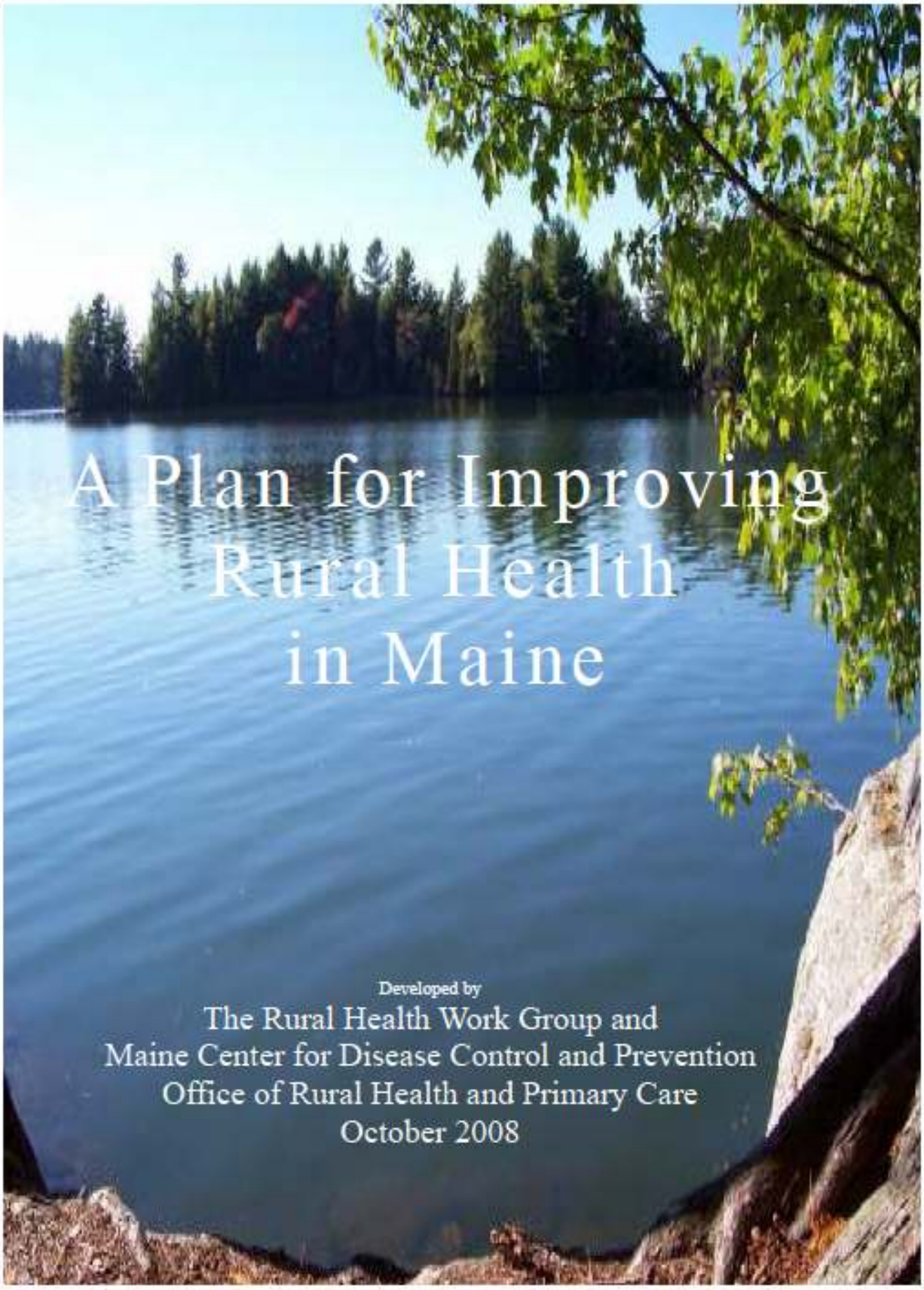

A Plan for Improving Rural Health in Maine

Developed by

The Rural Health Work Group and
Maine Center for Disease Control and Prevention
Office of Rural Health and Primary Care
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I. Executive Summary

In 2006, pursuant to Maine's State Health Plan (MSHP), a Rural Health Work Group (RHWG) was established to develop a Rural Health Plan (RHP) for the state. The RHP is the product of over eighteen months of work by a fourteen member group appointed by the Governor's Office of Health Policy and Finance. (See Appendix A.) As articulated in the MSHP, the goals of RHWG were to examine the state of the health system in Maine's rural communities and to assess the capacity of Maine's rural health system to deliver essential health services necessary to promote and preserve the health of Maine's rural citizens (MSHP 06-07, p. 47).

The RHP focuses primarily on building sustainable rural health systems that can improve rural health care. The overarching goal of Maine's Rural Health Plan is to identify steps that will contribute to the Maine's State Health Plan (MSHP) goal of making Maine's population the healthiest in the nation. The RHP is premised on the principle that all residents should have timely geographic and financial access to a fundamental set of services and should be treated as close to their homes as possible, when care can be evidence-based, high quality and delivered at reasonable costs. Otherwise, complementary referral systems must be available.

In addition to embodying specific goals and recommendations, the Rural Health Plan defines principles and assumptions that should guide future planning and the subsequent RHP implementation. It was not the purpose of this phase of planning to analyze every issue affecting rural health status nor to develop comprehensive strategies for all issues. The RHWG sought to avoid duplicating good work by other groups and recommendations found in other plans, for example, Maine's State Health Plan and the Maine Oral Health Plan. The focus is primarily on rural-specific issues. Several limitations and associated rationale are discussed in the RHP.

Core Findings

- Thousands of dedicated Maine residents are at work to assure access to fundamental services and to improve community health through a wide variety of private and public health strategies. There are countless examples of excellence and dedication. These efforts should be celebrated. However, while we are succeeding in many areas, we are still failing in many others, and we are not adequately prepared for the future.

- Maine will never be the "Healthiest State in the Nation" as set forth in the Maine's 2008-2009 State Health Plan unless there are profound changes in both the delivery and financing of health services and matching improvements in economic development, health literacy, and personal behaviors. Nowhere is this truer than in Maine's rural communities.

- Every rural hospital, every rural provider, every rural community is at risk. There are very few strategies in place that should lead residents, politicians, or providers to believe that the current rural delivery system is sustainable let alone that it will adequately address the most compelling factors that determine health status.

- In rural Maine, the long-term, sustainable clinical framework is not clearly defined. Costs are too high. Thousands of residents still do not have timely, geographic or financial access to services. The poor health status of the population is overwhelming current resources. There are many unnecessary and/or duplicated services. The system for financing care and

providing financial access is distorted. There are shortages of critical health professionals and no strategies for assuring that fundamental services can be sustainably staffed.

- Current systems of care and financing will not survive with increasing high costs in crushing economic times. This is especially true when the cost of caring for the uninsured is shifted to providers and payers, and where more than half of health care expenditures are paid by Medicare and where the State must finance a system of care for over twenty percent of the population that receives MaineCare benefits. These circumstances put rural health care at considerable risk. Reducing financial barriers is a necessary but insufficient condition for achieving desirable access to services. There are other factors, most specifically, a national misdistribution and absolute shortage of primary care physicians, dentists, mental health professionals, general surgeons, nurses, and other health care providers that will limit access to services in rural Maine, even for those with health insurance.

- Bold steps are needed to constrain health care costs, redeploy current resources, design new delivery and financing systems, and recruit and retain a health workforce. The care provided must be evidence based, with unnecessary services and expenses wrung from the system. Integration of resources must be improved and duplication of efforts reduced. Advantages must be taken of developing technologies. Expanded partnerships are essential. Greater attention must be given to public health strategies and to changing unhealthy behaviors and a greater share of current resources will need to be redirected to these efforts. We must cultivate leadership and we must demand greater public and private accountability.

- Some of our challenges are profoundly political at both national and state levels. Many bold and fundamental reforms cannot occur without significant changes in national and state health policy which will not be accomplished quickly. Some of the national issues are clearly beyond our control.

The Framework of the Goals

In framing this plan, the RHWG considered numerous strategies that can be employed by communities, insurers, businesses, policy makers, health delivery systems and clinicians to partially meet the current and emergent health and health care needs of rural residents. This Plan is organized around seven major goals that are discussed in the narrative and summarized in Appendix D:

1. Build the capacity of Maine's health system to deliver essential health, public health, behavioral health, and other services to Maine's rural residents (See Appendix C, which discusses the fundamental building blocks of rural health systems.);
2. Address the need for integration of systems and services to promote greater access, quality, and efficiency and to mitigate costs;
3. Promote health workforce development to assure that we can staff what we need to do, especially with regard to the rising need for primary care;
4. Promote and expand the use of a "planned care" model in rural Maine to improve the integration and continuity of care and begin to address the financial incentives in the current payment systems that lead to increasingly severe barriers to timely primary care, and the overuse of specialty services.

5. Develop rural-relevant quality and performance measures for Maine's rural health system to enable shared learning, the development of greater evidence-based care standards, and the avoidance of unnecessary care and costs;
6. Promote interoperable information technology and telehealth systems to improve access, quality, improve performance, and manage costs;
7. Take stronger steps to constrain health care costs while simultaneously ensuring financial access to the rural health system for Maine citizens.

Here Are Our Great Dilemmas

The Plan contains recommendations tied to these goals that will result in incremental improvement in the health of rural Mainers. But improvements will be severely constrained unless basic changes are made in the way health care services are financed, organized and delivered. To improve the health of rural people, we need to think more boldly, more audaciously, and more creatively. Incremental change will be insufficient. We need to create and instill vision, change mind-sets, change clinical and financing systems, and change behaviors. We know that bold statements alone are meaningless. Vision and change must be inspired by bold leadership.

While achievable, short-term incremental goals and objectives are not sufficient, they are essential to longer-term improvements in rural health systems and rural health. We must act wisely with resources that seem greatly constrained, although there are enormous resources within the current health system, until we are able to change current systems and free up more of these resources for alternative uses.

This Plan is not yet bold enough, but it will raise the level of understanding of the seriousness of the issues and hopefully give support to the will of those in leadership positions. The Plan will hopefully serve as a starting point for broader, statewide conversations about the future of rural health in Maine. It is not closed ended; it is a meaningful step on our shared path and in an ongoing process.

II. Introduction

In 2006, Maine's State Health Plan recommended that a Rural Health Work Group (RHWG) be established to develop a Rural Health Plan (RHP). The RHP is the product of over eighteen months of deliberation and work by a 14- member group appointed by the Governor's Office of Health Policy and Finance with consultation from the Office of Rural Health and Primary Care, and the Maine Center for Disease Control and Prevention. The RHWG is broadly representative of rural health care providers, public health practitioners, and consumers. (See Appendix A for a list of RHWG members and staff.) As articulated in Maine's State Health Plan, the goals of RHWG were to examine the state of the health system in Maine's rural communities and to assess the capacity of Maine's rural health system to deliver essential health services necessary to promote and preserve the health of Maine's rural citizens (MSHP 06-07, pp. 47-48).

As intended, the plan focuses primarily on building sustainable rural health systems that can improve rural health care. Although the plan does not directly address Maine's public health system, we believe many of the recommendations would lead to improvements in the health of Maine's rural citizens. The Plan defines principles and assumptions that should guide future discussions and the subsequent plan implementation and evolution.

It was not the purpose of this phase of rural health planning to analyze every issue affecting rural health status nor to develop comprehensive strategies for all issues. For example, the Work Group did not examine the problems and issues related to rural long term care. It did not delve deeply into oral health, recognizing that the state already has a robust Oral Health Plan. And finally some topics, such as behavioral health, are underdeveloped relative to their importance to the health of rural people and the rural health system.

This plan overlaps with the activities of the Public Health Work Group (PHWG) and the Telehealth Work Group (THWG), which were also established pursuant to recommendations of the Maine State Health Plan and with additional direction provided by the Legislature. The PHWG (which has since been renamed the Statewide Coordination Council for Public Health or SCC) was charged with creating a new structure for Maine's public health system. The THWG is considering ways to expand Maine's Telehealth capacity and systems. The RHWG has referenced the recommendations of these other work groups throughout this document and tried not to duplicate their work.

A draft plan was published in February 2008 which was discussed with the state's SCC Workgroup and the Advisory Council for Health Systems Development. In addition, the Office of Rural Health and Primary Care held three stakeholder meetings in Farmington, Machias, and Fort Kent to discuss the draft. This final plan incorporates helpful comments received through these meetings and additional written comments that were received.

A Few Basic Principles and a Few Great Dilemmas

Rural Health Planning Principles

Several underlying principles guided the development of Maine's Rural Health Plan. These guideposts for rural health planning were based on Maine's State Health Plan, the Institute of

Medicine's report, *Quality Through Collaboration: The Future of Rural Health,* Healthy Maine 2010, and RHWG discussions.[1]

- The overarching goal of Maine's Rural Health Plan is to make Maine's rural population the healthiest in the nation. As noted earlier, the goals, strategies, and recommendations in this Plan focus primarily on rural health systems development which would contribute to the longer-term goals of the MSHP 06-07.

- This Plan was developed based on a core belief that all residents should be treated as close to their homes as possible, when care can be provided at a high quality and reasonable cost. They should have timely, geographic and financial access to a fundamental set of services and referral systems when necessary. Access to these fundamental services should be considered basic rights and significant public goods that warrant social investment and subsidization when necessary.

- The current models for providing services, the associated costs, and the associated financing and reimbursement strategies are not sustainable. Improving and sustaining Maine's primary care capacity, the heart of rural delivery systems, cannot be developed and financed without substantial local and regional collaboration and changes in current fee-for-service payment systems. Increased collaboration and new methods of financing, such as capitated payment systems, global regional budgeting, and expanded Medicaid waivers are needed to promote and support improved access, quality, and efficiency.

- Thousands of dedicated Maine citizens are at work to assure access to fundamental services and to improve community health through a wide variety of private and public health strategies. These efforts should be celebrated. However, while we are succeeding in many areas, we are still failing in many others, and we are not adequately prepared for the future.

Here Are Our Great Dilemmas

The body of the plan contains proposals that will result in incremental improvement in the health of rural Mainers, but potential improvements will be severely constrained unless basic changes are made in the way health care services are financed, organized and delivered. To improve the health of rural people health advocates need to think more boldly, more audaciously, and more creatively. Incremental change will be insufficient. We need to create and instill vision, change mind-sets, change clinical and financing systems, and change behaviors. We know that bold statements alone are meaningless. Vision and change must be inspired by bold leadership.

We know that bold steps are needed to constrain health care costs, redeploy current resources, design new delivery and financing systems, and recruit and retain a health workforce. The care provided must be evidence based, with unnecessary services and expenses wrung from the system. We must improve integration of resources, reduce duplication of efforts, take advantage of developing technologies, and expand partnerships. We must increase attention and redirect

[1] *Making Maine the Healthiest State: Maine's State Health Plan*. (2006). Augusta, ME: Governor's Office of Health Policy and Finance.; Institute of Medicine. Committee on the Future of Rural Health Care. Board on Health Care Services. " *Quality Through Collaboration: The Future of Rural Health*. Washington, DC: The National Academies Press, 2005; Mills, Dora Anne. *Healthy Maine 2010: Longer and Healthier Lives*. (2002). Augusta, ME: Bureau of Health, Maine Department of Human Services.

current resources to public health strategies and change unhealthy behaviors. We must cultivate leadership and we must demand greater public and private accountability.

We know that some of our challenges are profoundly political at both national and state levels. Many of bold and more fundamental changes cannot occur without significant changes in national and state health policy which will not be accomplished quickly. Some of the national issues are clearly beyond our control.

While achievable, short-term incremental goals and objectives are not sufficient, they are essential to longer-term improvements in rural health systems and rural health. Although there are enormous resources within the current health system, we must act wisely with resources that seem greatly constrained until we are able to change current systems and free up more of these resources for alternative uses.

