

WEST VIRGINIA STATE HEALTH PLAN

Rural Health

I. BACKGROUND

West Virginia is the second most rural state in the country, with approximately two-thirds of its 1.8 million residents living in communities of less than 2,500 persons. West Virginia was ranked 8th in the nation in the percent of its population lacking access to primary care in 1993 – 18% vs. 9.5% nationally. The needs in rural health care are compounded by a lack of large employers, a large percentage of the population covered by Medicare and Medicaid, and lack of financial resources for providers. Eighty percent (80%) of West Virginia’s counties (44 out of 55) have full or partial designation as health professional shortage areas, and all but eight counties have full or partial designation as medically underserved areas.

In general, research has shown that persons living in more densely populated areas have better health-related quality of life. Compared to urban residents, rural persons are about twice as likely to live in poverty. Rural elders are more likely than urban elders to have chronic conditions and activity limitation, to live in poorer housing, to have limited personal transportation, and to have poorer access to services. Statistics illustrate the poor health of West Virginians: Overall, West Virginia residents are commonly second or third in national rankings of poor health status, and rural residents tend to be even less healthy than their urban counterparts.

In 1996, West Virginia compared unfavorably in nine of the 11 leading causes of death among United States residents, presented below:

Leading Causes of Death	Percent of Total Deaths	Percent Difference from U.S. Crude Rate
1. Diseases of the Heart	34.6	21.3
2. Malignant Neoplasms	23.0	9.3
3. Cerebrovascular Diseases	6.1	-2.6
4. COPD* and Allied Conditions	5.5	31.7
5. Unintentional Injuries, All Forms	3.4	6.3
6. Diabetes Mellitus	3.3	39.6
7. Pneumonia and Influenza	3.1	-4.3
8. Suicide	1.4	28.9
9. Nephritis, Nephrotic Syndrome and Nephrosis	1.2	42.6
10. Septicemia	1.1	17.5
11. All Other Causes	17.3	2.4

*Chronic Obstructive Pulmonary Disease

Source: WV Bureau for Public Health, Health Statistics Center, 1997

The delivery and provision of accessible and quality rural health care is a challenging goal. Rural residents do not have the same level of access to basic primary health care services that is available to other Americans. The role that public policy can play in achieving such objectives has been the cause of nationwide discussion and debate. A number of factors are converging that give emphasis to policy responses. Demographic changes in rural areas, most notably an aging population, create new demands for

health services, while changes in the economics of health care have seen a move toward greater integration of health services through the development of managed care and other approaches that consolidate operations and providers. The National Rural Health Association observed in 1998 that rural areas are experiencing “the most profound changes in the health care system in modern times, affecting all providers and both the way services are delivered and the way financing is handled.”

West Virginians are facing systemic changes in the manner in which health care is structured and delivered in rural areas. Rural health challenges are exacerbated by the complexities of the changing health care market. How much latitude and influence public policy will have on guiding the course of change is open to debate. Demographic and other systemic demands and challenges are variables over which the state has little control. The economics and business practices of the health sector will tend to drive rather than be dependent on state policy responses. Further, national level policy decisions, such as those enacted under the Balanced Budget Act of 1997, will have significant bearing on shaping the legislative and administrative agenda in West Virginia. Recent changes in federal law require state responses in some areas while granting greater state policy discretion in others. Together, these developments help to establish the following policy concerns that need to be taken into account for rural health:

- the degree of regulation necessary to manage the cost and availability of health care resources through certificate of need and rate setting practices.
- the degree of regulation necessary in shaping managed care development in rural areas, especially in regard to licensing Health Maintenance Organizations (HMOS) and Provider Sponsored Organizations or Networks (PSOs or PSNs). Policy actions may help to shape the nature of health care consolidation and integration in rural areas of the state.
- the degree that policies and programs can help to facilitate physician and health care provider recruitment and retention in rural areas.
- the degree that policies and programs can help facilitate the smooth transition of rural health delivery models.

It is important to keep in mind that state policy latitude may be constrained by federal law. Indeed, provisions of the Balanced Budget Act of 1997 have set state legislative and administrative agendas across the nation. West Virginia must grapple with new realities that have been created as a result of changes in federal law regarding Medicaid, Medicare, managed care, graduate medical education, and other issues relating to health care policy.

The fundamental question is not whether or not the state should be involved in regulation but instead to what extent the state should regulate. Regulatory decisions need to be made in the context of the trade-offs between public well-being and the interests of those who deliver services. This is a complex question that is further complicated by long-term planning considerations for rural areas.

II. SYSTEM ASSESSMENT

According to the West Virginia Primary Care Association, there is a need for approximately 125 primary care physicians in rural areas. More than 300 physicians and other primary care providers have been recruited to West Virginia from the National Health Service Corps. A survey of 1996 licensure data found that 18 of 88 physicians who were serving in 1985 were still in the state. Almost 300 physicians have been recruited with a retention rate of less than 5%. An inventory of West Virginia physicians and physician assistants is found in Appendix A.

A variety of ancillary factors have an impact upon the health of rural dwellers:

- problems of access to services and health professionals including family practitioners, nurses, and allied health professionals;
- difficulties with intra-regional and inter-regional transport for rural persons with access to private or public transport;
- lack of community care options for rural persons;
- the changing role of rural farm women in terms of family care for older generations;
- lack of mental health care services in rural areas with consequent lack of professionals to deal with dementia and Alzheimer's diseases, and
- limits in funding of community-based long-term care services.

III. PROBLEM STATEMENT

In general, published research has found that rural residents tend to have poorer health than their urban counterparts. However, some recent assessments have found that fewer rural/urban differences in health status remain once important sociodemographic factors such as age, gender, race, and income were included in multivariate statistical analyses. Despite these findings, since the term "rural" is not consistently defined in the literature, it has remained difficult for researchers to systematically assess the relationship between residential location and subsequent health and health care utilization outcomes. "Urban" and "rural" are multidimensional concepts that include structural, ecological, social, and cultural dimensions.

More recent assessments of the impact of residential location have begun to use more refined residential groups – native to the areas under examination – to assess variation in health status across a wider range of urban/rural community types. These studies have found that, generally, differences in health care status do not vary along a clear urban-rural continuum (Goins & Mitchell, 1999).

To better understand the relationship between rurality and health and ultimately improve rural health, many issues need to be addressed:

- If rural residents are at a health disadvantage, the root cause must be determined. Some questions that need to be asked include:
 - Are rural persons inherently in poorer health?
 - What is it about "rurality" that is associated with poorer health?
 - The relationship between rurality and economics/poverty?
 - The relationship between rurality and the availability of services?
 - The relationship between rurality and quality of the services received?
 - The relationship between rurality and health-related behaviors (e.g., obesity, physical activity, smoking)?

IV. ANALYSIS

The optimal provision of health care in the rural setting depends upon some understanding of the dynamics of this system. In most rural communities, decisions about health care are made by a broad segment of the population and include medical professionals, local health administrators, public officials, and the informal power structure of the rural community. Although the best health planning is that originating within the

local community, local planning cannot occur in a vacuum. Some basic principles underlying an effective rural health care system are listed and discussed below.

- Planning must be population based. Despite exponential increases in the cost of health care, serious and persistent inequities in the distribution of and access to health care, and increasing public dissatisfaction with the care that is received, no effective national strategy has emerged. Planning needs to be locally initiated and controlled, and health care plans should be based on the needs of the population to be served rather than some remote, irrelevant theoretical construct.
- Rural health systems should be based on generalists.
- All functions within a rural health care system should be integrated.
- Rural communities must build two-way cooperative arrangements with other rural and urban communities.
- The structure of the reimbursement system must reward appropriate rural health services.

