born and raised on a fifth generation family farm in the Appalachian foothills of eastern Ohio, and is a graduate of Yale Divinity School. His career has centered upon service to rural people, primarily within the public policy arena.

http://www.rupri.org/

The Rural Policy Research Institute (RUPRI), located within the Truman School of Public Affairs at the University of Missouri-Columbia, is a multi-state, interdisciplinary research consortium jointly sponsored by Iowa State University, the University of Missouri, and the University of Nebraska. RUPRI conducts research and facilitates dialogue designed to assist policy makers in understanding the rural impacts of public policies. Continual service is currently provided to Congressional Members and staff, Executive Branch agencies, state legislators and executive agencies, county and municipal officials, community and farm groups, and rural researchers. Collaborative research relationships also exist with numerous institutions, organizations and individual scientists worldwide. To date, over 200 scholars representing 16 different disciplines in 80 universities, all U.S. states and twenty other nations have participated in RUPRI projects.

RUPRI Mission

The Rural Policy Research Institute provides objective analysis and facilitates public dialogue concerning the impacts of public policy on rural people and places.

2006 Program of Work

National Centers
Center for Rural Health Policy Analysis
Center for Rural Entrepreneurship
Rural Poverty Research Center
Community Information Resources Center
National Institute for Rural Community

National Work Groups
National Rural Policy Consortium
National Policy Program
State Policy Program
Community Policy Analysis Network (CPAN)

International Programs
International Rural Network Conference
Sentinel Communities Project
EU/RUPRI Rural Policy Fellows Exchange Program
OECD and Inter-American Institute for Cooperation on Agriculture Program Collaborations

National Policy Panels
Rural Health
Rural Telecommunications

National Initiatives
Rural Governance
Culture, The Arts, and Rural Regional Development
Rural Policy (National and State Policy Programs)

Topical Research
Rural Telecommunications
Rural Entrepreneurship
Rural Health
The Rural/Urban Dialectic
Economic and Community Development
Micropolitan Areas
Rural Innovation Systems