The RHWG's planning process has not thoroughly addressed the need for fundamental changes in our health system. The plan is not yet bold enough. But this plan will raise the level of understanding of the seriousness of the issues and hopefully give support to the will of those in leadership positions. The RHWG knows that this plan serves as a starting point for broader, statewide conversations about the future of rural health in Maine. It opens the door to significant further analysis and the bolder dialogue that is necessary. It is not closed ended; it is a meaningful step on our shared path.

Given the Profound Challenges, What Does This Initial Set of Findings and Recommendations Do?

In framing this plan, the RHWG considered numerous strategies that can be employed by communities, insurers, businesses, policy makers, health delivery systems and clinicians to partially meet the current and emergent health and health care needs of rural residents. The plan is organized around seven major goals that are discussed in the narrative and summarized in Appendix D. These Goals relate to:

1. Building the capacity of Maine's health system to deliver essential health, public health, behavioral health, and other services to Maine's rural residents (See Appendix C which discussed the fundamental building blocks of rural health systems.);
2. Addressing the need for integration of systems and services to promote greater access, quality, and efficiency and to mitigate costs;
3. Promoting patterns of workforce development to assure that we can staff what we need to do, especially with regard to the rising need for primary care;
4. Promoting and expanding the use of a "planned care" model in rural Maine to improve the integration and continuity of care and to begin to address the financial incentives in the current payment systems that lead to increasingly severe barriers to timely primary care, and the overuse of specialty services.
5. Developing rural-relevant quality and performance measures for Maine's rural health system to enable shared learning, the development of greater evidence-based care standards, and the avoidance of unnecessary care and costs.
6. Promoting interoperable information technology and telehealth systems to improve quality, improve performance, and manage costs;

7. Taking stronger steps to constrain health care costs while simultaneously ensuring financial access to the rural health system for Maine citizens.

Making Maine the Healthiest State in the Nation Versus The Risk that Health Services in Rural Maine Will Falter and Health Further Decline

Maine will never be the "Healthiest State in the Nation" as set forth in Maine's 2008-2009 State Health Plan unless there are profound changes in both the delivery and financing of health services and matching improvements in economic development, health literacy, and personal behaviors. Nowhere is this truer than in Maine's rural communities.

Every Rural Hospital, Every Rural Provider, Every Rural Community is at Risk.

There are very few strategies in place at this time that should lead residents, politicians, or providers to believe that the current rural delivery system is sustainable let alone that it will adequately address the most compelling factors that determine health status. The sustainable clinical framework is still not clearly defined. Costs are too high. Thousands of residents still do not have timely, geographic or financial access to services. The poor health status of the population is overwhelming current resources. There are many unnecessary and/or duplicated services. The system for financing care and providing financial access is distorted. There are shortages of critical health professionals and no strategies for assuring that fundamental services can be sustainably staffed.

The Principal Drivers of Health Costs are Not Just the Costs of Services but the High Illness Burden in Rural Populations

High Rates of Avoidable Illness

Maine's rural residents, like those nationally, are generally poorer, older, sicker, and have more chronic illness, higher rates of substance abuse and mental illness, and greater access barriers than non-rural residents. (See Appendix B.) These are the most significant drivers of health care service costs. All health issues are compounded by significant, often intractable, cultural and socioeconomic factors. Morbidity levels among populations are strongly related to income levels. The lower incomes level correlate with lower health status. They also positively correlated with the amount of disparity among income levels. No one should be the least surprised that the costs of care in rural Maine are high. No one should "blame" only providers and insurance companies as the sole drivers of costs.

Any discussion of how to improve the health status of rural or non-rural populations must also recognize the unequivocal links between individual health behaviors, health policies, health status, and costs. In rural Maine, smoking, obesity, substance abuse, chronic disease and other public health problems are overwhelming our health systems and often outweigh the positive benefits of health care services. On this premise rests the need to promote policies and programs that support healthy behavior, health education, and the promotion of both parental and personal responsibility. There will be no long-term effective health improvement or cost control strategy without attention to these factors.

The goal of improving health status and of changing behaviors cannot be adequately addressed without consideration of the social determinants of health. These inter-related social and economic factors are not solely limited to demographics. They also include such factors as education, employment and working conditions, discrimination, availability of childcare, cultural

and community history, and other factors such as housing, income, physical environment, and transportation. It is only through adequate consideration of these factors, and sensitivity to local conditions, that an equitable and effective strategy can be developed to improve population health.

Many of the most significant determinants of health are more strongly associated with economic status than other factors. Many policy makers and employers forget this when criticizing the high cost of health care. While the costs of services are undeniably high and need attention and constraint, progress in constraining costs will only come through improving rural health status and reducing demand for health services. Many necessary changes are unlikely without improvements in community-level economic development.

Rural Maine needs good jobs to have a healthier population and a healthier workforce to support good jobs. This is an area in which Maine is significantly challenged, with no meaningful expectations of short-term change. A notable innovative, and potentially replicable, development is the recent merger of Washington County's economic development coalition with its healthy community partnership to create "Washington County: One Community".

The Importance of a Clean Environment

There is a rapidly growing body of evidence that implicates environmental contamination as a leading cause of illness among Americans, including rural Mainers. Pollution of air, soil (and therefore food) and water have been implicated in high rates of diseases including asthma (especially among young people) and the growing (and as yet relatively silent) epidemic of autoimmune illnesses, including rheumatoid arthritis, psoriasis, multiple sclerosis, and hypothyroidism. Some environmental factors may be natural, such as radon exposure, others may be occupational. Increased attention (and research) should be devoted to identifying and eliminated environmental factors affecting health status and such strategies should be closely linked to Maine's evolving public health system.

Inadequate Mechanisms for Financing Health Care Services

The Governor and the Legislature have taken meaningful steps to assure financial access to a basic level of appropriate quality health services for Maine's Medicaid-eligible population and for other children through the State Children's Health Insurance Program (SCHIP). The high numbers of small employers in rural areas and the difficulties that many of them face in financing or finding health insurance for their employees are also significant issues. There have been partially effective steps to address such un- and underinsured segments of the population through the Dirigo Health initiatives. In addition to creating barriers to timely care, the erosion of insurance coverage is creating significant economic and financial risk for rural residents. Health care costs are a leading cause of personal bankruptcy in the United States, adding to the fragility of an already fragile economy.

Costs are Very High and Rising at Unsustainable Rates

Current systems of care and financing will not survive with increasing high costs in crushing economic times. This is especially true when the cost of caring for the uninsured is shifted to providers and payers, and where more than half of health care expenditures are paid by Medicare and the State must finance a system of care for over twenty percent of the population that receives MaineCare benefits. A system of insurance access through Dirigo will not survive

without a stable funding platform. Continued increases in the cost of services and health insurance will break the backs of many employers, make Maine-made products less competitive, and exacerbate Maine's economic challenges. Demands for higher state taxes to fund health services and programs will ultimately break the back of the State's budget and compromise investments in other critical societal needs, including education, economic development, and other essential areas.

The problem of the cost of rural health services is compounded by the high number of Medicaid and Medicare patients, individuals who may be eligible, but un-enrolled, and other uninsured and underinsured individuals in rural areas. The rural health system and the State face significant financial challenges because a disproportionate percentage of rural populations fall in these categories. Of particular concern in addressing the sustainability of rural primary care providers is the shortfalls in Medicare and MaineCare reimbursement. Simultaneously, the prevalence of high quality private insurance is rapidly eroding. This creates a significant economic vortex that exacerbates the cost of providing services, while simultaneously creating barriers to recruitment and retention of all categories of physicians and other providers.

Inadequate Availability of Primary Care

Even for individuals with private or public insurance there are significant financial access barriers. This is especially true for Medicaid beneficiaries and the un and underinsured. Some physicians and dentists limit the number of Medicaid patients in their practices or do not see Medicaid patients at all. Many other physicians in rural communities would limit their care of MaineCare patients and the un and underinsured, if their practices were not subsidized by local hospitals, which in turn drive up hospitals' costs or part of a Federally Qualified Health Center (FQHC). Some specialists do not want to accept many of the patients who need to be referred from rural communities, without their care being subsidized.

The multiple factors influencing the provision of care in rural communities, coupled with the greater risks in the rural population have contributed not just to high costs, but to increasing distortion of the delivery system. For example, specialty providers continue to be much more highly paid than primary care providers. Diagnostic and therapeutic procedures continue to be better reimbursed than cognitive services. In turn, recruiting and retention of primary care providers requires more salaried relationships with hospitals, and more hospital revenues (often created by non-primary care services) need to be used to provide cross-subsidization. Direct reimbursement for primary care services should be adequate to sustain the presence of necessary providers. However, currently, improving and sustaining Maine's primary care capacity, the heart of rural delivery systems, cannot be financed through the current fee-for-service payment systems. New methods of financing, such as capitated payment systems, and global regional budgeting and expanded federal Medicaid waivers are needed to promote and support improved access, quality, and efficiency.

Access is Not Just About Insurance Coverage

Reducing financial barriers to access is a necessary but not sufficient condition for achieving desirable access to services. For example, the role of the primary care providers is becoming increasingly important as the population ages, and more patients suffer from multiple diseases requiring coordinated care. At the same time, there is a national misdistribution and absolute shortage of primary care providers, including physicians, dentists, mental health professionals, general surgeons, nurses, and other health care providers. This will limit access to services even for those with health insurance. This is already happening in Massachusetts. As financial means

to obtain health care are expanded in that state, the inadequacies of the primary care system are being brought into clear view.

It is becoming much more difficult to recruit the critical primary care and other providers necessary to deliver fundamental services in rural areas as Maine is competing in a national marketplace to educate, recruit, and retain these providers. The demand for such providers in urban and suburban areas is out-pacing rural needs, even while rural needs continue to grow. Simultaneously, some programs that once created incentives for the physicians to practice in rural communities are being degraded (e.g., the J-1 Visa Program). Rural America is falling further behind.

There are no strategies in place at this time that will substantially mitigate provider shortages, either nationally or in this State. Although the recommendations in the plan will help, they will be insufficient without significant changes in how we organize, deliver, and pay for health services.

This Plan identifies a set of basic oral health services and outpatient behavioral health services as components of "primary care" in addition to the traditional services of family practice, internal medicine, pediatrics, obstetrics, and gynecology. This recommendation seeks to promote greater integration of services to improve both quality and efficiency. The Plan advocates the consistent application of this definition in planning, funding, and policy decisions.

The current efforts to develop and test the concept of a "medical home" should include rural providers and patients *but in the context of a "primary care home" using the extended definition of primary care discussed above.* The needs for community-defined strategies, flexibility and innovation are consistent with this concept. Whether coordination of care is done in conjunction with a private or hospital-based primary care practice, through a Rural Health Clinic, or at a Community Health Center, there should be an identified focal point for coordinating care.

Work force Needs Will Drive New Models of Care

The need for new models of care will substantially be driven by the inability to assure adequate staff to provide primary care services through traditional models. In some areas of the State, rural care models may increasingly need to be based on a limited number of physicians and dentists managing teams of other professionals, who have expanded role definitions. A model for care based on greater use of advanced practice nurses, physician assistants, advanced practice dental hygienists, and EMS personnel, complemented by telehealth linkages may be not only appropriate but essential. This will in turn require greater emphasis on the training of mid-level providers as well as on the training of physicians in team management and the creation of associated financial incentives. A better understanding of future work force availability and the relationship to models of care is essential.

Alternative models are being tested in Maine and other States. These include the following examples:

- Federally Qualified Health Centers are leading the way in testing integrated care.
- The Maine Health Access Foundation has provided leadership supporting the integration of primary care and mental health services.
- There are numerous examples, of school-based primary health care that hold promise for an effective approach to not only assuring basic care, but expanding health literacy.

Inadequate Transportation

Inadequate transportation is a particularly important factor that also disproportionately affects underserved rural populations that are already economically disadvantaged. Increasing gas prices have exacerbated existing barriers. There are significant transportation barriers for many services including all primary services and referrals to specialists. In addition, there are issues related to both acute and out-of-area, non-emergency transportation.

If we fail to sustain locally available primary services, the need for transportation will dramatically increase and will be difficult to satisfy. The ripple effect will be declines in health status and higher costs as patients with preventable advanced illnesses are treated at regional centers at much higher costs. Rural transportation systems issues have not been thoroughly addressed during the planning process but must be on the future planning agenda.

II. A Roadmap to Better Rural Health

In order to improve rural health, based on the guiding principles, the needs of rural Mainers should be addressed consistent with the following goals:

1. Maine's rural health system must provide a foundational, core level of health services.

2. Maine's rural health system should functionally integrate physical, behavioral, oral, and public health services.

3. Maine must address the current and future health workforce needs of the state's rural health system.

4. Rural health systems must be created to support a planned care model that ensures better patient-level coordination and integration of chronic care, including behavioral health and substance abuse.

5. Maine's quality and performance improvement system must incorporate rural-relevant measures that monitor the effectiveness of the rural health system and its impact on rural residents' health.

6a. Maine's rural health system must have an interoperable information technology system that facilitates communication, improves quality, and supports greater integration among health and public health care providers.

6b. Maine's health care system must have a telehealth infrastructure that is accessible and adequately reimbursed.

7. Financial access to the rural health system and the overall financial stability of the system are essential for the health of rural populations and communities.

Goal 1: Maine's rural health system must provide a foundational, core level of health services within local communities or a reasonable regional cluster of communities.

Foundational, Core Services

There are several categories of services that constitute fundamental or foundational building blocks that must be in place if the State is to make long-term progress toward assuring strong, healthy rural communities.[2] These recommended services and associated supportive infrastructure can be found in Appendix C. These foundational resources are not a limit on systems components or services that could be available, but define the basic services that should be expected. These foundational components, including referral linkages and telehealth support,

[2] Institute of Medicine. Committee on the Future of Rural Health Care. Board on Health Care Services. "*Quality Through Collaboration: The Future of Rural Health*. Washington, DC: The National Academies Press, 2005; *Fundamentals of Rural Health for Consideration in Rural Health Planning*, Maine Rural Health Association, 2003.

may not be necessary in all rural communities, but should be reasonably accessible to clusters of communities.

Problem

Rural residents should have access to all of the identified core services within their local community or a reasonable cluster of communities through referral linkages, or through telehealth. However, for many rural communities, the local capacity for these services, the referral linkages, and telehealth services are not adequate to provide a core level of services.

Strategies for Action

As discussed above, there are three overarching strategies to provide core level services in rural communities: provide them at the local level, establish referral linkages, or provide services through telehealth. The actual and perceived needs, resources, and organizational capacities will vary from community to community or among clusters of communities. Given these variations, the responsibility for developing a core or foundational level of services should be at the community level. Communities or clusters of communities should decide what services should be provided in the community, what services should be provided through referrals outside the community and what services should be provided through telehealth. These decisions should be supported by regular community needs assessments and consistent investments of state resources. These communities must also ensure that services provided by referrals are available and accessible to rural residents.

In addition to this approach, rural health providers must address issues associated with telehealth. The State has developed a telehealth work group. Rural communities should work closely with this group to ensure that each community's issues are adequately addressed.

Recommendations

a. Organizations involved in state, regional and local health systems planning and development should use the "Fundamental Rural Community Health Building Blocks" as the expected framework for community health systems development and funding decisions.

    - The framework should be discussed with and adopted by all state agencies. (Some modifications and amendments may be needed following additional public input.)
    - District Coordinating Councils and Healthy Maine Partnerships (HMPs) will be expected to use this framework in their local needs assessment and planning.
    - Community planning initiatives (e.g., by hospitals and HMPs) should use this framework as the basis for community needs assessments, priority setting, and strategic development.

b. While local communities have the primary responsibility for addressing community needs and securing resources, state policy makers and other organizations should use

community level priorities and decisions to guide policy decisions and align available resources.

- The State should provide resources through state revenues and available federal grants (e.g., the Flex Program grant), and other in-state grant giving organizations should be encouraged to collaboratively support greater community engagement in health systems planning. These funders should require the use of "The Building Blocks".
- A central place should be created for communities to record their priorities and decisions regarding health either through the State Office of Rural Health and Primary Care or the Maine CDC.

c. Pilot programs that promote better community engagement should be implemented, evaluated, and translated into tools for other communities.