The problems of rural health are further exacerbated by the fact that in many rural areas the elderly comprise over 25% of the population (Bushy, 1991; Redford & Severns, 1994) as compared to 12% of the national population (U.S. Bureau of the Census, 1987). The need for long-term care intensifies as the elderly population grows older and more dependent on others for assistance with daily functions (Vladeck & Clauser, 1993).

The diversity in health beliefs and practices between and within rural areas supports the need for community-based care that recognizes place-of-residence differences. Although variability exists among rural populations, rural persons generally have higher rates of poverty, less formal education, poorer housing, limited transportation, and more chronic health problems and disabilities (Krout, 1994b). Traditional cultural values and practices thrive in rural communities with less access to outside influences. These values and belief systems, while valuable in maintaining group cohesiveness and shared values related to health and illness, often limit the willingness of rural persons to rely on available services (Bushy, 1991; Coward et al., 1994; Krout, 1994b; Redford & Severns, 1994).

A. Rural Health Networks

Rural health networks play a key role in strengthening the rural health infrastructure and creating coordinated systems of care. These networks are composed of providers that can include hospitals, private providers, primary care clinics, local health departments, emergency medical services agencies, and specialty services providers. These entities choose to work together for a variety of reasons, the most prevalent being to provide care more cost effectively, share costly administrative and technological services, eliminate duplication of services, and maintain some competitive edge in the marketplace.

It is difficult to definitively characterize a rural health network. Some networks share administrative and technical medical equipment and/or share joint quality monitoring systems. Others create their own integrated managed care organization that can take on a limited amount of risk so they can negotiate discounted rates for services managed on behalf of beneficiaries. Regardless of the direction taken, network development is a critical tool that states are experimenting with in order to ensure access to rural health care and financial viability in a rapidly changing health care marketplace. A number of federal agencies contribute critical start-up funds to network development, recognizing that this vehicle may help ensure the survival of rural health care providers. Numerous state initiatives also support rural health network development.

Participating in the development of a rural health network is compelling to local providers because they can potentially cut their costs and provide health care services more efficiently instead of struggling to survive on their own.

B. Telemedicine

At West Virginia University (WVU), the telemedicine project is Mountain Doctor Television Program. The program involves a two-way, point-to-point, and point-to-multipoint audio/visual communications network that enables rural hospitals and physicians at six sites throughout the state to access medical consultation and technological resources from hub sites in Morgantown and Charleston. It also facilitates communications for patient medical consultation, emergency assistance, continuing medical education programs, student and resident educational programs, and other services. The program enables community physicians, residents, and students to interact with university physicians during WVU departmental grand rounds, weekly conferences, and special continuing medical education events. Plans are under way to link some community-based primary care centers to the system. The program began in 1991.

The Southern Virginians Rural Health Network has made significant progress in its regional telecommunications systems. The success of managed care will depend upon the network's ability to initiate effective medical management and have management information systems that capture raw claim data from the physician and/or other provider rather than the payer. A repository for data would allow the analysis of data as well as claims processing.

C. Hospitals

There are 31 hospitals in West Virginia considered to be "small rural hospitals," hospitals with fewer than 100 beds, fewer than 5,000 admissions annually, and located in a rural community. While hospitals' costs in West Virginia rank among the lowest in the country, overall health care spending per capita ranks among the highest in the country relative to the gross state product. The demographics and health status of the state's population greatly affect how health services are utilized and how dollars are spent. The large proportion of elderly and medically indigent in this state contributes significantly to the utilization and spending for health services. Approximately 15% of the state's residents are 65 years or older, the fourth highest proportion of elderly in the country. Moreover, 18.35% of West Virginia's residents are Medicare recipients – the second highest in the United States. The Medicaid program provides health coverage for 20% of the state's population, while another 16% are uninsured. In addition to demographics, the poor health status of the state's residents also contributes to health services utilization and spending. The state ranks first in deaths per 100,000 residents due to heart disease and chronic obstructive pulmonary disease. It also ranks well above national averages for cancer, stroke, unintentional injury, and diabetes mortality and rates of smoking, obesity, and hypertension.

Over the last several years, there have been significant changes in the financing of health care in response to public and private sector concerns over the growth in health care expenditures. Reimbursement mechanisms for Medicare and Medicaid are rapidly changing in order to slow the rate of increase of those programs. Prospective payment through such mechanisms as DRGs, per diems, discount contracts, or capitation are replacing cost-based fee-for-service reimbursement. Likewise, private businesses are seeking the same cost-containment measures through contracting with managed care organizations. The net affect on small rural hospitals is critical.

For rural providers, these changes will be particularly significant. Many small rural hospitals are already financially vulnerable, and the changing financing mechanisms may impact their ability to continue to provide access to certain services. These hospitals are more reliant on government payers and often have a much higher proportion of uninsured and underinsured patients. They are challenged to reduce their

operating expenses and services to match reduced reimbursements. In some cases, providers may need to eliminate services or close their operation altogether.

If rural communities are to maintain access to cost-effective essential services, providers must immediately begin planning for reduction in reimbursement. Integrated health care delivery models based on cooperation rather than competition offer the best hope for rural health care systems where there are already few resources and few providers.

Small rural hospitals in West Virginia have already begun to transition from the traditional inpatient acute care hospital model to become diversified centers of health service delivery. Hospitals no longer provide only inpatient care. All rural hospitals are providing more units of service on an outpatient basis than through more expensive inpatient services. Increasingly, hospitals are developing primary care services based in the hospital, as well as in the community, through partnerships with other providers. Furthermore, hospitals are providing access to a full continuum of care, through offering post-acute and long-term care services, either through hospital-based services or in cooperation with other providers in the community.

West Virginia was one of the seven states participating in the former Essential Access Community Hospital program administered by the Office of Community and Rural Health Services. The Balanced Budget Act of 1997 established the national Medicare Critical Access Hospital (CAH) model, designed to transition small rural hospitals and to promote improved regional linkages to secondary and tertiary facilities in order that rural residents can access a full continuum of health care services. CAHs are limited by federal law to no more than 25 inpatient beds designated for use as either acute or skilled nursing services, with a 96-hour length-of-stay restriction. It is expected that more complicated illnesses would be transferred to a larger network hospital, thus allowing CAH to become more of a short-term inpatient primary care and long-term care facility. Currently, there are seven Medicare-certified CAHs in the state that previously were designated as Rural Primary Care Hospitals.

A growing number of rural hospitals have begun to participate in network affiliation with other hospitals as well as with primary care clinics and physicians throughout various regions and local communities. The Center for Rural Health Development, through the support of the Benedum Foundation and in conjunction with the Office of Community and Rural Health Services and WVU Office of Rural Health, has been coordinating efforts to encourage rural network development under managed care. The three rural health networks currently in various stages of development are exploring a variety of models for offering managed care in their local communities. While at least one of the networks is partnering with a tertiary hospital and a licensed HMO to offer services under managed care, other networks are exploring the feasibility of contracting directly with payers as a provider sponsored organization (PSO).

D. Emergency Medical Services

Rural emergency medical services nationwide face financial and regulatory problems. As the effort to control the costs of health care alters the organization and financing of health services, health care providers are struggling to understand the dynamics of the new health marketplace in relationship to their traditional and future roles in the system. This is true for the private medical community, medical schools, community-based health services, and the public health sector. Due to the lack of rural health providers, the need to understand and proactively engage in these changes is particularly critical. Emergency medical services (EMS) have become an essential component of the rural health safety net.