Goal 2: Maine's rural health system should functionally integrate physical, behavioral, oral, and public health services to achieve greater access, efficiency, and quality.

Introduction

Maine is actively engaged in health care quality improvement and innovation. The Maine Health Access Foundation's statewide collaborative on mental health and primary care integration, Quality Counts, Health InfoNet, and the Public Health Work Group's recommendations for building Maine's public health infrastructure exemplify this innovation. Each of these initiatives has a strong emphasis on achieving greater health system and clinical integration as a means for achieving better access to services for patients, greater efficiency, and improved quality and outcomes. As the Institute of Medicine has indicated, developing and implementing strategies for integrating systems may be easier in smaller, rural environments and organizations. It is appropriate therefore for Maine's rural health plan to target strategies that uniquely address the needs of rural communities and health systems in this state.

Problem

Our current approach to the delivery of health care is inadequate in several ways.

1. The health, public health, oral health, and behavioral health services that comprise the rural health system are characterized by a significant lack of coordination, resulting in discontinuities of care, diminished quality, and lost efficiency.
2. Although care coordination, integration, and care management are critical elements of health care quality and impact health outcomes, especially for chronic conditions, these elements are often difficult to achieve in rural settings.[3]
3. System and service fragmentation are the products of economic, regulatory, policy, and legal incentives and other mechanisms that do not support or promote service integration.

[3] Institute of Medicine. (2001). *Crossing the quality chasm*, Washington, DC: National Academy of Sciences Press.

4. The increasing specialization of services and the erosion of primary care threaten the sustainability of the rural health system.

Background

1. Service Coordination and Continuity of Care

Financial, regulatory, policy, and legal incentives and other mechanisms impede service integration. Categorical federal and state funding for health and public health services promote a service system characterized by "siloed" services and systems. These funding problems make patient-centered, coordinated, and continuous care for rural citizens very difficult. The diverse funding sources for health and public health services typically have specific purposes and requirements that limit flexible use of funds to address needs that cut across multiple funding sources. The financing of our health, substance abuse, and mental health systems provides a classic example. This financing segments "physical health", "mental health", and substance abuse to the detriment of service integration and continuity of care.[4] Maine's recent funding strategies that combine funding streams to support the Healthy Maine Partnerships represent an innovative and important effort to overcome the barriers posed by categorical funding.

Although some legal and regulatory issues have been addressed, they continue to affect service integration. For example, federal and state antitrust statutes can make it difficult for health care providers, particularly hospitals and physicians, to enter into cooperative arrangements. The Maine Hospital and Health Care Provider Cooperation Act is designed to provide hospitals greater flexibility to pursue collaboration.[5] The federal government has recently relaxed anti-trust regulations to allow hospitals and physician groups to make HIT donations to physicians that practice within the hospital or group practice. While these changes are an improvement, there are still limits, including who can receive donations, what types of HIT can be donated (only e-prescribing and electronic health records), and what parts of these systems can be donated (i.e., software, hardware). For EHRs, the system donated must be interoperable with systems outside the community or the local health care system. In addition, the physician receiving the HIT must pay for 15% of the donation.[6] Professional licensure (and professional training) is also a barrier and often undermines service integration when flexibility in the scope of practice across professional boundaries is prohibited.[7]

2. Specialization and fragmentation of services

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[4] Rygh, E.M., & Hjortdahl, P. (2007). *Continuous and integrated health care services in rural areas: A literature study*. Retrieved February 15, 2008, from www.rrh.org.au; Hicks L.L., et al (1996) Integrated pathways for managing rural health services. *Health Care Management Review 21*, 65-71; Bounty, A. (ed.) (1998) *Integrated Primary Care: The Future of Medical and Mental Health Collaboration*. New York: Norton; Conrad, D.A. (1993). Coordinating patient care services in regional health systems: The challenge of clinical integration. *Hospital & Health Services Administration, 38*(4), 491-508; Church, W.J., et al (1995) Organizational models in community-based health care: A review of the literature, Healthcare Quality and Outcomes Research Centre. Retrieved February 18, 2008, from http://www.hc-sc.gc.ca/hcs-sss/alt_formats/hpb-dgps/pdf/pubs/1995-build-plan-commun/1995-build-plan-commun2_e.pdf

[5] Hospital and Health Care Provider Cooperation Act, Title 22, Chapter 405-A, §§1841-1852 (2005).

[6] *Stark and donations of HIT: A user's guide, retrieved July 22, 2008 from http://www.healthimaging.com/index.php?option=com_content&id=5995&task=view&Itemid=179.*.

[7] T. C. Ricketts (Ed.), *Rural Health in the United States*. (pp. 179-189). New York: Oxford University Press.

An effective rural health system should promote integration of services across disciplines, specialties, and sectors. Continuity and coordination of care become increasingly difficult as the provision of health care services becomes increasingly specialized within medical specialties and among health care service providers.

There are a number of approaches for addressing the coordination of a patient's care that may include care managers, small multi-disciplinary teams, and IT-assisted systems. However, the core of coordination still remains with the primary care provider. Formal models of care, such as the "medical home", have been demonstrated to be effective in promoting access, efficiency, and quality in primary care.[8]

In rural Maine, the challenges of maintaining our primary care workforce and system are significant. Maine faces an uncertain future supply of primary care physicians, dentists, nurses and other health professionals. Newly trained professionals choose to go into specialties and sub-specialties in increasing numbers. As discussed in the section on Maine's health workforce, numerous factors, especially financial factors, contribute to this trend. Graduates of medical, nursing, dental, and other professional schools, who often face significant debt upon graduation, look to financial secure positions with adequate income to address loan commitments. Often this leads to pursuit of lucrative specialties and practices based on the use of technologically sophisticated and individually "billable" procedures.

In the face of dwindling numbers of primary care practitioners, patients increasingly must navigate among multiple specialized practitioners and support services without the guidance and management skills of a primary care provider willing to accept responsibility for their overall care. Recent studies indicate that as the proportion of referral specialists relative to primary care physicians increases, quality of care declines and costs increase.[9] This situation is aggravated by the fact that most primary care training programs do not adequately prepare students for this care management responsibility. The lack of preparation is compounded by reimbursement systems that do not provide sufficient incentives for time spent on such activities.

Strategies for Action

Given limited financial and provider resources, integration of care in rural Maine will likely require the development of regional systems, involving clusters of rural communities, and the encouragement of multi-providers and organizations to coalesce around regional (and in some limited cases, statewide) approaches to care. Current developments in Maine's health system suggest how this might be achieved.

In a number or regions in the state there is emerging cooperation (and in some cases consolidation) of hospitals (including the conversion of some rural hospitals to Critical Access Hospital status), physician practices, FQHCs, and other health care providers. Many rural

[8] Starfield, B., & Shi, L. (2004). The medical home, access to care, and insurance: a review of evidence. *Pediatrics, 113* (5 Suppl), 1493-8.
[9] Fisher, E. et al (2003). The implications of regional variations in Medicare spending. Part 1: The content, quality, and accessibility of care. *Annals of Internal Medicine, 138*, 273-287.

hospitals operate physician practices, home care services, hospice programs, dental clinics, long-term care and skilled nursing beds, ambulance services, and school health programs, along with traditional inpatient and outpatient services. Many are already viable diversified small systems and this trend has accelerated during recent years.[10] FQHCs, rural hospitals, and others are also serving as the de facto safety net in rural Maine. Further, rural hospitals are collaborating with other providers to provide a base for Health Maine Partnerships. These developments are serving to accelerate the development of small diversified local health systems with ties to larger regional providers (e.g. Eastern Maine Medical Center). **A key to the development of these systems should be the creation of health systems that are built around primary care and that emphasize (1) the development of a medical home for all residents and (2) a focus on population health improvement.**

As the 15 CAHs in Maine move beyond conversion to CAH status they are increasingly focused on shared approaches to quality and performance improvement, as well as multi-organizational network options. More emphasis is anticipated on measuring and comparing options for quality improvement and cost management. CAHs and FQHCs are critical to sustaining the core capacity needed to address the community's and region's health and health care needs. Continuing positive dialogue between the State, CAHs, and FQHCs is essential to long-term systems development and the judicious application of available resources. This dialogue should include discussions of how the CAHs will collaborate within the developing public health systems and with FQHCs as well as other opportunities to further facilitate and/or participate in the implementation of strategies to improve rural health, not just rural hospital care.

This model of system development is already in place in a number of areas, including the Franklin Community Health Network, the Northern Maine Medical Center in Aroostook County, and the Mount Desert Hospital in Bar Harbor. In each case, the hospital and other health care providers have developed and/or sustained a diversified set of primary care, specialty medical, long-term care, mental health, public health, and other services linked through formal and/or informal affiliations. All three of these collaborative networks provide support for broader community health partnerships.

A second, complementary approach is to build on Maine's emerging public health system that centers on eight District Coordinating Councils and Healthy Maine Partnerships that provide a vehicle for local and regional collaboration, program and service development, resource sharing, and planning.

In addition to these models, Maine's FQHCs, private physicians and physician groups, hospitals, and many others have been collaborating to implement the "Chronic Care Model" in Maine.[11] As discussed in regard to Goal 4, the Care Model is designed to ensure that patients with chronic conditions receive appropriate and timely care to prevent complications, reduce costs, and enhance outcomes. The elements of the Care Model depend upon effective coordination and integration of care across providers and systems. The networks and collaborations that have been developed to promote statewide implementation of the Care Model offer important building blocks for expanding service integration in rural Maine.

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[10] Lenardson, J. et al. (2007) *Understanding Changes to Physician Practice Arrangements in Maine and New Hampshire.* (Final Report). Portland, ME: Muskie School of Public Service, University of Southern Maine.

[11] For more information on the Chronic Care Model in Maine, see the Improving Chronic Care Program website at: http://www.improvingchroniccare.org

Potential advantages of these models are:

- Formal networks and affiliations provide the opportunity to develop common, shared clinical, health information technology and other systems that can improve quality and safety of health care.
- The cost of developing and supporting systems can be prohibitive in small hospitals and community health centers. Shared systems can lower average costs and increase efficiency.
- The inclusion of public health, mental health, substance abuse, oral health and other sectors in network models can facilitate service coordination and integration and care management across these sectors.
- The inclusion of multiple disciplines, services, and sectors in networks can facilitate greater community engagement and support, a critical ingredient for successful community health programs and initiatives.
- Linkage with Maine's emerging public health infrastructure provides important opportunities for system planning, service coordination and integration, and regional resource development, all with a population health focus.

Regardless of the model(s) Maine chooses, the RHWG believes that rural health systems should:

1. Promote and support primary care-based practice as the core of Maine's rural health system.
2. Promote the development of collaborative regional health networks designed around the principles of primary care, care coordination, continuity of care, and integration of care across disciplines and sectors (e.g. specialist-primary care, primary care, mental health, hospital-home care, oral health etc).
3. Work with academic institutions to assure that training programs for health professionals promote integrated care.
4. Pursue coordinated and blended funding strategies that enable more flexible funding and promote collaboration among rural health and public health providers[12].
5. Promote greater "cross-training" among health professionals to facilitate expanded and sustainable access to services in underserved areas.
6. Increase the use of telehealth and communication technologies in areas where distance from providers and other supportive resources constitutes a significant barrier to care.

So what are the barriers to expanding and strengthening collaborative networks in Maine? The RHWG believes that there are too few incentives for collaboration, network development, and support for the network once it has formed. There are also perceived and real legal and regulatory barriers. As noted above, the categorical nature of program funding promotes "siloed" services and organizations. In contrast, coordinated or blended funding strategies encourage flexibility that allows service providers to appropriately respond to local needs with specific budget and performance parameters.

[12] The term "braided" funding has been used in the case of Maine Healthy Maine Partnerships where the Department of Health and Human Services has used multiple funding streams to fund the core activities of local Comprehensive Community Health Coalitions.

Recommendations

a. The Office of Rural Health and Primary Care should develop a more detailed analysis of regional and local patterns of service and care in rural Maine, identify replicable examples of service coordination and integration that can be applied in other regions and communities, and assess potential barriers to their implementation (and strategies for overcoming these barriers). A key element of this review should be to identify regions that excel in chronic care outcomes (e.g. cardiac care) to identify what is working to produce those outcomes.

b. Conduct and evaluate demonstration(s) of coordinated or blended funding and other strategies for encouraging organizational and service network development and other service coordination and continuity of care outcomes. These demonstrations should support the SCC proposed District Coordinating Councils and Healthy Maine Partnerships (HMPs), well as the developing mechanisms for regional and local collaborative planning and network development. Demonstrations should be designed to test policies, reimbursement, and funding mechanisms to overcome barriers to network development and/or service coordination. Demonstrations could build on the Maine CDC, DHHS' coordinated funding initiative that is supporting the state's HMPs.

c. The Office of Rural Health and Primary Care should develop projects and funding requests under the Medicare Rural Hospital Flexibility grant program that advance the development of both horizontal (linking CAHs together) and vertical (linking CAHs to FQHCs other health care entities) to develop networks for quality improvement, health information technology, and other initiatives. The goal for these activities would be to integrate systems and services to achieve care coordination, continuity, and improved quality and outcomes.

d. MaineCare should consider options for using a Medicaid enhanced match to assist and support the adoption of Electronic Medical Records (EMRs).

Goal 3: Maine must address the current and future health workforce needs of the state's rural health system to sustain and expand access.

Background

The healthcare sector is the single largest industry in Maine with an average employment of over 75,000 in 2004, and that number is on the rise. Maine has an aging, chronically ill, predominantly rural, and medically underserved population. Many in the current health care workforce are reaching retirement age, at a time when demand for health services is certain to grow. Several initiatives have provided input to government leaders and policy makers during the past five years but no coherent approach has emerged. The following discussion builds upon the work of many professional associations and ad hoc government committees to hone some rural specific strategies and recommendations.

Problem

To ensure access to the fundamental building blocks identified in Goal 1, rural communities must have an adequate and aligned workforce to provide those services. Recruitment, retention and compensation of health care providers is often more difficult in rural areas than non-rural areas. Rural communities typically face a number of challenges:

- Too few young people remain in rural areas to pursue health careers. Potential students and existing health care professionals also find the working conditions unattractive.

- While Maine has improved its university and community college systems to make higher education more accessible for all Mainers, these changes will only address future workforce needs, not current shortages.

- The aging workforce and increasing demand for health care services will continue to be compounded by the shortage of health care professionals nationally, forcing Maine to compete with health care organizations throughout the country for health care workers. Compared to other states, Maine offers lower financial incentives to health care professionals and a limited number of scholarships to potential students, which makes competing with other states more difficult.

- Maine lacks the educational capacity to prepare potential health care workers in the fields with the greatest need, including primary care physicians, nurses, and dentists. The state lacks the educational capacity to prepare potential health care workers in fields with the greatest needs.

- A recent report from the Maine Department of Labor provided useful information on the health care workforce, but current legislative leadership is not prepared to address the issues raised in this report.

Unfortunately, this plan does not have all the solutions to this complex problem, but provides a starting point toward a more comprehensive solution to the problem.

Strategies for Action

The RHWG does not intend to duplicate the work, findings, and recommendations that have been previously developed.[13] In fact, many of the strategies and recommendations are similar to those delineated during previous examinations of the health care workforce. This plan highlights and addresses some of the rural specific challenges and opportunities. Although the availability of all providers is a problem for rural areas, certain providers, including primary care physicians and associated providers, general surgeons, mental health providers, nurses, oral health providers, and emergency service providers, represent the most immediate and growing needs. Rural areas have significantly more communities designated as health professional shortage

[13] Molloy, R. (n.d.) *Solutions for Maine Health Careers Recruitment and Retention: A Visionary Approach.* Maine: Maine Area Health Education Center Network.

areas (HPSAs) for primary, dental and mental health care than in urban areas.[14] Therefore, priority should be given to addressing these issues.

1. *Develop statewide leadership that will address the health care workforce shortage and recognize the challenges specific to rural communities in Maine.*

Although Maine has done considerable work recently to assess health workforce issues, these reports do not provide many rural-specific recommendations. The state could create a monitoring and forecasting system to assess rural health workforce needs and identify strategies to address these needs. This system would need to specifically identify rural providers, allow for the identification of rural needs and disparities, and identify evidence-based strategies to effectively meet shortages.

With an aging population, non-professional direct care workers will also be in increasing demand.[15] The state, health care providers, and rural communities should work together to plan recruitment, training and systems building strategies to assure that rural Mainers have access to predictable workers and quality providers, and that these workers have employment benefits. They should work closely with Maine organizations currently representing direct care workers, including the Maine Personal Assistance Services Association, Alpha One Program, and the Maine Direct Care Worker Coalition.[16]

Special attention also needs to be paid to rural EMS personnel. The state, together with health care providers, and rural communities should work to develop a statewide plan for recruitment and retention of these providers.[17] These efforts would include ways to provide recruitment and educational incentives to EMS personnel who volunteer or work in rural areas and to subsidize initial and continuing education to non-traditional students.

The use of telehealth, distance learning, and on-line educational programs should be promoted to support recruitment, training, and retention initiatives. Maine should collaborate with other states to avoid reinventing strategies that have already been showing success and to economize on available resources.

2. *Recruit and retain a skilled health care workforce in rural Maine*

An important strategy to address the recruitment of physicians already exists. Through the Office of Rural Health and Primary Care, Maine administers the J-1 Visa, Conrad 30, and National Health Service Corps programs to recruit physicians to rural Maine. Therefore, an important approach to recruiting physicians is to continue these programs, paying particular attention to continually identifying medically underserved areas (MUAs) and HPSAs, and monitoring changes to federal shortage definitions.

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[14] U.S. Department of Health and Human Services, Health Resources and Services Administration, Health Professional Shortage Areas, http://hpsafind.hrsa.gov; *Registered Dental Hygienists*. (2004). (Series 13, Number 1). Augusta, ME: Bureau of Health, Office of Data, Research, and Vital Statistics.

[15] Pohlmann, Lisa (2006). *Meeting Maine's Need for Frontline Workers in Long-Term Care and Service Options*, Blaine House Conference on Aging, September 2006. Portland, ME: Maine Center for Economic Policy, University of Southern Maine.

[16] Ibid.

[17] *An Assessment of the Maine EMS System*, (2004). Augusta, ME: Department of Public Safety, Maine Emergency Medical Services.

Although the above programs are helpful, they are not sufficient for recruiting all necessary providers to rural areas. The federal shortage designation process itself doesn't necessarily identify workforce shortages, especially those falling outside the review process such as pharmacists and nurses. A very important strategy to recruit health care professionals would be to extend educational loan guarantees, tuition reimbursement systems, loan repayment, and other supplemental reimbursement programs that facilitate placement of all types of primary care, general surgical, mental health and oral health providers in identified shortage areas. These programs could be expanded through public/private partnerships.

The state could assess the efficacy of establishing community-based or organization-based "Pine Tree Zones" for health professionals. These "zones" could use financial incentives through community financed subsidies and state tax incentives to facilitate the recruitment of providers to rural and underserved areas.

Currently, there are a number of trends toward higher requirements for entry to practice for various health care providers, including physical therapists, occupational therapists, family nurse practitioners, pharmacists, and public health providers. While the RHWG supports the delivery of high quality health care, we must acknowledge that raising entry-level requirements may compromise recruitment and retention efforts, including discouraging students potentially interested in entering these professions. These practice standards may be consistent with the "professionalization" interests, but may not be consistent with quality standards or cost-effective access to appropriate rural services. To address this problem, the Maine higher education regulatory and professional licensure bodies should consider and publicly report on the implications of any proposed change in entry level requirements on Maine's rural health workforce.

Rural communities must also work to retain health care providers that they have recruited. One approach to retaining health care providers is to have rural facilities take more responsibility for meeting their own workforce needs through advanced training, including cross-training, for personnel committed to their organizations. Rural facilities should also encourage employees to pursue and achieve career growth opportunities. This could be supplemented by expanding continuing education opportunities. These opportunities could be developed in collaboration with local, regional, and statewide providers, and educational institutions, and could be facilitated through the use of telehealth technology for distance learning.

Improvements in telehealth linkages may also provide an opportunity to assist the rural health system retain providers. These linkages can provide consultation and continuing education, foster collegial support, and reduce the burden of practicing in a rural setting. Advances in telehealth technology provide patients in remote areas access to health care and specialty care that may not otherwise be available. New graduates and other providers who have worked with electronic medical records and other health information technology (HIT) increasingly expect this technology to be available. Therefore, they may be reluctant to enter practice situations where this technology is not available. Rural health care providers should work with the Telehealth Work Group to ensure the group understands the importance of telehealth and HIT to recruitment and retention of rural providers.

Maine should develop new training programs and policies that would permit existing health personnel to meet new needs. For example, modest supplemental training would assist primary

care physicians in managing drug dependency. Also, new training programs and practice parameters could be developed for new professionals such as school health specialists. Many states are looking at these approaches. For example, New Mexico is currently reviewing the potential for new or expanded health professional practice based on identified needs.[18]

Lastly, employers, insurers and policy makers must work together to resolve the issues regarding the adequate compensation of direct care workers. Providing health care insurance to direct care workers through programs such as Dirigo Health may be one way to improve this aspect and may help to attract and retain workers in this field.

3. *Promote careers in health care throughout Maine schools and communities.*

Health care providers who grew up in a rural community are more likely to work in a rural community.[19] Therefore, an important strategy to recruiting future health care workers is to encourage rural residents to pursue careers in health care. There are a number of options for this approach. First, Maine's institutions of higher education could be encouraged to work more closely with hospitals, clinics, and other organizations to recruit and support students from rural areas to health careers. These students and others without a rural background need opportunities to obtain training within rural settings. Academic institutions and collaborating providers (e.g., rural hospitals and community health centers), should expand rural clinical sites and rotations and invest in faculty willing to supervise rural training initiatives. Maine's Area Health Education Centers (AHECs) and the Maine Primary Care Association already provide opportunities for clinical rotations and internships in rural communities. However, additional state action will be necessary to provide these institutions with support in expanding these programs.

Second, state and local organizations could work closely with school systems to develop strategies and efforts to recruit youth to health careers. North Dakota and Utah already have these types of programs.[20] These partnerships could assist in career counseling and web-based career education, and in developing changes in local school curricula that would focus students' interests in health careers and higher education.

Assuring that rural Maine has a health care workforce will require shared responsibility at several levels. The state, academic institutions and local providers will need to play critical roles. However, an adequate and sustainable workforce is a community issue and rural communities must become more engaged in supporting workforce strategies.

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[18] Wakefield, M., Amundson, M., Moulton, P., & Gibbens, B. (2007). *North Dakota health care workforce: Planning together to meet future health care needs*, North Dakota: Center for Rural Health, University of North Dakota, School of Medicine & Health Sciences.

[19] *Recruitment and Retention of a Quality Health Workforce in Rural Areas*. (2005). (Issue Paper). Kansas City, MO: National Rural Health Association.

[20] Wakefield, M., Amundson, M., Moulton, P., & Gibbens, B. (2007). *North Dakota health care workforce: Planning together to meet future health care needs*, North Dakota: Center for Rural Health, University of North Dakota, School of Medicine & Health Sciences.

Recommendations

a. Provide ongoing leadership to address the shortage of skilled health care workers.

- The Department of Health and Human Services should raise the profile of the Health Workforce Forum and seize the opportunity to minimize duplication of effort and maximize successful outcomes in areas of interest shared by employers, public and private higher education institutions, foundations, and public policy leaders.
- The Legislature should provide funding for staffing the Health Workforce Forum to assure continuity of information and action.
- Maine's higher education regulatory and professional licensure bodies should consider and publicly report on the implications of any proposed change in entry level requirements on the rural health workforce.

b. Maintain current data on demand for and supply of health care workers in Maine.

- The Legislature should support the continued survey and analysis of workers in key health care occupations/professions. Trend analysis and forecasting of future needs within clusters of rural communities (e.g., District Coordinating Councils, local Comprehensive Community Health Coalitions) should be included to ensure a more proactive approach to workforce issues.
- The Department of Health and Human Services and the Department of Labor should continue to collaborate to produce a Healthcare Occupations Report every four years and provide updated fact sheets to the Health Workforce Forum and the Legislature annually as new information becomes available.
- Additional evaluation of key healthcare professionals such as dentists, primary care physicians and general surgeons is needed to accurately address shortages.

c. Continue and further develop the Office of Rural Health and Primary Care's role in identifying medically underserved areas (MUAs) and Health Professional Shortage Areas (HPSAs), monitoring changes to federal shortage definitions, and administering the J-1 Visa, Conrad 30, and National Health Service Corps programs.

- Evaluate the current definitions of medically underserved area, health professional shortage areas. Explore opportunities to enhance definitions, criteria and analysis to better reflect and address the State's health care needs.

d. Expand the capacity of existing health professions education programs and/or create new programs in higher education.

- Schools of Nursing should increase the availability of rural clinical rotations by developing adjunct faculty within rural hospitals and establishing opportunities for advanced preparation in rural hub communities (AND to BSN to MSN) using distance education technology.

- Institutions of higher education should redesign current curricula to enable rural non-traditional students to move into advanced levels of responsibility (AND to BSN to MSN) through participate in distance learning programs using telehealth video-conferencing network and internet technologies.

e. Provide additional financial support to recruit more students into health care fields and to encourage existing health care professionals to remain at work.

- The Finance Authority of Maine should increase the number of Access Program seats available to Maine students at participating medical schools.
- Expand the State Loan Repayment Program to include non-physician health care professionals who commit to work in Maine's health professional shortage areas. Seek to leverage state funds with non-state funds to maximize the size and scope of the program.
- The Legislature should develop an Income Tax Credit Program for health professionals at retirement age who wish to continue work in rural Maine.

f. Establish more effective partnerships between higher education institutions and health care providers.

- The Legislature should provide support for the Maine AHEC Network to develop clinical placements for a broad range of health care occupations.
- The Health Workforce Forum should strengthen ties between higher education institutions and employers in order to align educational opportunities with industry needs.

g. Ensure that the Legislature continues to address issues affecting the direct care workforce in Maine, especially in rural areas.

- Ensure that rural long-term care providers are included in any demonstrations that offer these providers higher reimbursement to provide insurance coverage for direct care workers.
- Provide input into the upgrade in the Maine Direct Worker Registry.

h. Work with the Telehealth Work Group to ensure that they consider the use of telehealth and telemedicine as a tool for workforce retention in rural areas.

- Rural health care providers should be surveyed to determine the best use of the current system to support their work and professional development.

i. Rural community providers should be assisted by AHEC and/or the Office of Rural Health and Primary Care to target their recruitment efforts on local individual candidates as they move through the educational continuum from middle school through the completion of professional training and entry into local practice.

Goal 4: Rural health systems must support a planned care model that ensures better patient level coordination, integration of chronic care, and quality of care.

Background

The Planned Care Model (formerly the Chronic Care Model) is a systematic and population-based approach to treating chronic illness in a primary care setting.[21] The model includes six elements:

1. **Community Resources**: Resources are identified and made available to patients and health care providers coordinate care with these services and their patients.

2. **Health System Organization**: The system is organized to proactively meet the patients' needs, monitor performance improvement, and offer providers or patients' incentives for reaching these goals.

3. **Self-Management Support**: Patients are provided with education, peer support, and clinical feedback about their care. Patients drive their care by setting their own personal goals with the assistance of the provider team. Self-management is especially important since patients spend most of their time outside the health care system and must learn to manage their condition for their health to improve.

4. **Decision Support**: Care is provided based on, where possible, evidence-based guidelines and integrates primary and specialty care.

5. **Delivery System Design**: Patients' care is provided through a team approach with each team member having a specified role. The team, led by the designated Care Manager, meets regularly to discuss their patients with chronic illness. Systems are created to support regular communication and follow-up with patients.

6. **Clinical Information Systems**: A registry or electronic medical record system is created for patients with chronic illness which provides reminders to patients and providers, gives regular feedback to providers on their performance, and allows the care team to develop care plans with patients.

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[21] *Washington State Collaborative: Planned Care Model*. Retrieved February 15, 2008, from http://www.doh.wa.gov/cfh/WSC/model_info/default.htm. Wagner, E.H., Austin, B.T., & Von Korff, M. (1996). Improving outcomes in chronic illness. *Managed Care Quarterly, 4*(2), 12-25.

Problem

Although implementing the Planned Care Model (PCM) would improve chronic care among all Mainers, rural Mainers would especially be affected since they are disproportionately affected by chronic illness.[22] While the PCM and its individual elements have been shown to significantly improve the treatment of chronic illness and reduce the costs of treating these patients, it has not been widely adopted by rural providers in Maine.[23] Rural Maine providers generally lack the human resources, decision support, clinical information systems, and financial incentives needed to effectively implement this model.

Strategies for Action

1. Human Resources

Since rural primary care practices may be smaller than those found in urban areas, they may not have the staff needed to execute elements of the PCM, including providing self-management support, assembling an effective care team, and communicating regularly with patients to monitor their conditions. One approach to address these problems would be to train the staff currently available in rural practices to play new roles in the provider team. When MaineHealth implemented their AH! Asthma Health program, some participating practices trained office receptionists to call and remind patients of what they needed to bring to their next appointment while others trained medical assistants to assess patients' asthma severity so physicians could follow the appropriate care guidelines.[24]

Care or case managers are important care team members, but many rural practices, especially small ones, will not have the volume of patients to support a care manager within their practices. Other types of providers (health educators, dieticians, and mental health providers) are often not available in rural communities. Sharing these providers with or locating them within other health care organizations (hospitals and clinics) in the local community is likely to provide the best solution to this problem. Through its Community Care Initiative (CCI), Mount Desert Island Hospital has used nurse care managers to assist partner organizations in managing and coordinating local residents' medical and social service needs.[25] They have located a Community Outreach Coordinator at a local social service organization. Another approach to facilitate access to care, including specialty providers, may be reimbursing for group patient visits. This would not only allow providers to offer services to a greater number of patients in a

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[22] *Cardiovascular disease prevalence and health care utilization in MaineCare*. (2004). (FY2003 Report). Augusta, ME: Department of Human Services.; *Depression prevalence and health care utilization in MaineCare*. (2004). (FY2003 Report). Augusta, ME: Department of Human Services.; *Diabetes prevalence and health care utilization in MaineCare*. (2004). (FY2003 Report). Augusta, ME: Department of Human Services.

[23] *Chronic condition management works: The good news for healthcare today*. (n.d.) Portland, ME: MaineHealth.; Korsen, N., & Cartwright, C. Caring *for ME: Feel better, live better.* (2006). (Annual Report 2005). Portland, ME: MaineHealth.; Public Health Research Institute. (2004). *Rural Maine Health Demonstration Project: Chronic Obstructive Pulmonary Disease Initiative*. (2002). The impact of planned care and a diabetes electronic management system on community-based Diabetes care. *Diabetes Care* 25(11), 1952-57.; Trento, M. (2001). Group visits improve metabolic control in Type 2 Diabetes. *Diabetes Care, 24*(6), 995-1000.

[24] *Chronic condition management works: The good news for healthcare today*. (n.d.) Portland, ME: MaineHealth.

[25] Rowley, T.D. (n.d.) *Promoting rural health care quality through Health Disparities Collaboratives: Mt. Desert Island Community Care Initiative*. Kansas City, MO: The National Rural Health Association.

shorter period of time, but would allow patients to share their experiences and learn from one another.[26] Group visits have been shown to be particularly effective in managing diabetes.[27]

2. Decision Support

Treating many chronic conditions within their practice, primary care providers must keep up to date on research and evidence-based guidelines and protocols. Various health care providers and organizations have developed tools to assist providers in easily and effectively implementing these guidelines and protocols. For example, MaineHealth developed flipcharts for guidelines and posters for exam rooms with reminders on how to assess asthma severity in its asthma improvement program.[28] The Maine Health Alliance has web-based Care Management Software including guidelines, protocols, and patient care plans in use in twenty Maine communities. Providing a central location, like the Maine Quality Forum (MQF), for these tools would save rural providers time and money in developing their own tools.