Currently, most persons expect that they can call 911 and immediately receive life-saving medical advice from trained dispatchers, while paramedics and an ambulance come to their aid. In many areas of the country, including some rural areas, EMS consistently meets these expectations. In other areas, including most rural communities, these expectations are not met for a variety of reasons. Despite the challenges, the EMS community is actively evolving its future roles with an emerging emphasis on acute-care triage, enhanced integration with primary care, increased participation in public health and prevention activities, and limiting transportation to medical emergencies. However, the challenges of organizing and implementing EMS in rural and frontier areas continue to be significant. Many rural areas struggle with increasing demand, and heightened public expectations, organizational instability, underfinancing, inadequate access to training and medical direction, a lack of volunteers willing to commit to the considerable demands of emergency response, and an underdeveloped infrastructure exacerbate concern about the viability and performance of their EMS systems (National Rural Health Association, 1997).

E. Managed Care

Many states regard managed care as a means to contain health care costs and expand access to health care services for low-income underserved populations. For managed care organizations to be viable, they must have access to a ready supply of primary care providers. Managed care entities, which often are connected to urban areas, and rural communities are competing for the same pool of providers. States recognize this dynamic, and many are using their approved or pending Medicaid waivers and/or private sector-sponsored managed care delivery projects to assess how managed care might be structured to meet the unique health care needs of rural residents. In addition, the private sector has been very active in implementing a number of managed care initiatives targeted at rural communities.

West Virginia is a state with little managed care activity and has a market that is just beginning to move toward greater integration. State laws do not recognize provider-sponsored networks at this time. Managed care plans must be licensed under existing state statutes governing HMOs. The main motivation to providers to form provider-sponsored networks, according to the state's insurance commission, is a belief that they can make increased profits by cutting out the middleman. Like other states, West Virginia is seeing providers who are interested in starting provider-sponsored networks but are inexperienced in what it takes to manage full risk.

Rural providers have been advocating for recognition as provider-sponsor networks in West Virginia. However, they do not want to be regulated by the state's insurance commission, arguing that they are providers rather than insurers. They are interested in direct contracting with Medicaid, Medicare, and ERISA plans only, rather than entering the commercial insurance market as risk-bearing entities (Ward, 1997).

Regulating the Cost and Availability of Health Care Resources in Rural Areas. The regulation of the cost and availability of health services is based on two closely related premises regarding health care. First is the assumption that health care is essentially a public good or service that is delivered by nongovernmental actors. A host of federal and state programs attest to the public-good function of health care (e.g., Medicaid, Medicare, Hill-Burton Hospitals, charity care, and DSH payment systems). Public goods or services are subject to governmental regulation due to concerns over their distribution and quality. In return, nongovernmental actors enjoy revenue and a degree of decreased market uncertainty through economic protections afforded by regulatory policy. The second premise holds that the delivery of health services may not be subject to the same competitive pressures as other economic and market activities. It is generally held that competition can provide safeguards in terms of quality and choice for the consumer, but absent competition, providers may enjoy monopolistic power to set prices and levels of quality for their own benefit.

In recent years, both of these premises have been questioned. Many believe that regulatory arrangements have helped to encourage inefficiency and ineffectiveness by protecting providers from market competition. It has been suggested that regulatory arrangements create barriers to new arrangements that may improve service efficiency and effectiveness. Thus, returning to the core concepts of both premises, many hold that both the public interest and the interests of individual members of the public can be better served through more competitive models of health care delivery that relax regulatory burdens.

Yet there will always remain a regulatory function and stake in health care service delivery. Regulation is a matter of degree; it is not an either/or question. While the bane of regulatory arrangements may be to freeze and preserve inefficient market arrangements, there is a genuine need for regulation to ease the transition of market arrangements and to provide some measure of protection of the public interest. Regulatory policy as it affects rural health delivery in West Virginia should be seen in this context. Recent developments and continuing concern in two areas of public policy, i.e., rate setting and certificate of need practices, amply illustrate this point.

Rate Setting Regulation. West Virginia is one of two states that are involved in rate review for hospitals. Rate setting is opposed by some major stakeholders in the health sector such as the West Virginia Hospital Association. However, it is seen by others as a necessary means of insuring that rural hospitals do not take advantage of limited competition.

Critiques of rate setting turn on arguments that market arrangements are the most efficient means of setting prices in the health care sector. Thus, rate setting has been criticized by some because it runs counter to a market-driven health care environment, it restricts competition by not allowing for flexibility, it limits the ability of insurance companies and managed care companies to negotiate discounts with hospitals, and it penalizes hospitals that offer discounts below the rates approved by the West Virginia Health Care Authority.

Rate setting only affects payments by nongovernmental payers, since government plans (e.g., PEIA, Medicaid, Medicare) have their own payment systems. Nongovernmental payers accounted for 29% of gross patient revenue in hospitals in 1996. Elimination of rate setting will benefit small and rural hospitals in many ways. Because these facilities generally have lower costs than larger hospitals, they will be able to compete more effectively for managed care and other discount contracts. In addition, these hospitals will achieve some significant savings in the cost of preparing and submitting an annual rate application.

Certificate of Need Regulation. The certificate of need process aptly illustrates how regulatory arrangements are perceived as both a means of restricting and enabling provider interests in rural health. During the 1999 session, legislation was successfully passed reforming the certificate of need process in West Virginia. The CON process was preserved with some loosening of restrictions to give hospitals more flexibility in initiating the expansion of services. Some believe that maintaining CON also helps to protect financially fragile rural providers from unhealthy competition in rural areas where the population and services are in short supply.

V. POTENTIAL SOLUTIONS

There is a need to improve access and utilization of preventive health care services, e.g., basic prenatal care. West Virginia's infant mortality rate (infant deaths per 1,000 live births) among whites is higher than the U.S. average (7.6 vs. 6.3). Also, West Virginia's rate of low birthweight is higher than the U.S.

average for both whites (7.6% vs. 6.2%) and blacks (16.5% vs. 13.1%) (Lamphere et al., 1997). In addition to access to preventive health care services, West Virginia, like many other states, is challenged with the issue of how to “grow” its supply of home and community-based care services given a growing older population that increasingly is interested in receiving services at home. Coupling the expected increase in the older population with the move toward providing long-term health care in the home and community rather than in the institution, it will become necessary for West Virginia (as well as all other states) to provide these services while simultaneously developing a statewide long-term care policy. Some key principles that should be considered for the development of such a policy include: (1) the maintenance, development, and/or expansion of home and community-care options in the least confusing manner and based on consumer need and preferences and (2) the use of limited public resources as efficiently as possible.

The National Institute of Nursing Research (NINR) Priority Expert Panel on Community-Based Health Care (National Institutes of Health, 1995) described primary health care as a community-based, culturally sensitive approach to health care that focuses on health promotion and disease prevention across the continuum of care. It involves interdisciplinary collaboration and integrates health, economic, and social programs. The existing community-based programs for rural persons seldom meet these criteria. Long-term rural health care has been described as fragmented with definite gaps in the continuum of care. Most rural programs are based upon urban program models and are poorly adapted to rural communities. Health professionals frequently fail to consider the client’s perception of health and participation in decisions (Congdon & Magilvy, 1998; Long, 1993; Rosswurm et al., 1996). Access to community-based and in-home services is a major concern for rural persons. Rural nursing homes are a dominant provider of long-term care; however, little is known about their quality of care and case mix (Shaughnessy, 1994).

VI. POLICY RECOMMENDATIONS

A. Emergency Medical Services

Integration of Health Services. The successful incorporation of EMS into an overall health care system or network requires the cooperation and availability of each component of the system. This includes access to physicians trained in EMS, health care facility staff, system planners, and others. The rural and frontier environment has limited local health care resources, often with personnel that have no training or experience in EMS, a fact that greatly hinders efforts toward effective integration. These same characteristics also make network integration even more critical.

In the traditional EMS system, patients in rural and frontier settings often are transported long distances to health care facilities that are not closely affiliated with local health care resources. In some cases, this is appropriate due to the requirement for sophisticated tertiary care for some emergency patients, particularly for severely injured trauma patients. However, far too often this long distance transportation simply reflects the traditional separation of the EMS services from local primary care providers and public health and social service agencies that might be able to deal effectively with the needs of the patient.

The successful Red River Expanded EMS Demonstration Project in northern New Mexico illustrates that, with increased training and medical supervision, expanded public health and primary care protocols for selective rural EMS personnel enhance appropriate access to the overall health care system. In many areas, emergency medical technicians (EMTs) are being more fully integrated with primary care providers to supplement evening and weekend coverage by triaging and referring patients back to the local primary care providers. These expanded EMS developments need ongoing evaluation but are already showing promise

in some communities. As these systems develop, opportunities also arise to address the needs of special populations that have sometimes been overlooked, including children, the elderly, minority groups, and persons with disabilities.

It is essential to the health of rural and frontier communities that the EMS system be integrated into a health care system that is cooperative, shares limited health care resources, provides a broad education to the EMS providers, recognizes innovative methods of health care delivery, and is appropriately reimbursed. Specifically, the National Rural Health Association recommends that federal legislative efforts enhancing the establishment of rural networks include EMS and trauma care systems as mandatory components. Also recommended are federal legislative efforts defining or supporting innovative hospital conversions, such as the essential access community hospitals and rural primary care hospitals, limited service hospitals, or medical assistance facilities that recognize the importance of integrating EMS as part of the overall system of care in rural areas. Continued support and study for expanded EMS developments and appropriate reimbursement are priorities in enhancing access to health care systems in some rural areas.

Legislation and Regulation. All states have legislation that provides at least a statutory basis for EMS activities and programs, regulation of EMS personnel and services, scopes of practice, systems design, funding, training, and other similar issues. However, these laws and regulations vary significantly in comprehensiveness, flexibility, relationship to local government EMS ordinances and resources committed to EMS system planning, implementation, and oversight. This variability in the legal framework for EMS is particularly true and problematic in relationship to rural systems that require special support, flexibility, expertise, and state-level leadership due to their unique challenges and requirements. Rural EMS still relies on volunteer personnel in most areas. Volunteers can be effective, but only with adequate resources, a clearly delineated context, and strong nurturing.

A state and regional EMS infrastructure that both sets expectations and provides assistance to meet those expectations is critical. Similarly, the fine line between a clear regulatory framework that protects the public and the flexibility to meet local needs is essential because of the variability of rural areas. Rural areas frequently require proactive assistance to meet, or grant exemptions from, even minimal standards. A process for openly negotiating these realities is critical for effective public policy. The issue of cross-boarder relationships is particularly difficult in the nation's vast rural areas where sparse populations and resources require interstate cooperation rather than rigid, state-by-state regulation.

A federal EMS lead agency should be authorized by law and adequately funded to ensure that federal agencies are well coordinated and focused in assisting national, state, and local EMS development. The lead agency would provide national leadership, facilitate the development of model systems, innovative demonstration programs, consensus standards, and information sharing, and assist states with funding, technical assistance, and research. State EMS lead agencies should be clearly authorized by law and adequately funded to ensure that each EMS has a sufficient legal basis, authority, resources, and leadership to provide adequate training, communications, medical direction, personnel, systems development and integration, vehicles and equipment, data collection, quality improvement, and research.

Federal funding for the Preventive Health Services Block Grant, of which almost 10% (\$11 million to \$13 million annually) is used by states to fund EMS efforts, and the EMS for Children Program needs to be held at current or higher levels. The Rural Health Outreach Program should continue to support EMS, especially activities that support EMS training. At the state, local, and federal levels, rural providers need to be fully represented on board, committees, and other policy bodies (National Rural Health Association, 1997).

EMS System Financing. As managed care organizations cover more rural populations, it is essential that they fully integrate EMS into their provider networks, not limit access to the 911 emergency response system, and compensate EMS providers at an appropriate level. Rural populations should not suffer due to their distance from after-hours care.

It is recommended that sufficient financing mechanisms be developed and supported to ensure that a consistent and adequate level of rural EMS is sustained through a combination of governmental subsidies, contracts, and fee generation. Specifically, the National Rural Health Association recommends that EMS must be adequately compensated for preparedness, reducing volume-related incentives and recognizing the unique costs of sustaining an emergency safety net in rural areas. Compensation for EMS must be based on emergency response, assessment, treatment, triage, and disposition that may or may not involve traditional transportation. The “prudent layperson” definition of emergency care and the requirement that all managed care organizations guarantee access to the 911 emergency response system should be mandated (as contained in the American College of Emergency Physicians/Kaiser bill that will be introduced in the 105th Congress, as the successor to H.R. 2100/S. 1233). Medicare reimbursement for EMS needs to be adjusted to eliminate imbalances in payments between urban and rural services (National Rural Health Association, 1997).

EMS Education. To ensure that the patient care provided by EMS is part of the overall management of the ill or injured patient, innovative approaches to education must be employed. These innovations must address the quality, content, and accessibility of educational programs, both for initial training and for ongoing continuing education of EMS providers. The implementation and success of EMS education in rural areas has a variety of challenges that must be addressed to provide quality education:

- A limited student pool that may include a high percentage of adult learners with little formal education and full-time jobs that require flexible scheduling;
- a small number of qualified instructors;
- insufficient educational resources and support;
- limited access to health care facilities for supervised clinical experiences;
- limited exposure to various conditions and patient presentation during training;
- problems with skill maintenance in low-volume systems, especially for problems relating to children;
- the lack of knowledgeable and active physician supervision, and
- inadequate quality assurance of the educational programs.

These problems are exacerbated as the educational programs move from the EMT basic program to advanced life support training.

It is essential that educational resources at the federal and state level are readily available and flexible enough to meet the needs of rural EMS providers. Specifically, this can be accomplished with innovative strategies that include financial subsidies for low-enrollment courses, development of distance learning using telecommunications techniques, provision of incentives for instructors to conduct satellite courses in remote areas, involvement of university medical centers and area health education centers to provide outreach educational programs to rural areas, and flexible scheduling to accommodate the lifestyle realities of rural volunteers (National Rural Health Association, 1997).

Public Access and Communications Systems. There should be nationwide implementation of the enhanced 911 emergency number, coupled with rural addressing, to ensure that all citizens have better access to EMS and other public safety resources. All emergency personnel answering calls should have

training in emergency medicine dispatch techniques so that critical first aid and medical advice can be given to callers prior to the arrival of the emergency responders. Innovative communication approaches, including satellite, telecommunications, telemedicine, and cellular technologies, must be supported nationwide, but particularly in rural areas, to allow for the effective exchange of information from the field to facilities and among facilities. Dispatch centers should be considered as partners in implementing triage systems to direct patients to the appropriate level and source of health care service (National Rural Health Association, 1997).

Human Resources. State and regional EMS offices should provide leadership and technical assistance to help local communities recruit and retain EMS personnel. Financial support should ensure that volunteers do not have to pay their own expenses to obtain training, supplies, or equipment. Leadership training, critical incident stress management services, safety training, and other support should be provided to all EMS personnel. Recognition of performance should be accomplished at all levels – local, state, and national. EMS workers must be more fully integrated into the delivery system team. Where necessary, federal and state funding strategies should be developed to train and support rural EMS personnel. Legislation should be developed to enhance and ensure public access to poison control centers (National Rural Health Association, 1997).