3. Clinical Information Systems

An essential element of the PCM is a registry or electronic medical record system equipped to track provider performance. However, many rural providers find obtaining these clinical information systems cost prohibitive, exceedingly disruptive, and difficult to implement. There are a few options available to overcome these barriers. First, some providers have opted to use the free Veterans Health Information Systems and Technology Architecture (VistA) electronic health record provided by the Veterans' Health Administration.[29] Second, rural health care providers could simply wait for HealthInfoNet to implement its statewide registry system, which is projected to be fully implemented in 2010. HealthInfoNet offers a vision for statewide health information exchange that would allow all Maine providers to access hospital, laboratory, retail and mail-order pharmacy, physician, and other data for their patients. In addition, the system would allow providers to send data to an integrated public health information system.[30] They have recently identified 3M as their vendor and will start piloting the system at Maine Medical Center, Eastern Maine Medical Center, Maine General, and Central Maine Medical Center.[31] However, rural providers will likely still need local support to assist them in the effective use of this system and to address any interoperability issues that arise from using different IT systems.

Third, rural primary care providers may opt to work with larger health care providers, such as hospitals, to create regional clinical information systems. These activities have already been happening within the state. For example, Maine Medical Center and Eastern Maine Medical Center have worked with several hospitals and outpatient providers to develop a regional, shared Picture Archiving and Communications System (PACS) for radiology information. This approach offers more affordable access to PACS, technology support and maintenance, and access to radiology images and reports taken at other institutions. Recent funding from the Federal Communications Commission's Rural Health Care Pilot Program will likely help in these efforts. The Rural Western and Central Maine Broadband Initiative will construct a broadband regional network of health clinics in Franklin and Kennebec counties. The New

[26] *Chronic condition management works: The good news for healthcare today*. (n.d.) Portland, ME: MaineHealth.
[27] Trento, M. (2001). Group visits improve metabolic control in Type 2 Diabetes. *Diabetes Care, 24*(6), 995-1000.
[28] *Chronic condition management works: The good news for healthcare today*. (n.d.) Portland, ME: MaineHealth.
[29] United States Department of Veteran Affairs. *Requesting VistA Software*. Retrieved February 15, 2008, from http://www1.va.gov/VHA_OI/page.cfm?pg=37
[30] Harner, J. (2007). *Can health information technology be the answer?* (Issue Brief). Maine: HealthInfoNet.
[31] Harner, J. (2007). *Can health information technology be the answer?* (Issue Brief). Maine: HealthInfoNet.

England Telehealth Consortium will connect over 555 health care sites across Maine, New Hampshire, and Vermont.[32]

4. Financial Incentives/Reimbursement

In order to promote successful implementation of the PCM, MaineCare and other health insurers will need to change reimbursement policies to include care management or care coordination activities, group appointments, same day visits to primary care and specialty providers, and more comprehensive health assessments. MaineCare does provide disease management support through a number of contractors. However, their program should focus on a Planned Care Model approach. Reimbursing care management activities will help providers to either support care managers or to train their staff to provide care management. Covering group appointments would improve patients' ability to manage their illnesses and likely save MaineCare and other insurers' money. Allowing same day primary care and specialty visits would encourage the co-location of specialty providers, such as psychologists and nutritionists, in rural primary care practices, lowering inefficiencies and problems with MaineCare beneficiary scheduling and missed appointments. MaineCare already reimburses more comprehensive health assessments through its Bright Futures Health Assessment program for children. This program should be expanded to include adults and to focus on chronic illness prevention and management. If effective, these changes would not only improve outcomes among MaineCare enrollees, but also create cost savings. The U.S. Department of Health and Human Services estimates that the Planned Care Model saves $3.14 for every dollar spent.[33]

Rural employers and community organizations should also work with commercial insurers to develop new contract incentives and reimbursement for practice- or community-based PCM services. Alternatively, the Legislature, through the insurance commission, could mandate the inclusion of these services in all insurance products. Similar incentives should be created for MaineCare recipients. Pilot projects will be needed before universal adoption of this strategy.

5. Implementation Structure

An implementation structure must be created in order to ensure that the Care Model is implemented community-wide rather than just in certain practices. There two primary options for how to structure implementation. First, the implementation of the Care Model could be included as a responsibility of the District Coordinating Councils. There are some benefits to using this structure. Using the public health system will allow for the integration of prevention and planned care, which currently does not exist within the model. The regional councils will also include representation from health care and other organizations, which will allow for greater community acceptance of the changes needed. A potential limitation is that the development of the public health system in Maine is still in the early stages and it is still unknown how the system will develop over time. Whether or not this model is used, health care providers and the new public health system must work collaboratively to ensure that prevention is incorporated into the Care Model.

[32] *NE Telehealth Consortium wins top FCC funding,* Retrieved February 15, 2008, from http://www.newenglandruralhealth.org/news/items/telehealthaward.pdf

[33] *Chronic condition management works: The good news for healthcare today*. (n.d.) Portland, ME: MaineHealth.

A second strategy could be to rely on community collaboratives, Physician Hospital Organizations (PHOs), or health systems that already exist. This approach would be especially beneficial where existing collaboratives are already working successfully. These local communities, PHOs, or health systems could implement the model based on the community's or system's level of readiness. For example, the MaineHealth system includes a number of rural practices in which the PCM has already been implemented and it may be beneficial to allow this process to continue.[34] A limitation is that community collaboratives may not include all the specialty or urban providers that would be ideal, but are not essential to effectively implement the model. This problem stresses the need for collaborative referral mechanisms, as advocated in Goal 1 and Appendix C.

Recommendations

a. MaineCare and commercial insurers need to explore and develop financial incentives to assist rural providers in implementing the PCM. The implemented PCM should be patient based rather than disease based to ensure the efficient management of patients with multiple chronic illnesses. Incentives should include financing community-based disease management, care management activities, group appointments, reimbursement for same day visits to primary care and specialty providers, co-location of certain providers, comprehensive health care assessments, and support for patient behavior change.

    - The MaineCare program could research the potential impact of these incentives on cost and quality of care. The research could include the collection of data from Maine health care organizations that have already implemented the PCM or aspects of the PCM.
    - MaineCare and commercial insurers should establish an all payer pilot program to identify and assess the best strategies for implementing the PCM community-wide.

b. All rural primary care providers/practices should have access to a case/care manager. For larger group practices care managers can be located within the practice office. For smaller groups or solo practitioners these managers can be located at the local hospital or FQHC.

    - Care managers should have a maximum case load to ensure that they are not overwhelmed. Certification and training should also be provided to primary care practices to assist them, where possible, in developing care management activities among their current staff.
    - The Maine AHEC Network should offer continuing education programs in care management, disease management and chronic care management. It should also explore ways to assist rural residents in obtaining certification in care management.

[34] Letourneau, L. M., Korsen, N., Osgood, J., & Swartz, S. (2006). *JHQ 184 rural communities improving quality through collaboration: The MaineHealth story*, Glenview, IL: National Association for Healthcare Quality.

c. The Maine Quality Forum should develop and maintain a clearinghouse of tools that have been created to assist in the implementation and utilization of evidence-based guidelines and protocols.

d. The Maine Quality Forum, rural health care providers and local communities should work collaboratively to develop a plan for obtaining and implementing clinical registries or electronic medical record systems in rural health care organizations, which provide easy to use tools for quality assessment and disease monitoring. This should include the development of metrics for quality measurement.

e. Local communities, clusters of communities, or health care systems should create collaboratives to identify barriers to implementing the PCM in their communities, develop strategies to overcome these barriers, and create plans to implement the PCM community/system-wide.

f. Rural health care providers and the public health care system should work collaboratively to develop a plan for incorporating prevention, health promotion, and other public health services into the PCM.

Goal 5: Maine's quality and performance improvement system must incorporate *rural-relevant* measures that monitor the effectiveness of the rural health care system and its impact on rural residents' health.

Background

Over the last several years, the focus on health care quality and patient safety has significantly increased. Recently strategies to improve quality and safety have focused on public reporting and financial incentives for health care providers. The Centers for Medicare and Medicaid Services have developed process improvement measures for acute myocardial infarction (AMI), heart failure (HF), pneumonia, and surgical care. Hospitals, with some exceptions like Psychiatric Hospitals and CAHs, are required to submit and publicly report their data on these measures to the Hospital Compare website or face reductions in their Medicare reimbursement. The Hospital Compare site allows participating hospitals and consumers to compare their hospital's performance to national standards of care. Although not required, all Maine CAHs currently participate in Hospital Compare.

The Maine Quality Forum was developed under Dirigo Health by the governor and the Maine legislature to ensure access to high quality health care and to help Mainers make informed health care choices. On its website, the Forum provides information on variations in health care procedures among Maine's hospitals as well as data on hospital mortality rates, adverse outcomes, and other quality measures. Some Maine rural hospitals have taken this a step further by making quality and performance improvement data available on their websites. The Maine Health Management Coalition also encourages Maine doctors to publicly report data on use of clinical information systems and on measures of diabetes and heart disease care. Hospitals are asked to report on patient satisfaction, patient safety, and CMS' core measures on AMI, HF, pneumonia, and surgical infections.

Employers and health care insurers are also using financial incentives to improve quality. In addition to reducing payments for not reporting data, CMS gives providers using national standards of care higher reimbursement. Anthem Blue Cross and Blue Shield offer incentive programs to primary care providers and hospitals. These providers are financially rewarded for meeting or exceeding identified performance standards. Employers are also getting involved with incentive programs. Three large Maine employers, including the State of Maine, have created preferred provider programs. These employers encourage or steer their employees and dependents toward certain providers based on certain quality and/or cost measures. These employers may simply report this information to their employees or provide them with financial incentives (lower co-pays, deductibles or monthly premiums) for using these providers.

Problem

Our current approach to monitoring and improving quality is problematic for rural health care providers for several reasons.

- The quality measures currently being used are not always relevant to the core functions of rural health care providers.
- Many quality measurement initiatives are driven by specific organizations with their own goals. They often result in overlapping reporting requirements and overwhelming amounts of data for rural hospitals to track and submit to multiple disconnected organizations. These administrative costs can be disproportionately high in rural environments. Furthermore, these measurement initiatives do not necessarily represent a system of quality measurement or a common set of indicators.
- Rural providers typically have lower volumes of patients than urban providers, often resulting in too few cases for reporting data with adequate statistical significance.
- Rural providers may lack the health information technology needed to efficiently collect and disseminate these data.
- Maine currently lacks a performance measurement system for the rural health care system, making it difficult to track how the system is performing as a whole.
- Similarly, Maine lacks an effective system to assess the health status of rural Mainers.
- The current health care system culture still places blame on individuals rather than the system, encouraging providers to conceal errors and dangerous situations.

Strategies for Action

The keys to creating a rural-relevant quality and performance improvement system are:

1. To create a common set of indicators that assess the quality, effectiveness, and efficiency for the core functions of rural health care providers.
2. To create a performance monitoring system that measures the efficiency and effectiveness of the rural health care system as a whole and monitors its impact on rural residents' health status.
3. To streamline measurement reporting requirements by eliminating duplication and using health information technology to more efficiently collect and disseminate this information.

4. To establish a health care culture that encourages providers to report errors and dangerous situations, review these problems, and develop strategies to keep them from reoccurring.

1. Creating a common set of indicators

The best strategy for developing common indicators is to start with a group of providers that have already begun to organize and work on this issue and then expand it to other groups. The Chief Executive Officers, Directors of Nursing, and Quality Managers at Maine's Critical Access Hospitals have begun to meet with one another and with the Maine Quality Forum and the Maine Health Access Foundation to address working collaboratively on quality improvement activities. They expect to create a set of measures that define the care they provide as CAHs.

Another important aspect of creating a new set of measures is using work and information that already exists. The Flex Monitoring Team, consisting of researchers from the Universities of Minnesota, North Carolina and Southern Maine, has been working over the last several years to develop measures to assess performance of CAHs across the country. To date, they have developed financial and quality improvement measures that they report to each CAH, and plan to create measures for community impact/benefit. Specifically, the University of Minnesota has created a set of rural hospital emergency department quality measures which includes measures on chest pain and AMI assessment, vital sign measurement, and communication during patient transfers.[35] It would be appropriate to pilot these developments in Maine. In addition, FQHCs will report on new Uniform Data Systems (UDS) of clinical measures to the Bureau of Primary Health Care on an annual basis starting in 2008. These measures should be included in Maine's core set of rural-relevant quality measures where appropriate.

Lastly, as the core measures are developed, rural health providers must include other organizations, particularly community health centers, to ensure that the new measures are widely accepted and used in various care settings. Many organizations currently ask providers to report on their quality, including health insurers, the Maine Hospital Association, the Maine Health Management Coalition, the Maine Quality Forum, and larger employers. Ideally, rural health care providers would work with these organizations to encourage the use of the agreed upon standards in their public reporting systems or in their assessments of preferred providers.

2. Creating performance and health monitoring systems

There are several important steps in developing a performance and health monitoring system. First, the group developing the measures must decide what should be measured and why. Luckily, there are a number of focus areas and measurements that have already been developed to help guide the selection of areas of focus and measures. The Institute of Medicine report, *"Quality Through Collaboration: The Future of Rural Health,"* identifies six aims for improving the health care system: safety, effectiveness, patient centeredness, timeliness, efficiency, and equity. Similarly, the Commonwealth Fund has created a scorecard with 32 indicators that fall into five dimensions: access, quality, potentially avoidable use of hospital and costs of care,

[35] Klingner, J., & Moscovice, I. (2007). *Rural hospital emergency department quality measures: Aggregate data report.* (*Flex* Monitoring Team Data Summary Report No. 3). Minneapolis, MN: Federal Office of Rural Health Policy.

equity, and the ability to live long and healthy lives. The Centers for Disease Control and Prevention collect information on a number of health status measures including chronic conditions, death rates, infant mortality, alcohol and substance abuse, and others. The process of identifying measures should use these sources as much as possible.

Second, the group must determine how the data will be collected and the feasibility of collecting data for the measures selected. Lastly, the group must develop a process to use the data to improve the rural health care system and rural Mainers' health. How will the information be disseminated? The Commonwealth Fund uses a scorecard approach and ranks states by each dimension. In the past, Maine has used a regional report published by the Governor's Office. There are various ways to strategically use these data. One approach would be to develop a Healthy Rural Mainers document that establishes goals for improving the health care and health of rural Mainers. The federal government currently creates a Rural Healthy People companion document and tools for states to develop their own Healthy People 2010. The performance and health monitoring system could also be used to assist in identifying priority areas to be included in Maine's Rural Health Plan.

3. *Streamlining current measurement reporting requirements*

Currently, rural providers are overwhelmed by the number of reporting requirements and the often overlapping measures required by various groups. The many groups and organizations interested in quality measurement and reporting should meet to determine how to make the reporting system easier or whether they can all agree on a common set of measures for public reporting. For instance, each organization could contribute to the development of a common database that would allow hospitals and other providers to report all their data to one location, at least eliminating the duplication of effort in reporting measures. These groups should also meet with representatives of HealthInfoNet to determine how the new health information exchange system could be used to streamline data reporting. For example, HealthInfoNet already plans to use its system to pass information on to public health organizations.[36] Rural providers could also develop regional health information organizations to organize and assist them in data submission. Regional health information organizations (RHIO), are formal health information exchange organizations that arrange for the means of electronic exchange of information, and develop and maintain health information exchange standards. These organizations may offer disease or chronic care management and support quality performance reporting services to their members.[37]

4. *Establishing a "culture of quality/safety"*

An important component of improving quality is establishing a "culture of quality or safety" in which the reporting of errors and dangerous situations is encouraged and rewarded, and procedures are modified to prevent recurrences. Our current cultural emphasis on liability and accountability encourages people to conceal errors and "near miss" situations. Strong incentives support the culture of concealment. A fairly small percentage of fatal hospital errors are recognized and result in financial settlements, compared to public transportation where

[36] Presentation, HealthInfoNet: Overview Talking Points, June 2006
[37] *Definitions and select characteristics of HIE initiatives.* (n.d.) Retrieved November 19, 2007, from http://www.ehealthinitiative.org/pressrelease825A.mspx

practically all deaths due to system error are recognized, analyzed and compensated. Can Mainers find ways to mitigate incentives for the "culture of concealment"?