EMS Medical Direction. State EMS offices should be encouraged to develop specific outreach efforts for training and supporting rural physicians to serve as EMS medical directors, including the use of distance learning techniques. Technical assistance and incentives should be provided to physicians in community health centers and other rural practices to undertake such functions. In some remote, isolated areas, non-physician providers should assist with the supervision of EMS personnel under the direction of a physician. State and local EMS systems should be actively encouraged to make maximum use of all licensed and certified health personnel. Funds should be identified locally to pay EMS medical directors for their service (National Rural Health Association, 1997).

Public Education and Prevention. Federal and state EMS offices, in partnership with public health agencies, should continue to develop and distribute public information resources to local EMS providers to be tailored for local use. Training in public information strategies and prevention activities should be made available. Prevention should be built into the EMT curricula and become part of the mission of EMS. Payers should reimburse for community-based prevention efforts and look toward personnel as both organizers and field workers in prevention campaigns. EMS personnel should be recognized as appropriate providers of primary care and public health services in remote, isolated areas and should be reimbursed for providing services (National Rural Health Association, 1997).

EMS Research, Clinical Care, Information Systems, and Evaluation. Federal and state EMS offices should develop and implement standardized EMS information systems with common data elements, universal participation, and an ability to track patients from the event to definitive care and rehabilitation as a goal. To achieve this goal, there is a need to subsidize outreach, training, and hardware and software acquisition for rural areas. A national EMS research agenda, with an emphasis on rural studies geared toward injury prevention and rural EMS systems development, should be established and funding made available through the Health Resources and Services Administration in cooperation with the Office of Rural Health Policy, the National Institutes of Health, the Centers for Disease Control and Prevention, and the Agency for Health Care Policy and Research. Possible avenues to effect this agenda might be either to add a rural EMS emphasis to the mission of the existing federally funded rural health research centers or to fund a new center with this specific focus. Academic departments of emergency medicine should be encouraged and funded to actively engage in the EMS research agenda. Guidance and technical assistance in utilizing information for evaluation and quality assurance of local services and overall systems must be

accomplished (National Rural Health Association, 1997). In terms of telemedicine, rural health care providers are beginning to appreciate the necessity of connecting themselves electronically with other providers. Rural health care providers also see a need for a centralized repository for data.

B. Managed Care

The current discussions on the state's regulatory role in rate setting and the certificate of need process illustrate the complexity of government's role in rural health policy. Major stakeholders such as the West Virginia Hospital Association favor the relaxation of regulatory standards in one area — rate setting — while promoting the continuation, in revised form, of regulatory power in another — the certificate of need process. In their view, "Hospital rate setting will allow market competition to enable purchasers to obtain the best price for health care services. The incremental reforms recommended by the HCA Certificate of Need Subcommittee will help support changes to the rate review systems as West Virginia further studies the effectiveness of CON in controlling health care costs for all services, and promoting access, availability, quality of continuum of health care services in all areas of West Virginia" (WVHA 1999c).

Efforts to eliminate rate review were unsuccessful during the 1999 legislative session. On the other hand, reforms of the certificate of need process were achieved. The substance of these changes was to raise the threshold of capital expenditures that trigger the need for review by the state's Health Care Authority and a greater harmonization of regulatory requirements between hospitals and managed care organizations.

Vestiges of past regulatory arrangements regarding rate review will likely continue. As evidenced by the 1999 legislative session, it is difficult to pass legislation aimed at completely relaxing this function in the state. By the same measure, however, we should expect incremental change as external pressures within and outside of the state continue to bear on a regulatory arrangement seen by many as no longer necessary and an impediment to effective health care arrangements. The changing mandate and function of the Health Care Authority is further testimony to changing attitudes toward health service and cost regulation. The authority itself has been involved in a study of rate review that recommends elimination of rate review by June 30, 1999.

Regulatory and Other Policy Issues. As the largest payer of medical insurance in West Virginia, the state essentially created a managed care market by allowing the public employee insurance program and some of the Medicaid program to establish contracts with HMOs (Plein, 1995). The state has also been able to shape the health care environment through its licensing procedures for managed care organizations. The state faces additional regulatory burdens in determining how to oversee and license managed care organizations in those rural areas that cannot sustain two or more competing plans. The state also faces challenges in helping to sustain managed care arrangements once they have been established in communities.

West Virginia has established commendable licensing standards for managed care organizations. The Insurance Commission has established guidelines and requirements aimed at ensuring the solvency and quality of managed care plans operating within the state. By requiring that plans have internal quality assurance benchmarks that are consistent with standards established by the National Committee on Quality Assurance, the state has also set high standards for quality of care.

However, one criticism of existing licensing standards is that they are geared to the traditional HMO model of managed care. Other arrangements, such as provider sponsored networks or organizations, face challenges in establishing operations under current insurance regulations. PSOs are characterized as "formal affiliations of providers, organized and operated to provide an integrated network of health care providers with which payers may contract for health care services" (WVHA et al., 1997). As a report on

provider sponsored network explained, existing insurance arrangements in the states have not kept pace with developments in the managed care sector. As a result, provider sponsored networks occupy an uncertain place in regulatory arrangements.

Nationally, provider sponsored organizations or networks are being recognized as an important component of managed care in specific and the health care delivery system in general. The Balanced Budget Act of 1997 recognized this by allowing PSOs or PSNs to contract for Medicare managed care arrangements and by vesting the states with the authority to contract Medicaid managed care delivery with these entities (see Mueller 1998).

In West Virginia, provider sponsored networks cannot contract to deliver managed care Medicaid or PEIA unless they are licensed as HMOs. However, HMO licensing requirements in the state create hurdles that are difficult for smaller-scale provider sponsored networks to clear.

Provider sponsored networks are seen as particularly applicable to rural health delivery. Rural areas may not have the resources and capacity to sustain established HMOs. Other managed care arrangements may be needed.

The 1997 WVHA et al. report suggests that "the Legislature should authorize new licensing categories under the Department of Insurance or the Department of Health to accommodate PSNs--rural and urban--which demonstrate that their method of operation is different in ways specified in law and regulation (that PSNs are organizations of affiliated providers of health services rather than insurers that make a promise to pay)."

Nevertheless, concerns about the financial solvency of PSOs or PSNs continue. The risk that providers must bear is a challenge in establishing a PSO. The ultimate risk that the state faces in case a PSO or similar arrangement fails is also cause of concern. These are challenges that are not unique to West Virginia (see Mueller, 1998). At question in West Virginia is whether the state has set the bar too high in regard to solvency. To be licensed in West Virginia, an HMO must have \$2 million in cash reserves. There is concern that PSOs made up of rural health providers and other community-based entities may not be able to secure such reserves. There is also the question of whether such reserves are needed since the risk in providing services is borne directly by the provider rather than an intermediary, as is the case with insurance-owned HMOs (see WVHA et al., 1997).

The state must consider important regulatory questions in allowing managed care organizations to operate in rural areas. The attractiveness of the managed care model is predicated in large part on the idea that consumers will have a choice between two or more plans. Such competition will then promote quality and affordability as different plans vie for customers. However, rural areas may not be able to sustain two or more competitors. This issue has been brought into bold relief in the area of Medicaid managed care. In such circumstances, the state may find itself in the position of having to grant a single license to a plan. This then places the state in the role of regulator.

Analysis and Recommendations. The development of managed care arrangements for rural health services seems a certainty. What particular forms such arrangements will take will be the product of both market conditions and policy decisions made by state and federal authorities. As the recent past indicates, public policy decisions can help create markets. Nationally, we have seen this with federal decisions regarding managed care Medicare. In West Virginia, the decision to allow managed care coverage for public employees and Medicaid recipients helped to establish a managed care market in the state. Public

policy decisions will have a particularly important role to play in helping to foster and facilitate managed care arrangements in the state.

There is wide agreement among those interested in rural health affairs that rural managed care arrangements call for sensitivity and willingness to forge partnerships and collaboration among new managed care interests and established providers and other health care stakeholders (see National Rural Health Association, 1995, 1998; National Governor's Association, 1998; Mueller, 1998). Complementary, rather than competitive, arrangements seem to be the order of the day.

One recommendation is legislative action that will allow provider sponsored organizations to contract for Medicaid services in West Virginia.

C. Hospitals

As rural hospitals seek to integrate service delivery and participate in managed care, changes to the regulatory system are needed in order to remove barriers to network formation and to develop alternative uses of existing resources, infrastructure, and capacity in rural communities. Changes to the rate review and certificate of need programs are necessary to facilitate the transition of rural hospitals to meet the need of the community for long-term care, primary care, and other essential services.

The development of integrated delivery systems that would contract directly with payers and assume some financial risk for the delivery of services requires regulation to assure quality of care and the solvency of provider sponsored organizations. As part of the Balanced Budget Act of 1997, Congress authorized PSOs for both Medicare and Medicaid. State regulation is needed to assure the success of PSOs by enabling them to provide services to all residents.

It is in the best interest of West Virginia to cooperate in the implementation of integrated delivery systems. In rural areas, where plans have already developed, it is time to initiate joint service delivery, joint administration, and new governance structures to allow for sharing resources and providing a continuum of care. For communities where there has not yet been an effort to address the impact of financing reforms and managed care, there is an urgent need to provide intervention and assistance to initiate the process. Technical assistance and provision of support to communities and providers through a cooperative process between the public and private sectors will continue to promote system transition. The Rural Health System Program is an important program for helping rural communities transition their health care delivery system.

VII. FEASIBILITY

A. Emergency Medical Systems

The issue of cross-border relationships is particularly difficult in the nation's vast rural areas where sparse populations and resources require interstate cooperation, rather than rigid, state-by-state regulation. The ability to provide integrated health services is often impeded by the geographic separation of health system components and the lack of regular communication or organizational networking between them. These problems are compounded by financing mechanisms that have traditionally reimbursed EMS for its transportation role, rather than for its triage, care, and referral capacity. On the other hand, rural and frontier areas provide a unique opportunity to demonstrate the capability of the EMS system to fulfill broader public health and primary care outreach roles for traditionally underserved communities.

The financing of rural EMS is a particular problem because of the relatively low volume of calls in relationship to the essential overhead costs of full-time preparedness. In addition, the traditional reliance on volunteer personnel in many areas with little or no infrastructure for collecting fees or maintaining the business functions contributes to the challenge. This traditional lack of a solid business perspective has made it difficult to assess the true cost of providing EMS in rural areas. In turn, this allows payers to “under-reimburse” and actually pay below cost. Payment for EMS by Medicare fluctuates widely across the country, but rural areas receive the lowest reimbursement. Also, there is a reluctance in many volunteer EMS, particularly those combined with fire service, to charge at all, because it is viewed as a public safety service that should be supported entirely by governmental subsidy and individual giving. Although this belief is changing, it still is detrimental to securing adequate financing for rural EMS.

Response times of the EMS system to the scene of emergencies and from the scene to care are almost always longer in rural areas. On average, response times can be two or three times as long as in urban or suburban areas. This is due to sparse populations, long distances, poor roads, difficult terrain, severe climate conditions, lack of or limited telephone service, inadequate public education, and insufficient infrastructure resources to support advanced emergency call systems or reliable radio communications systems between the field and base hospitals. These are all significant challenges, some of which can be affected with additional funding and technical support and some that can only be overcome with creative and innovative service delivery and technological approaches.

Ensuring an adequate supply of trained and motivated personnel to staff the EMS system is an ongoing challenge that involves public education, recruitment, training, personal support, career ladders, and appropriate awards or recognition for dedicated providers. As the expectations and demands increase on EMS providers, so does the difficulty in recruiting and retaining them. This is particularly difficult in the many volunteer systems serving rural areas where compensation and the benefits of employment are not a factor.

Medical direction involves licensed physicians granting authority and accepting responsibility for all aspects of the overall care provided by EMS, with the greatest priority being for ambulance services. It involves participation in all aspects of EMS including training, protocol development, quality assurance, and relationships with the wider medical community to ensure the maintenance of accepted standards of medical practice. Quality medical direction for ambulance services and other components of the system is an essential process to providing optimal care for EMS patients. Persistent shortages of all health professionals in rural areas create an additional barrier to EMS medical direction. Where local physicians are present, they often lack the training, interest, or incentives – including compensation – to participate actively as EMS medical directors. In some areas, EMS personnel are the only health care providers and must seek medical direction from distant areas.

EMS requires a knowledgeable public if the system is to function successfully. This requires a proactive public education effort on behalf of EMS. Such an effort helps in two ways: (1) to help citizens understand how the system works when it is needed, and (2) to garner support for EMS both financially and politically. It also may help recruit new volunteers or other in-kind assistance. In some ways, the opportunities for public education and prevention activities are greater in rural areas. Well-placed public service messages about when and how to call EMS can more easily reach all homes, workplaces, and civic organizations. Since most rural EMS personnel are known in their communities, word-of-mouth can also be effective. Community-based prevention activities are targeted to issues of genuine local concern based upon immediate problems (e. g., hunting injuries, water safety, or farm accidents). The lack of adequate financial and training resources, however, limits these efforts.

The lack of data and research to guide the clinical and operational aspects of EMS as part of overall health care delivery systems for rural areas cannot be overstated. Limited health resources require that all resources be optimally used. Research must be accomplished to assess the clinical implications of long response and transport times, the use of new drug therapies, the best ways to assess and triage patients to the right level of care on the first attempt, and many other related issues. Integrated information systems are the building blocks for such research, as well as for the day-to-day quality assurance and evaluation of EMS systems. Rural areas do not have the resources to develop and implement such systems without substantial outside support.

B. Managed Care

The integration and consolidation of health care services in rural areas is a national phenomenon (see National Rural Health Association, 1998). The benefits of such a transition can be found in greater economies of scale for provider networks or arrangements and more comprehensive case management through integrated health services for patients. A drawback of such arrangements is that they can disrupt community and rural health provider arrangements and systems that have been in place for many years. They may also harm local economies by drawing patients to urban areas (for discussions, see National Rural Health Association, 1995, 1998).

Health care integration has taken many forms. The emergence of hospital networks and the movement of health maintenance organizations into rural areas are two of the most prevalent developments. These developments are symptomatic of the managed care “revolution” now under way in the United States. For some, managed care has become synonymous with Health Maintenance Organizations or HMOs, but managed care involves a host of arrangements. All are centered around the idea of managing and controlling health services utilization.

Federal policymakers have clearly endorsed managed care as a delivery model for health care. New federal provisions under the Balanced Budget Act of 1997 allow managed care organizations to contract Medicare services and give states greater power to establish managed care arrangements for Medicaid services. However, in some states, such as West Virginia, HMO-based managed care organizations are encountering challenges in establishing and sustaining operations. West Virginia is a late entrant into the managed care arena. Only about 10% of the state’s population is enrolled in managed care. Most HMOs serve the more populous parts of the state; their presence in rural areas is limited.