Recommendations

a. The Office of Rural Health and Primary Care, the Maine Quality Forum, the Maine Hospital Association, and Maine's 15 CAHs should continue their collaborative efforts to develop a core set of rural-relevant quality measures for CAHs. During this process, the group should:

    - Involve other organizations and state agencies (Maine Health Management Coalition, Anthem and other health insurers, etc.);
    - Review quality indicators being used across the nation and internationally;
    - Draw on previous work done by the Flex Monitoring Team and others; and
    - Set goals to extend their efforts to include other types of rural health care providers, including non-CAHs and community health centers.

b. Create a work group consisting of representatives from the state's Quality Improvement Organization, the Maine Quality Forum, the Maine Health Management Coalition, large employers, and rural health care providers to address issues related to public reporting requirements. This group would be charged with:

    - Identifying problems with public reporting for rural health care providers;
    - Determining whether the many groups requiring/requesting quality information could agree on a common set of indicators for public reporting; and
    - Developing a plan to create a more efficient approach to submitting data for public reporting.

c. The Maine CDC, District Coordinating Councils, and rural providers must work collaboratively to develop a system for assessing the health status of rural Mainers. The key steps are:
    - To identify priority areas for measurement;
    - To identify currently available data sources, such as the Behavioral Risk Factor Surveillance System;
    - To determine what organization/agency will be responsible for the analysis and reporting of data; and
    - To create a process to use the data to improve the health status of rural Mainers.

d. The Governor's Office, Maine Office of Rural Health and Primary Care, and rural health care providers should work collaboratively to develop a performance measurement system to monitor the rural health care system as a whole. To create this measurement system, they should:

    - Convene a group of rural health care providers and stakeholders to select priority areas and measures;
    - Consider current models and approaches to measuring system performance, such as the Commonwealth Fund's National Scorecard;

- Create an efficient system for collecting and disseminating the results; and
- Develop a process to use the performance measurement system to improve the rural health care system.

e. The Maine Health Access Foundation (MeHAF) should convene a conference including but not limited to hospital and community health center administrators, physicians, nurse and quality managers, liability and defense attorneys, transportation managers, and ethicists to clarify and help resolve problems in developing a "Culture of Quality" in Maine's health care system.

Goal 6a: Maine's rural health care system must have an interoperable health information technology system that facilitates communication, improves quality and efficiency, and supports greater integration among health and public health care providers.

Background

Over the last several years, the focus on health information technology (HIT) has significantly increased. In 2004, President George W. Bush announced that most Americans should have access to electronic medical records (EMRs) by 2014.[38] The Centers for Medicare and Medicaid Services will require states to improve their information systems so providers, patients and managers have access to necessary clinical information to manage care.[39] In 2007, U.S. senators introduced two bills to assist rural providers in adopting HIT.[40] State governments have increased their focus on HIT through legislation, planning commissions and funding support.[41] Federal and state governments have primarily focused on EMRs and health information exchange (HIE). HIE allows for the electronic exchange of clinical information between disparate health care information systems. There are many other forms of technology being used including personal digital assistants (PDAs), computer physician order entry (CPOE), Picture Archiving and Communication Systems (PACS), and chronic disease registries. Recent funding from the FCC to create regional broadband networks will improve rural health care providers' ability to utilize HIT.[42]

Problem

Without HIT, the rural health care system cannot: 1) operate with optimal efficiency or effectiveness, 2) measure and manage quality appropriately, 3) evaluate community needs

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[38] *Improving the quality of healthcare through health information exchange*: *eHealth Initiative's third annual survey of health information exchange activities as the state, regional and local levels*. (2006). Washington, DC: eHealth Initiative.
[39] Friedman, R.H. (2006). Medicaid information technology architecture: An overview. *Health Care Financing Review, 28*(2), 1-9.
[40] Rural Medicare Equity Act of 2007, S. 498, 110th Congress (2007). Critical Access to Health Information Technology Act of 2007, S.628, 110th Congress (2007).
[41] *Profiles of progress: State health IT initiatives.* (2006). Lexington, KY: National Association of State Chief Information Officers.
[42] *NE Telehealth Consortium wins top FCC funding,* Retrieved February 15, 2008, from http://www.newenglandruralhealth.org/news/items/telehealthaward.pdf

thoroughly, and 4) manage costs well. Maine continues to progress in building the HIT infrastructure needed to accurately and quickly share information electronically among providers. However, to support all the initiatives in this plan, significant efforts to develop interoperable systems must be made.

Rural residents must travel to larger towns and institutions for more specialized care, often making important clinical patient information difficult to transfer between facilities. These transfers and the distance between rural health care providers also present significant interoperability problems among separate HIT systems. Providers are often forced to download and reload clinical information each time, reducing the benefits of HIT and increasing the potential for errors. The high costs of HIT systems and providers' inability to hire HIT managers present rural providers with significant barriers to obtaining these systems. Many rural providers also lack the bandwidth needed to effectively use shared systems, making accessing information slow and time consuming. Lastly, IT program designers typically create products for larger institutions, making obtaining systems for smaller facilities more difficult. Unfortunately, we currently have limited information about the types of HIT rural providers have, how they are being used, and their readiness to develop HIT systems.

Strategies for Action

1. *Rural providers' readiness, access and use of HIT*

To assist rural Maine providers in obtaining IT systems, we must first understand their readiness for, access to and use of HIT. Nationally, rural hospitals lag their urban counterparts in planning for and adopting IT systems. Critical Access Hospitals (CAHs) use HIT for administrative and financial purposes more than for clinical applications. Although many CAHs have created a formal information technology plan and allocated funding for purchasing IT in their budgets, 12% of rural hospitals have not used or considered using clinical IT compared to only 3% of urban hospitals.[43, 44] Rural hospitals belonging to a larger health system are more likely to use IT systems than non-system hospitals.

Among Maine's FQHC's HIT development and implementation has been a major priority over past several years with most Centers having implemented EHRs. Nevertheless, the extent of HIT implementation and adoption among the full range of rural health care providers in Maine is not known. An initial strategy therefore should include a survey to determine the state of HIT adoption.

2. *Transfer and sharing of clinical information among multiple providers*

HealthInfoNet offers a vision for a statewide Health Information Exchange that would allow all Maine providers to access hospital, laboratory, retail and mail-order pharmacy, physician, and other data for their patients. In addition, the system would allow providers to send data to an integrated public health information system.[45] They have recently identified 3M as their vendor

[43] Casey, M., et al. *The current status of health information technology use in CAHs*, (2006). (Briefing Paper #11). Minneapolis, MN: Federal Office of Rural Health Policy.
[44] *The 2006 report to the Secretary: Rural health and human service issues*. Retrieved February 18, 2008, from http://ruralcommittee.hrsa.gov/NAC06AReport.htm
[45] Harner, J. (2007). *Can health information technology be the answer?* (Issue Brief). Maine: HealthInfoNet.

and will start piloting the system at Maine Medical Center, Eastern Maine Medical Center, Maine General, and Central Maine Medical Center. Although this statewide system holds promise, rural providers may not reap the full benefits if they lack the needed technology. They also may not have the HIT expertise to effectively use the system. HealthInfoNet should develop a plan to assist rural providers with these challenges.

Regional systems offer another approach to obtaining HIT for rural providers. In Spokane, the Inland Northwest Health System (INHS) developed a regional health information organization (RHIO) among three urban and 37 rural hospitals.[46] A RHIO is a formal organization within a geographically defined area that oversees the electronic exchange of information and maintains health information exchange standards. The system in Spokane, owned by the three urban hospitals, maintains medical records of about two million individuals and manages IT systems in all forty hospitals and numerous clinics. In Maine, the strategy has been to develop HealthInfoNet as a statewide RHIO. In addition to this statewide strategy, rural members of MaineHealth have obtained EMRs through their system membership.[47] MaineHealth and Eastern Maine Health System have also created regional PACS among hospitals and outpatient providers, allowing for the sharing of radiology information across organizations.[48] These regional systems provide potential benefits by assisting rural providers with HIT support and interoperability.

3. *Funding to assist rural providers in obtaining HIT*

Many funding strategies exist that promote the adoption of HIT. Health insurers often use reimbursement and financial incentives, such as payment differentials, cost differentials, direct reimbursements, and shared withholds. Anthem Blue Cross and Blue Shield of Maine currently offer payment differentials and incentives to physicians who improve their practices by using HIT. Direct reimbursement for the use of HIT, such as virtual provider-patient visits, may offer the greatest impact for rural providers.[49]

Medical malpractice insurers, health care associations, states, and Congress also assist in funding HIT. Medical malpractice insurers offer discounted rates to providers using HIT since these systems improve outcomes and reduce malpractice liability. By collaborating with IT vendors, the American Academy of Family Physicians has allowed rural providers to obtain HIT at reduced costs or through flexible payment plans. In Wisconsin, health plans, hospitals, and manufacturers have worked together to propose a state tax initiative plan which would offer tax benefits, low-cost financing, and income tax exemption for technology purchases or upgrades. This plan would also include technology loans targeted at small and rural non-profit health care institutions. Lastly, research should be conducted in Maine to assess whether recent changes to anti-kickback and Stark laws have increased the adoption of e-prescribing and EHRs among

[46] Inland Northwest Telehealth website. Retrieved June 12, 2007, from http://www.nwtelehealth.org/default.aspx
[47] Medical Staff Orientation, MaineHealthLink website. Retrieved June 12, 2007, from http://www.mmc.org/mmc_body.cfm?id=3307
[48] Blue Hill Memorial Hospital provides faster, advanced diagnostic treatment for patients. Retrieved June 12, 2007, from http://www.bhmh.org/News/Blue+Hill+Memorial+Hospital+Provides+Faster,+Advanced+Diagnostic+Treatment+for+Patients.htm
[49] Rosenfeld, S., Zeitler, E., & Mendelson, D. (2004). *Financial incentives: Innovative payment for health information technology*. Washington, DC: Foundation for eHealth Initiative.

rural providers. Through these changes, physicians, hospitals, and other providers could more easily establish collaboratives and relationships to invest in HIT.[50]

The federal government has supported the adoption of HIT through several grant opportunities. The Agency for Healthcare Research and Quality (AHRQ) offers HIT planning and implementation grants for both inpatient and ambulatory care settings. It has also funded state and regional demonstration projects on the interoperability of HIT systems. The National Library of Medicine supplies planning grants to support the development of comprehensive trans-organization information management structures. The Human Resource and Service Administration (HRSA) also currently offer grants for electronic health record (EHR) implementation initiatives and non-EHR innovations in HIT. Finally, the United States Department of Agriculture (USDA) provides loans, grants, or a combination of loans and grants to fund distance learning and telehealth projects. In order to take advantage of these opportunities, the state and other organizations should make the technical assistance needed to apply for these grants available to rural health care providers.

Many states have also begun to offer funding for HIT. Florida, New York, and Tennessee have each developed grant programs to fund regional HIE projects. During the last fiscal year, Florida offered $2 million in grant funding.[51] The grants provide health care organizations with funds to plan, implement, and evaluate HIE projects. The state also offers funding to physicians and dentists to train them to use EHRs. Through HEAL NY, New York State provided funding for the development of regional HIT initiatives.[52] Tennessee's Governor has committed over $10 million to fund regional HIT projects.[53]

4. *Product Development that Meet the Needs of Rural Providers*

The development of collaborative relationships between IT vendors, the state, and health care providers represents an important strategy for developing HIT products that meet the needs of rural providers. Maine should create a program similar to the American Academy of Family Physicians. The program would focus on identifying rural provider needs and addressing barriers to creating products for small rural providers. The creation of regional or community level provider groups would also encourage IT vendors to develop products targeted at rural health providers.

Recommendations

a. The Office of Rural Health and Primary Care should undertake an assessment of HIT capacity and readiness, adoption, and utilization (including electronic medical records, telehealth, and distance learning) of Maine's Rural Health System. Based on the results, it should develop a statewide plan for addressing priority gaps and needs.

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[50] Ibid., 2004.
[51] *Florida Health Information Network grants, FY2005-2008*. Retrieved February 18, 2008, from http://ahca.myflorida.com/dhit/Governance/MeetingsMaterials/Jan1008/GrantProgramInformation.pdf
[52] Health information technology, New York State Department of Health website. Retrieved June 12,2007, from http://www.health.state.ny.us/technology/
[53] Hurter, K. (n.d.) Tennessee Governor Bredesen honored by eHealth initiative for contributions to electronic health information exchange. Retrieved June 12, 2007, from http://www.ehealthinitiative.org/news/Bredesen.mspx

b. The Office of Rural Health and Primary Care should have an expanded role in assisting rural health care providers in obtaining HIT systems. They should

- develop and maintain a website with information on best practices for planning and implementing HIT systems;
- provide information on public and private sector funding opportunities and technical assistance to rural health care organizations that want to apply for these grants;
- advocate for supplemental funding for HIT projects;
- encourage and support the development of collaborative relationships between IT vendors and rural providers; and
- support the development of HIT systems and their use to improve quality of care and efficiency.

c. The state should explore ways to assist rural providers in obtaining HIT through MaineCare reimbursement, grant or loan programs, and/or legislation.

d. The Telehealth Work Group should be expanded to include health information technology.

e. HealthInfoNet should develop a plan to assist rural providers in preparing to use, maintain, and support the new HIE system.

Goal 6b: Maine's health care system must have a telehealth infrastructure that is accessible, adequately reimbursed, and enhances access to care.

IT in this country is generally thought of as information handled by computers, while telehealth is viewed as "medicine via TV". These differing views have created an arbitrary boundary between telehealth and IT although telehealth is simply a specialized form of IT. Teleradiology illustrates the convergence of the two fields.

Maine currently has telehealth programs and projects underway. Maine Telemedicine Services (MTS) at Healthways Regional Medical Center of Lubec continues to help hospitals, clinics and other facilities in Maine by supplying, maintaining, and providing technical assistance for telehealth equipment.[54] It has also received a three year grant from the HRSA Office for the Advancement of Telehealth for the implementation of a telehealth resource center, the Northeast Telehealth Resource Center.[55] Maine health care providers currently offer home monitoring of chronic illnesses, mental health medication management, and radiology services through telehealth.[56] MaineHealth has also begun to provide hospitals with virtual ICU care. Through this program, intensivists and ICU nurses in Portland can monitor ICU patients at other hospitals through telehealth.[57]

[54] Maine Telemedicine Services website. Retrieved May 2008, from http://www.rmcl.org/mts/
[55] Ken Topel, personal communications, June 2007; Northeast Telehealth Resource Center (www.northeasttrc.org).
[56] *Meeting Notes*, (2007, January 31). Notes from Telehealth Work Group meeting, January 31, 2007.
[57] William Diggins, personal communications, June 4, 2007; MaineHealth VitalNetwork website. Retrieved June 13, 2007, from https://www.mainehealth.org/mh_body.cfm?id=464

Background

Telehealth services have been used to provide rural patients with improved access to specialty care. Research has found that patients using telepsychiatry have the same outcomes at a lower cost compared to patients meeting with a psychiatrist face to face.[58] Other studies have found that the use of telepsychiatry services did not increase patients' use of health care services.[59] Home telehealth care has been increasingly used, especially for patients with chronic conditions. These services have been shown to improve patients' ability to manage their condition, to lower costs of providing home skilled nursing care, and to lower the number of disease and non-disease related health care services.[60] Teledentistry has successfully been used to identify caries in pre-school children, which could considerably improve children's access to dental care in Maine.[61]

Problem

Telehealth services have not been widely used by rural providers. For most rural providers several barriers still exist that limit the utilization of these services.[62] The following list notes some of these barriers.