The need to recruit and retain health care professionals in rural areas is recognized as a challenge facing rural areas nationwide (see National Governors’ Association, 1998). In West Virginia, many of the counties have been designated as health care professional shortage areas. The need to attract and keep health care professionals is increasingly recognized not only as critical to the health of a population, but to the health of the community and local economy as well. The importance of recruitment has been recognized at the national level by such entities as the Appalachian Regional Commission and by philanthropic organizations such as the Kellogg Foundation. As one of its five strategic goals, the Appalachian Regional Commission has identified that “Appalachian residents will have access to affordable, quality health care.” In achieving this goal, the ARC will seek to assist in efforts to cut the number of primary care Health Professional Shortage Areas in Appalachia in half and to encourage the development of integrated health care delivery systems (Appalachian Regional Commission, 1996:20). The Kellogg Foundation has also recognized the need for health care professional recruitment and retention. It has helped to fund activities undertaken by West Virginia University through the *Recruitable Communities* initiative.

C. Hospitals

The impact of changes in health care financing will increasingly impact the viability of rural providers, which may impact access to health care for the elderly and indigent populations in West Virginia. As previously discussed, small rural hospitals have become increasingly dependent upon Medicaid and Medicare revenues due to the large proportion of those acute and long-term care patients. In addition, managed care purchasing and reimbursement policies could cause further reductions in revenue. In this state, public policymakers need to consider stability of payments for certain providers or services as necessary to assure continued reasonable access to needed care. At a minimum, access must be assured to essential community-based services, including routine health check-ups, basic diagnostic services, emergency services, primary care, routine obstetrics care, short-term inpatient care, a continuum of long-term care services, and essential public health services.

VIII. ACCOUNTABILITY

The process of developing a local plan for health services includes five general steps:

Step 1. The local community must define its medical service area. Medical service areas do not in general follow convenient geopolitical boundaries like townships or counties; they tend to mirror prevailing trade patterns for other major goods and services. In defining the medical service area, the local planners must take into account the distinction between those services that will be provided within the area and those services for which people will have to travel.

Step 2. Once the medical service area has been defined, the second step is to calculate the number of people living within the service area and the age and sex make-up of the population.

Step 3. The third step is to estimate the total amount of medical services that the population in the service area will use. This involves approximating the number of visits that will be made to physicians in their offices and the number of medical, surgical, and obstetric admissions to the hospital that can be expected to occur in this population during a one-year period. Exact figures for these rates may not be available for every rural community, but a little ingenuity will allow reasonable approximations. Precise national data from the Health Interview Survey and the National Ambulatory Medical Care Survey allow one to determine the volume of medical services consumed by people in various age groups.

Step 4. Partitioning is deciding in advance whether the required medical care will be provided within the rural community or outside the target area. In order to reduce the conflict and make the process rational and defensible, partitioning should be done on a service-by-service basis.

Step 5. Assemble the individual services into logically coherent packages and then determine the people, facilities, and financing necessary to deliver them. This package needs to take into consideration preexisting services and people in the rural community. It is at this point that community leaders decide whether or not a local hospital is required, how big it needs to be, and what services it will deliver, for example.

With respect to rural health networks, there are numerous economic, procedural, and legal hurdles to overcome in the development of these networks. Some key issues that may pose barriers to network development for states and communities (Casey, Wellever, & Moscovice, 1994) include:

- The way in which the state defines, licenses, and certifies rural health networks can become a barrier to network development if these requirements are not broad enough. A state can facilitate network development by focusing the licensure and certification processes more on outcomes than on structural issues related to individual facilities.
- Antitrust laws can pose difficult barriers for providers trying to develop a network arrangement in an area where few providers exist. To address this issue, some states have passed or considered legislation to relax antitrust for rural providers.
- State health laws and regulations such as certificate of need and health plan regulations may hinder network development and day-to-day operations.
- States should be aware of Medicare and Medicaid provisions that affect rural health network development, such as those related to reimbursement and operation.

Both rural health networks prepared to function in a managed care environment and those that are not may encounter one or more of these problems. Thus far, little research has been conducted to effectively evaluate the success or failure of rural health networks in terms of provider performance or population health status (Casey, Wellever, & Moscovice, 1994).

Bibliography

- Appalachian Regional Commission. *Setting a Regional Agenda: ARC Strategic Plan* Washington, D.C.: Appalachian Regional Commission, 1996.
- Bushy A, ed. *Rural nursing*. (Vol. 2) Newbury Park, CA: Sage Publications, Inc., 1991.
- Casey M, Wellever A, and Moscovice I. *Public policy issues and rural health network development*. Minneapolis, MN: Rural Health Research Center, Institute for Health Services Research, University of Minnesota, 1994.
- Congdon J. and Magilvy J. "Rural nursing homes: A housing option for older adults," *Geriatric Nursing*, 19(3), 157-159.
- Coward R T, Bull C N, and Galliher J M, eds. *Health services for rural elders*. New York: Springer Publishing Company, 1994.
- Krout JA, ed. *Providing community-based services to the rural elderly*. Thousand Oaks, CA: Sage Publications, Inc., 1994.
- Long K. "The concept of health: rural perspectives," *Nursing Clinics of North America*, 28, 123-130.
- Mueller Keith J. "Provider Sponsored Organizations for Medicare Managed Care: What is Next for Rural Providers?" Working Paper 98-1. Omaha, NE: Nebraska Center for Rural Health Research, University of Nebraska Medical Center, 1998.
- National Governors' Association. "State Challenges and Opportunities in Rural and Frontier Health Care Delivery." September 1998. Accessed on-line at: www.nga.org (May 1999).
- National Institutes of Health. *Community-based health care: Nursing strategies: A report of the NINR Priority Expert Panel*. Bethesda, MD: National Institute of Nursing Research, 1995.
- National Rural Health Association. *Rural and frontier emergency medical services toward the year 2000*. 1997.
- National Rural Health Association.. "A Vision for Health Reform Models for America's Rural Communities." Issue Paper, February 1998. Accessed on-line at: www.NRHArural.org. (May 1999).
- National Rural Health Association. "Managed Care as a Service Delivery Model in Rural Areas." Issue Paper, May 1995. Accessed on-line at: www.NRHArural.org. (May 1999).
- Plein CL. "Uncertain Prospects: West Virginia and Medicaid Reform" in *Medicaid Reform and the American States*, Daniels MR, ed. Westport, CT: Auburn House, 1998.
- Redford LJ and Severns AB. "Home health services in rural America" in *Providing community-based services to rural elderly*, Krout JA, ed. Thousand Oaks, CA: Sage Publications, Inc., 1994.

Rosswurm M et al. "Illness experiences and health recovery behaviors of patients in southern Appalachia," *Western Journal of Nursing Research*, 18(4), 441-459.

Shaughnessy P. "Changing institutional long-term care to improve rural health care," in *Health Services for Rural Elders*. Coward RT, Bull CN, and Galliher JM, eds. New York: Springer Publishing Company, 1994.

Ward SO. *Provider-Sponsored Networks: State Oversight and Contracting Innovations*. Washington, DC: Alpha Center, 1997.

West Virginia Hospital Association, West Virginia University Office of Rural Health, and Center for Rural Health Development. "Provider Sponsored Networks and State Insurance Regulation," February 11, 1997. Accessed on line at wvha.cin/publicat/reports (May 1999).

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Glade Crest Clinic Routes 3 and 19 1257 Ritter Drive Daniels, WV 25832 Phone: (304) 763-4326	Glen Rogers-Ravencliff Clinic State Route 1 P.O. Box 214 Ravencliff, WV 25913	

Clay-Battelle Health Services Assoc.