- Out of state providers need to be licensed in Maine.
- Providers of telehealth services may need to become credentialed at multiple institutions. These requirements increase provider costs and may affect the accreditation status of hospitals.
- Patients and providers may be uncomfortable with using telehealth, especially older patients with limited technology experience.
- Little evidence-based research has been conducted to identify which services are and are not appropriate for telehealth.
- The reimbursement for telehealth services varies among insurers. Often the host site receives little or no reimbursement. Other insurers force specialists and rural providers to share reimbursement, reducing the specialists' reimbursement and creating a disincentive for them to accept rural telehealth patients.
- Medical malpractice insurers may increase rates for providers using telehealth. We currently have little information about how these insurers are dealing with potential risks.
- Rural areas may lack high speed internet services or the needed bandwidth to operate telehealth services. Others may face prohibitive connectivity and transmission costs.

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[58] O'Reilly et al. (2007). Is telepsychiatry equivalent to face-to-face psychiatry? Results from a randomized controlled equivalence trial. *Psychiatric Services, 58* (6), 836-843.

[59] Ruskin et al. (2004). Treatment outcomes in depression: Comparison of remote treatment through telepsychiatry to in-person treatment. *American Journal of Psychiatry, 161*(8), 1471-1476.

[60] Finkelstein, S.M., Speedie, S.M., & Potthoff, S. (2006). Home telehealth improves clinical outcomes at lower cost for home healthcare. *Telemedicine Journal and E-Health, 12*(2), 128-136.; Chumber et al. (2007). Healthcare utilization among veterans undergoing chemotherapy: The impact of a cancer care coordination/home-telehealth program. *Journal of Ambulatory Care Management, 30*(4), 308-317.

[61] Kopycka-Kedzierawski, D.T., Billings, R.J., & McConnochie, K.M. (2007). Dental screening of preschool children using teledentistry: A feasibility study. *Pediatric Dentistry, 29*(3), 209-213.

[62] *Making Maine the Healthiest State: Maine's State Health Plan*. (2006). Augusta, ME: Governor's Office of Health Policy and Finance.

Strategies for Action

Maine's 2006-2007 State Health Plan recommended the development of a telehealth work group to identify and address the barriers to telehealth use in Maine. This work group has begun to address several of the aforementioned barriers. The mental health licensing subcommittee worked to address current regulations concerned with paperwork and fire marshal requirements for telehealth. Another subcommittee has focused on reciprocal credentialing between hospitals, which is currently not allowed in Maine. The work group has also collaborated with insurers to develop analyses to evaluate telehealth outcomes, which may encourage more insurers to cover telehealth services. Lastly, the group has recently developed a technology subcommittee to address outdated equipment, bandwidth and connectivity, and coordination of federal funding opportunities.[63]

Recommendations

The RHWG commends the work being done by the Telehealth Work Group. However, the RHWG would like to provide recommendations to ensure that certain issues are addressed.

a. MaineCare and commercial insurers should address reimbursement issues, especially adequate reimbursement for host site transmissions. They should:

    - investigate the reimbursement policies of other state Medicaid programs;
    - explore the use and reimbursement of store and forward services; and
    - establish reimbursement for tele-home health services.

b. The Governor's Office and the Office of Rural Health and Primary Care should focus on accessibility and affordability of bandwidth for rural facilities to:

    - identify potential sources of funding; and
    - work with telecommunication companies to address poor access, prohibitive costs, and delays in obtaining needed bandwidth.

c. The Telehealth Work Group should identify champions among providers to lead an effort to educate their colleagues and consumers about the quality and efficacy of telehealth services.

Goal 7: Financial access to the rural health system and the overall financial stability of the system are essential for the health of rural populations and communities.

Problem

The health of rural Maine, the vitality and sustainability of organizations and individual providers serving rural populations, and the strength of rural communities are inextricably linked

[63] Maine Telemedicine Services website. Retrieved June 13, 2007, from http://www.rmcl.org/telmed.html

to our public and private health financing mechanisms. Sustaining and strengthening Maine's rural health system in the face of Maine's high cost of health care and costs associated with rural populations who tend to be older, poorer, sicker, and less well insured by non-governmental insurance is exceptionally challenging.

The RHWG has identified three major concerns with the financing of our rural health system in Maine.

- Rural Mainers' access to health services is compromised by the problems of underinsurance and uninsurance that are more prevalent in rural than urban areas[64].

- Rural Mainers and Maine's rural health system is more dependent on public insurance and financing through Medicare and Medicaid.[65] This makes rural populations and health systems especially sensitive to changes in coverage/eligibility and reimbursement policies than their urban counterparts.

- The categorical nature of federal and state funding for many services has served to promote a service system that is characterized by "siloed" services and systems that makes patient centered, integrated and efficient care for rural citizens very difficult.

Strategies for Action

1. *Insurance coverage and MaineCare*

Expanded health insurance coverage is a necessary condition for ensuring that rural Mainers have access to the health care system. Even adequate private and public insurance coverage does not guarantee access in many rural communities; nonetheless, it is a fundamental prerequisite for building an accessible system of care. There are at least three strategies that have been pursued in Maine on which to build rural-relevant policies and programs: (1) the Dirigo initiative, (2) MaineCare expansions, and/or (3) private sector initiatives (e.g. CarePartners and the Chamber of Commerce-affiliated insurance offerings for small employers).

The Dirigo health reform initiative has provided a framework for incremental expansions of insurance coverage through expansions in Medicaid eligibility combined with the subsidized DirigoChoice product aimed at expanding coverage among small businesses and individuals.[66] The continuing work to further address the development of Dirigo Health's health insurance options is a major rural issue. Rural communities most frequently have a greater share of small employers, many of which, like their urban counterparts, struggle with providing employer-based health benefits. There are also many other uninsured or underinsured individuals who do not have access to reasonably priced insurance coverage. The lack of insurance and underinsurance falls disproportionately on rural residents.[67] This in turn further exacerbates challenges to providing and funding the essential building blocks of rural health.

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[64] In 2006, rural Mainers were significantly more likely to be uninsured than urban Mainers according to the Centers for Disease Control's Behavioral Risk Factors Surveillance System (BRFSS), http://www.cdc.gov/brfss/.
[65] Lenardson, J.D., & Hartley, D. (2007). *Maine's Rural Health Challenges.* Portland, ME: Muskie School of Public Service, University of Southern Maine.
[66] See Dirigo Health Webpage at http://www.dirigohealth.maine.gov/
[67] Center for Disease Control's BRFSS

Reducing the price of health insurance premiums is the key challenge for enabling those who have private coverage to retain it and for enabling those who don't to get into the market. This can be done through subsidies of premiums (e.g. direct or tax system premium subsidies) or by changing the underlying cost profile of health care in Maine. The Dirigo initiative has components addressing both strategies.
While the State has made some progress toward parity for medical and behavioral health services, significant gaps remain. These gaps are particularly found in the small group and individual insurance markets where parity is not required. In addition, Medicare beneficiaries have a 50% co-pay for mental health and substance abuse services. Both of these factors are disproportionately significant in rural areas.

With one out of every five Maine residents receiving MaineCare benefits and a higher percentage still in some rural areas, the role of MaineCare, its financial sustainability, and its impact on both health and the State's budget must not be underestimated. It is critical to recognize that MaineCare covers not just low income women and children, but many of those who are disabled. It is also the State's most substantial payer of long-term care providers. MaineCare is a major component of the critical financial safety net for rural residents.[68]

Maine has expanded MaineCare eligibility to the significant benefit of rural residents. The State Children's Health Insurance Program (SCHIP) and so-called "non-categorical waiver program" have been especially important in providing coverage to previously uninsured rural residents. Approximately 15,000 Maine children receive health insurance coverage through Maine SCHIP.[69] These are children who do not qualify for Medicaid and who would otherwise be unlikely to have health insurance. Many of these children live in rural areas. Maine has been one of the leading states in embracing this program's opportunities to improve the health of children.

SCHIP is an essential element of an integrated public financing strategy and the State's safety net. The number of eligible children may still be greater than the number enrolled. Increased emphasis is needed to assure that all eligible children receive the benefits to which they are entitled.

Through the non-categorical funding program, MaineCare covers childless adults who have incomes up to 100% of the federal poverty level. In FY2004, this program covered approximately twenty-eight thousand Maine adults who would otherwise not have had health insurance coverage, representing 9% of MaineCare recipients.[70] However, in 2005, Maine froze enrollment in this program and also cut benefits provided to those already in the program.[71] Again, given that rural Mainers are more likely to be uninsured or underinsured, changes to this program are likely to disproportionately affect them.

2. *MaineCare, the rural health workforce, and healthcare access*

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[68] Garfield, R. (2005). *Understanding MaineCare: A chartbook about Maine's Medicaid Program*. Augusta, ME: Governor's Office of Health Policy and Finance.
[69] Ibid.
[70] Garfield, R., 2005.
[71] *Information about the non-categorical eligibility option* ,Retrieved February 15, 2008, from www.state.me.us/bms/pdfs_doc/non_cat_info_11_05.doc

In addition to representing a critical source of health coverage for rural residents, MaineCare is a vital source of funding for the rural health system. Maine's Medicaid program has historically supported policies designed to ensure the sustainability of rural safety net providers, including Federally Qualified Health Centers (FQHCs), Rural Health Clinics and Critical Access Hospitals. It does this through cost-based reimbursement policies targeted to these rural providers.[72]

Substantive issues remain, however, regarding the adequacy of reimbursement for physicians, dentists, mental health, and other providers and the collateral impacts on recruitment and retention as well as access for MaineCare beneficiaries. Although MaineCare has recently implemented a physician payment increase as of July 1, 2008, Medicaid payment rates for primary care providers are below national averages and did not increase between 1998 and 2003. These payments are also significantly lower than Medicare payments.[73] Low payment rates hit rural providers particularly hard largely because of their larger volume of Medicaid business, their lower margins, and their more limited ability to shift expenses to other payers. This often results in dentists and other providers significantly limiting the number of MaineCare recipients in their practices. The rural health system is therefore very sensitive to MaineCare policy changes, both positively and negatively. The challenges to rural health cannot be adequately addressed without more focused discussion of the role and impact of MaineCare. *This discussion should be pursued in the context of how MaineCare can be an influential partner in advancing rural health and how it can use its leverage as a major payer to foster rural systems development, while continuing to meet its direct financial obligations.*

MaineCare policies can also have a dramatic impact on rural workforce development and the stability of an adequate workforce. Workforce-supportive MaineCare policies are critical to the future of rural communities. Since rural providers are likely to serve a significant number of MaineCare beneficiaries, any financial or administrative disincentives that affect Medicaid providers can further exacerbate access at the local level. Payments to individual health care providers, including but not limited to physicians and dentists, can be critical determinants of whether a provider can be recruited to and/or retained in a rural setting. Inadequate payment policies can also be a notable barrier to providing rural residents with essential specialty services when MaineCare recipients need to access referral services in other communities (i.e., when specialists in non-rural areas limit the number of MaineCare recipients in *their* practices.)

Frequently, recruitment, retention, and practice operations that assure MaineCare access can only be accomplished through cross-subsidization by hospitals or through Rural Health Clinics, or FQHCs. Many small hospitals, even those with small operating margins, must assume this risk in order to provide community access to physicians' services and to sustain the hospital itself. This in turn increases hospital charges to non-governmental payers.

In rural communities the costs of maintaining core services, (e.g., the number of physicians required to provide adequate call coverage necessary to recruit physicians; or services, such as local pharmacy services) may often be higher than the cost in non-rural areas. This is especially true for low volume services that may be needed (e.g. inpatient care). It is important to consider

[72] Lenardson & Hartley, 2007.
[73] Zuckerman, S., McFeeters, J., Cunningham, P., & Nichols, L. (2004). Changes in Medicaid physician fees, 1998-2003: Implications for physician participation. *Health Affairs, Web Exclusive,* http://content.healthaffairs.org/cgi/content/full/hlthaff.w4.374/DC1

whether MaineCare's reimbursement for services is aligned with the economic and financial realities of rural health care delivery.
The realities of the State budget may dictate that MaineCare may not be able to provide the full level of reimbursement that may be most desirable to recruit and sustain rural providers and to assure financial access. However, this condition does not eliminate the need for adequate reimbursement and there is an increasing public need for open dialogue and collaborative problem solving around these issues.

3. *Maine's Medicare Rural Hospital Flexibility Program*

The impact of the Medicare Flex Program in Maine has been substantial. Using federal Flex Program grant funds Maine CDC's Office of Rural Health and Primary Care, has worked collaboratively with many of the small rural hospitals to support the designation of fifteen hospitals as Critical Access Hospitals (CAHs). This designation has created the opportunity for these hospitals to obtain cost-based reimbursement for Medicare patients and to partially avoid many of the negative impacts of federal budget changes on rural providers. In addition, the State has agreed to participate in the cost-based reimbursement of CAHs for MaineCare patients. This is not the case in all states. This is particularly meaningful in the context of expansions in MaineCare eligibility. The designation of these hospitals and the overlay of MaineCare's commitment are outstanding accomplishments.

The development of CAHs has been a major force in underpinning the financial health of all of these hospitals and in several cases has enabled their continuing operation. It has allowed the inflow to the state of substantial increases in federal Medicare funding where previously Medicare had not paid its fair share of hospital costs. This in turn has resulted in less cost shifting to other payers and in some cases has led to significant moderation in charge increases. It has also allowed hospitals more flexibility to meet their technology and other capital needs, to meet their staffing challenges, and to invest in the creation of quality and performance improvement systems. It has also enabled them to invest in sustaining local access to fundamental services; most notably steps to assuring access to physicians.

Recommendations

a. The Office of Rural Health and Primary Care should develop a Flex Plan for Maine with a two to three year vision consistent with the Rural Health Plan

    - Continue to support Critical Access Hospital and other rural hospital development with increasing emphasis on multi-hospital collaboration, community health systems development, rural-specific quality indicators, as well as other steps that facilitate the optimal use of federal, State, and community resources.

b. Pursue discussions with Community Health Centers and other rural providers and systems (including the Healthy Maine Partnerships to identify ways MaineCare can be an influential partner in advancing rural health and how it can use its leverage as a major payer to foster systems development, while continuing to meet its financial obligations.

c. Conduct a study to clearly identify the relationships between MaineCare eligibility, benefits, and reimbursement and the ability to recruit and sustain necessary rural providers.

    - Identify options for aligning payment levels and community health needs;
    - Continue to promote the identification and enrollment of eligible rural Maine residents and adequate reimbursement to providers for an increased number of enrollees; and
    - Identify options for creating incentives to expand the proposed planned care models for MaineCare recipients.

d. Continue to improve administrative systems to address MaineCare responsiveness to rural providers.

e. Advocate for sustaining the State Children's Health Insurance Program

    - Continue to promote state eligibility and enrollment flexibility and the identification and enrollment of eligible children.
    - Advocate for adequate federal funding for the program through legislators representing Maine in the United States Congress.

f. Assure that rural needs are specifically addressed in relationship to refinements in the Dirigo Health initiatives.

    - Clarify investment capital needs of rural providers (e.g., for health information technology especially electronic medical record systems) and any desirable changes to existing State-supported strategies to expand low cost capital access.
    - Develop a Maine-based disease management capability to keep administrative funding in the State, particularly if this capability can be developed while creating rural jobs.

Appendix A. Rural Health Work Group Members

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Appendix B. Background on Rural Health in Maine

A. Demographics and Socioeconomic Status

The Majority of Maine Counties Are Rural

Maine is considered a rural state; only five other states have a higher percentage of their population living in non-metropolitan areas.[74] However, at the county level, there are variations in rurality with some counties being considered urban. As shown in Table 1, all but five of Maine's counties are rural. Cumberland, Sagadahoc, and York counties are the most urban counties in the state, while Lincoln and Piscataquis are the most rural.