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Community Health Center of Northeastern Wetzel County
 State Route 250, P.O. Box 24
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Community Health Foundation of Man 600 East McDonald Avenue Man, WV 25635 Phone: (304) 583-6541 Fax: (304) 583-6018	Bluestone Health Association 10 Barger Street Matoaka, WV 24736 Phone: (304) 467-7143 Fax: (304) 467-8354	Tug River at Northfork Health Center P.O. Box 877 Northfork, WV 24868 Phone: (304) 862-3522 Fax: (304) 862-2244
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Community Health Systems 410 Rural Acres Drive Beckley, WV 25801 Phone: (304) 252-8551 Fax: (304) 252-7372	Upper Kanawha Health Association 408 Alexander Street, Drawer F Cedar Grove, WV 25039 Phone: (304) 595-1770 Fax: (304) 595-6466	West Virginia Health Right 1017 Smith Street Charleston, WV 25301 Phone: (304) 343-7003 Fax: (304) 343-7037
Fort Gay Family Health Center 3329 Bridge Street Fort Gay, WV 25514 Phone: (304) 648-5544 Fax: (304) 648-5989	Harts Health Clinic #4 State Route 10 Harts, WV 25524 Phone: (304) 855-4595 Fax: (304) 648-9377	Carl Johnson Medical Center 307 Fifth Avenue, Guyandotte Huntington, WV 25702 Phone: (304) 529-4734 Fax: (304) 679-1364
Harmony House 627 Fourth Avenue Huntington, WV 25701 Phone: (304) 523-2764 Fax: (304) 523-3368	Valley Health Associates 1616 13 th Avenue, LL 100 Huntington, WV 25701 Phone: (304) 525-0572 Fax: (304) 529-1119	Youth Health Center 723 Ninth Avenue Huntington, WV 25701 Phone: (304) 529-0645 Fax: (304) 529-3026
Grant Medical Center 308 East Main Street Milton, WV 25541 Phone: (304) 743-4444 Fax: (304) 743-4470	Wayne Health Service Railroad Avenue Wayne, WV 25570 Phone: (304) 272-5136 Fax: (304) 272-6261	Wheeling Health Right 88 14 th Street Wheeling, WV 26003 Phone: (304) 233-9323 Fax: (304) 233-9348

Community Health Foundation of Man
 600 East McDonald Avenue
 Man, WV 25635
 Phone: (304) 583-6544
 Fax: (304) 583-9386

Exec. Director: Charles Williamson
 Med. Director: R. M. Bellam, MD
 Chair: Harvey Arms

Service Delivery Site:
 Gilbert Medical Center
 Main Street, Third Avenue
 P.O. Box 925
 Gilbert, WV 25621

Shenandoah Valley Medical System
 Route 45, East
 Moler Avenue Extended
 P.O. Box 1146
 Martinsburg, WV 25402
 Phone: (304) 263-4956
 Fax: (304) 263-0984

Exec. Director: David Fant
 Med. Director: Terrence Reidy, MD
 Chair: Michael Lorensen

Service Delivery Sites:

Shenandoah Migrant Program 867 Fairmont Avenue P.O. Box 2557 Winchester, VA 22601	Shenandoah Maternity Center 305-307 Rock Cliff Drive Martinsburg, WV 25401 Phone: (304) 264-0660 Fax: (304) 264-0788	Shenandoah WIC Program 101 Clifton Court Martinsburg, WV 25401 Phone: (304) 267-5477 Fax: (304) 263-8394
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Bluestone Health Association

10 Barger Street
 Matoaka, WV 24736
 Phone: (304) 467-7143
 Fax: (304) 467-8354

Exec. Director: Linda Hutchens
 Med. Director: Farhana Asad, MD
 Chair: Marsha Howell

Service Delivery Site:
 Prudich Medical Center
 Main Street, P.O. Box 520
 Montcalm, WV 24737
 Phone: (304) 589-3251
 Fax: (304) 589-3251

Mountaineer Community Health Ctr.

115 Winchester Street
 P.O. Box 2
 Paw Paw, WV 25434
 Phone: (304) 947-5500
 Fax: (304) 947-5563

Exec. Director: Marite Pelverts
 Med. Director: Vacant
 Chair: Vacant

Rainelle Medical Center

645 Kanawha Avenue
 Rainelle, WV 25962
 Phone: (304) 438-6188
 Fax: (304) 438-7430

Exec. Director: Randy Lowe
 Med. Director: M. Hanlon, MD
 Chair: Loretta Jones

Service Delivery Sites:

Meadow Bridge Clinic Route 20 P.O. Box 120 Meadow Bridge, WV 25976	Rupert Clinic P.O. Box 597 Rupert, WV 25984	
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Tri-County Health Clinic

Routes 4 and 20
 P.O. Box 1980
 Rock Cave, WV 26234
 Phone: (304) 924-6262
 Fax: (304) 924-6262

Exec. Director: Richard Simon
 Med. Director: Michael Kirk, MD
 Chair: Robert Strader

New River Health Association

P.O. Box 337
Scarbro, WV 25917
Phone: (304) 469-2905
Fax: (304) 465-5486

Exec. Director: Craig Robinson
Med. Director: Michael Herr, DO
Chair: Paul Lively

Service Delivery Sites:

<p>North Fayette Family Health Center US Route 60 Hico, WV 25854 Phone: (304) 574-3960 Fax: (304) 574-3651</p>	<p>New River Birth Center for Women’s Health Route 612 Scarbro, WV 25917 Phone: (304) 469-3345</p>
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Roane County Family Health Care

200 East Main Street
P.O. Box 30
Spencer, WV 25276
Phone: (304) 927-2241
Fax: (304) 927-4338

Exec. Director: Barry Arnott
Med. Director: C. Christiansen, MD
Chair: Thomas Whittier, Esq

St. George Medical Clinic

Route 1, Box 208
St. George, WV 26290
Phone: (304) 478-3339
Fax: (304) 478-3311

Exec. Director: Matthew Hinkle
Med. Director: Susan Schmitt, MD
Chair: Donna Orr

Monroe County Health Center

Board of Trustees
P.O. Box 590
Union, WV 24983
Phone: (304) 772-3064
Fax: (304) 772-5940

Exec. Director: Howard Stallard
Med. Director: S. K. Jameson, DO
Chair: Arbie Dransfield

Service Delivery Site:
Peterstown Satellite Clinic
Market Street
Peterstown, WV 24963

Hygeia Facilities Foundation

P.O. Box 217
Whitesville, WV 25209
Phone: (304) 949-4542
Fax: (304) 949-4542

Exec. Director: Margaret Martin
Med. Director: Santiago, MD
Chair: Rickey Saunders

Service Delivery Sites:

Oceana Medical Center Route 10, Cook Parkway P.O. Box 400 Oceana, WV 24870 Phone: (304) 682-6246 Fax: (304) 949-4525	Wharton Medical Center Route 85, P.O. Box 89 Wharton, WV 25208 Phone: (304) 247-6202 Fax: (304) 247-6203	Raleigh Boone Medical Center Route 3, P.O. Box 187 Whitesville, WV 25209 Phone: (304) 854-1321 Fax: (304) 949-4542
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Northern Greenbrier Health Clinic

(Williamsburg Health Clinic)

Sinking Creek Road

P.O. Box 10

Williamsburg, WV 24991

Phone: (304) 645-7872

Fax: (304) 645-7873

Exec. Director: Jill McClung

Med. Director: M. Kennedy, DO

Chair: Chris VanHorn