Table 1. Level of Rurality by County

County	RUCC*	Definition
Cumberland	2	County in metro area of 250,000 to 1 million population
Sagadahoc	2	County in metro area of 250,000 to 1 million population
York	2	County in metro area of 250,000 to 1 million population
Androscoggin	3	County in metro area of fewer than 250,000 population
Penobscot	3	County in metro area of fewer than 250,000 population
Kennebec	4	Nonmetro county, population of 20,000+, adjacent to a metro
Franklin	6	Nonmetro county, population of 2,500-19,999, adj. to a metro
Hancock	6	Nonmetro county, population of 2,500-19,999, adj. to a metro
Oxford	6	Nonmetro county, population of 2,500-19,999, adj. to a metro
Somerset	6	Nonmetro county, population of 2,500-19,999, adj. to a metro
Waldo	6	Nonmetro county, population of 2,500-19,999, adj. to a metro
Aroostook	7	Nonmetro county, population of 2,500-19,999, not adj. to metro
Knox	7	Nonmetro county, population of 2,500-19,999, not adj. to metro
Washington	7	Nonmetro county, population of 2,500-19,999, not adj. to metro
Lincoln	8	Nonmetro cty completely rural/< 2,500 population, adj. to metro
Piscataquis	8	Nonmetro cty completely rural/< 2,500 population, adj. to metro

*Rural Urban Continuum Codes [75] **Counties shown in bold-faced type are rural counties**

The Elderly More Likely to Live in Rural Counties

Maine is the oldest state in the nation with a median age of 41 years old and is expected to get even older with a projected median age of 47 by 2030.[76] The elderly in Maine are more likely to live in rural areas, with further variation among rural counties.[77] As shown in Figure 1, the rural

[74] Population Distribution by Metropolitan Status, states (2005-2006), U.S. (2006). Retrieved February 15, 2008, from Kaiser Family Foundation, State Health Facts web site http://www.statehealthfacts.org/comparebar.jsp?ind=18&cat=1&yr=1&typ=2&sort=39&o=d

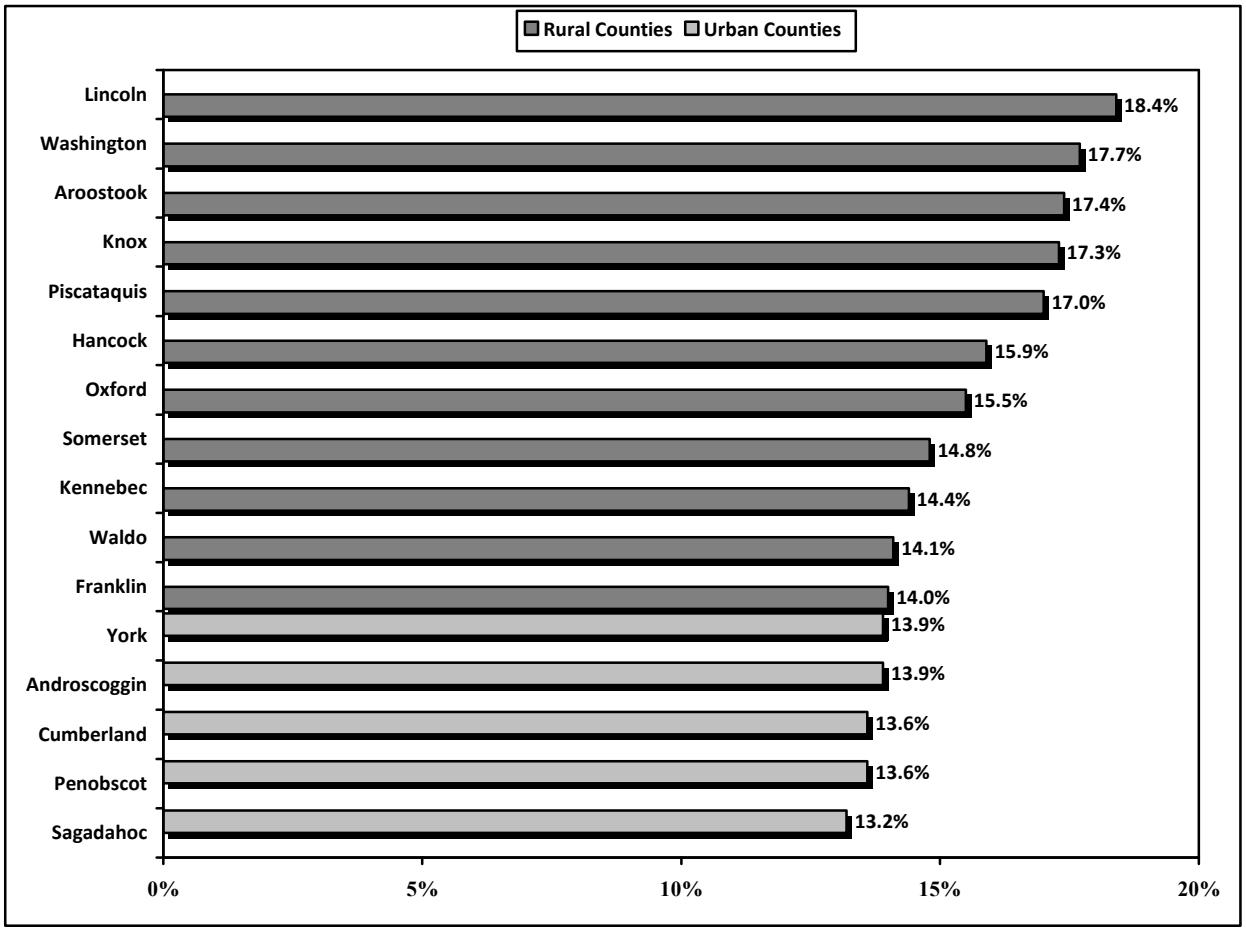
[75] *Rural Urban Continuum Codes: 2003Rural Urban Continuum Codes* (Updated Version). [Date file]. Washington, DC: United States Department of Agriculture, Economic Research Service.

[76] GCT-T2-R. Median Age of the Total Population, geographies ranked by estimate. (2006). *American Community Survey, 2006 Population Estimates*, [Online]. Available: http://factfinder.census.gov/servlet/GCTTable?-ds_name=PEP_2006_EST&-mt_name=PEP_2006_EST_GCTT2R_US9SA&-format=US-9|US-9S|US-9Sa|US-9Sb|US-9Sc|US-9Sd|US-9Se|US-9Sf|US-9Sg&-CONTEXT=gct&-geo_id= [2008, February 15].

[77] State and County QuickFacts: Maine. Retrieved February 15, 2008, from United States Census Bureau website http://quickfacts.census.gov/qfd/states/23000.html.

counties of Lincoln, Washington, Aroostook, Knox, and Piscataquis have higher percentages of the elderly compared other rural counties like Franklin and Waldo.

Figure 1. Percent of Residents 65 or Older by County



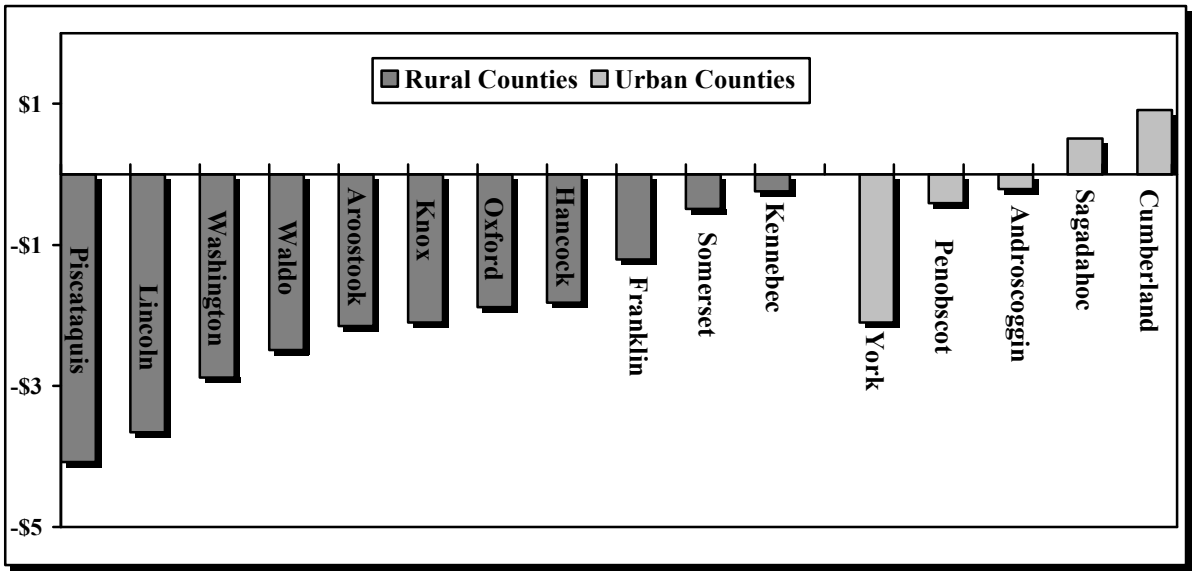
Source: State County QuickFacts, Maine. United States Census Bureau

Maine's Rural Residents More Likely to Live in Poverty

Residents of Maine's rural counties are poorer than those in urban counties. As shown in Figure 2, on average, many rural Mainers are earning well below the livable wage.[78] Only Cumberland and Sagadahoc Counties have a higher average wage than the livable wage. Residents of Piscataquis and Lincoln Counties earn over $3 less than the livable wage for their counties. Not surprisingly, the percentage of residents living in poverty is higher in many rural counties. Eight of the eleven rural counties in Maine are below the state average with nearly one in five residents of Washington County living in poverty.

Figure 2. Difference between Average Wage and Livable Wage by County, 2006

[78] Livable wage is defined as the amount of money required to satisfy basic needs without benefits or assistance; Acheson, A.W. (2006). *Poverty in Maine 2006.* Retrieved February 15, 2008, from http://www.umaine.edu/mcsc/Research/2006PovertyRpt/06PovertyRpt/06PovertyRpt.pdf; Cervone, E., Ward, J., Pohlmann, L., & St. John, C. (2007). Getting by: Maine livable wages in 2006. *Choices: Ideas for Shared Prosperity, 13*(6), 1-6. Retrieved February 15, 2008, from http://www.mecep.org/view.asp?news=263.



Note: Livable wages are calculated for two parent and two children households with only one wage earner. Average wages do not include the self-employed.

Sources: Acheson, A.W. (2006). *Poverty in Maine 2006.* Retrieved February 15, 2008, from http://www.umaine.edu/mcsc/Research/2006PovertyRpt/06PovertyRpt/06PovertyRpt.pdf; Cervone, E., Ward, J., Pohlmann, L., & St. John, C. (2007). Getting by: Maine livable wages in 2006. *Choices: Ideas for Shared Prosperity, 13*(6), 1-6. Retrieved February 15, 2008, from http://www.mecep.org/view.asp?news=263.

Rural Mainers Less Likely to Have Bachelor's Degree

The education level of a population has been shown to be a strong determinant and marker of socioeconomic status. Nationally, those with a bachelor's degree have yearly median earnings of almost $20,000 more than those with only a high school diploma.[79] Moreover, Mainers with a high school diploma as their highest level of education are more than twice as likely to be unemployed than are those who have attained at least a bachelor's degree.[80] While Maine has done well with graduating students from high school, only 25 percent of Mainers 25 or older have at least a bachelor's degree.[81] In 2000, less than 15% of people in Androscoggin, Aroostook, Piscataquis, Somerset, and Washington Counties had a bachelor's degree. Thus educational attainment is lower in rural counties, and lags well behind Cumberland County, where roughly one in three has a bachelor's degree.[82]

B. The Rural Economy

[79] S1501. Educational Attainment, United States. (2006). *American Community Survey, 2006*, [Online]. Available: http://factfinder.census.gov/servlet/STTable?_bm=y&-qr_name=ACS_2006_EST_G00_S1501&-geo_id=01000US&-ds_name=ACS_2006_EST_G00_&-_lang=en&-format=&-CONTEXT=st [2008, February 15].

[80] Maine State Planning Office. (2007). *2007 report on poverty.* Retrieved February 15, 2008, from http://mainegov-images.informe.org/spo/economics/docs/publications/povertyreport2007.pdf

[81] R1502. Percent of People 25 Years and Over Who Have Completed a Bachelor's Degree, United States and States. (2006). American *Community Survey, 2006*. [Online]. Available: http://factfinder.census.gov/servlet/GRTTable?_bm=y&-geo_id=null&-_box_head_nbr=R1502&-ds_name=ACS_2006_EST_G00_&-_lang=en&-redoLog=true&-format=US-30&-mt_name=ACS_2006_EST_G00_R1502_US30&-CONTEXT=grt [2008, February 15].

[82] Acheson, A.W. (2006). *Poverty in Maine 2006.* Retrieved February 15, 2008, from http://www.umaine.edu/mcsc/Research/2006PovertyRpt/06PovertyRpt/06PovertyRpt.pdf

Rural Maine Highly Dependent on Manufacturing & Natural Resource Industries

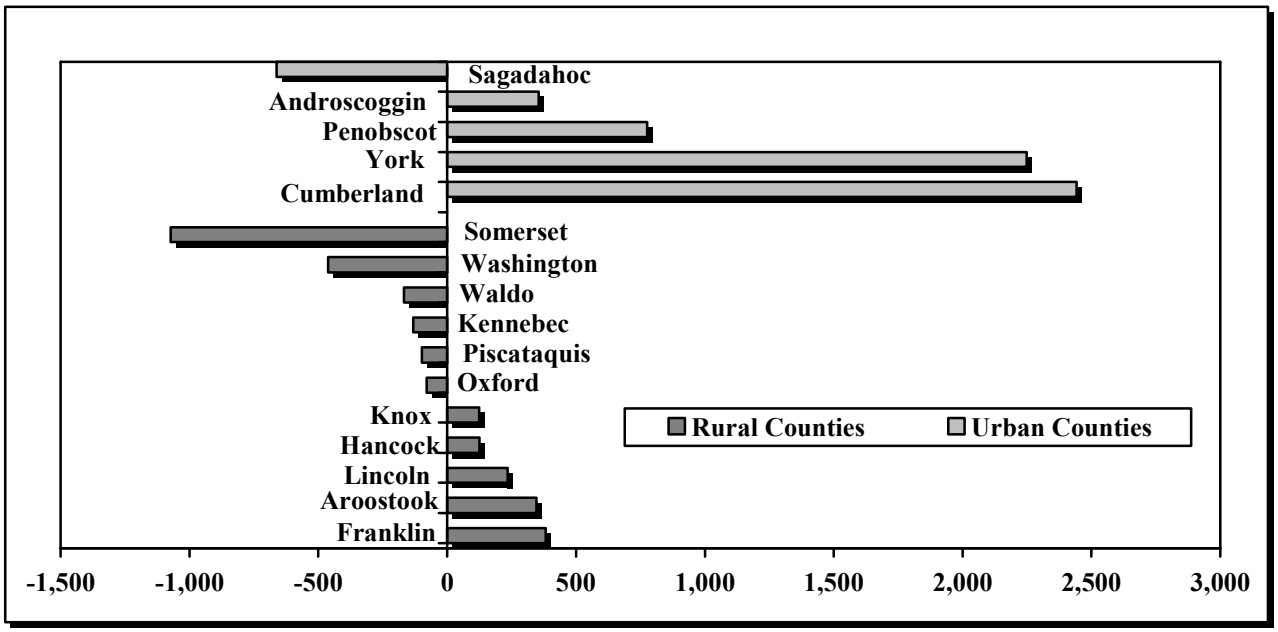
Traditionally, Maine has benefited from a strong manufacturing and natural resource industry base. However, the shift in today's global economy is away from these industries and toward more knowledge and innovation-based industries.[83] The Maine Department of Labor predicts that by 2014 the number of manufacturing jobs will decrease by 12 percent and goods producing jobs by 6 percent.[84] These declines will affect rural more heavily due to their greater reliance on these industries. These economic trends may explain why rural counties have experienced net job losses (see Figure 3) and why their residents are more likely to hold more than one job.[85]

Rural Residents More Likely to be Unemployed

In 2006, Maine's unemployment rate was 4.6%, increasing from 3.3% in 2000. However, many rural Maine counties continue to have higher rates of unemployment compared to the state and urban counties. As shown in Figure 4, Washington County has the highest unemployment rate followed by Somerset, Piscataquis, and Aroostook Counties. Knox, Kennebec and Lincoln Counties have unemployment rates slightly below the state average, while Cumberland County has the lowest in the state.[86]

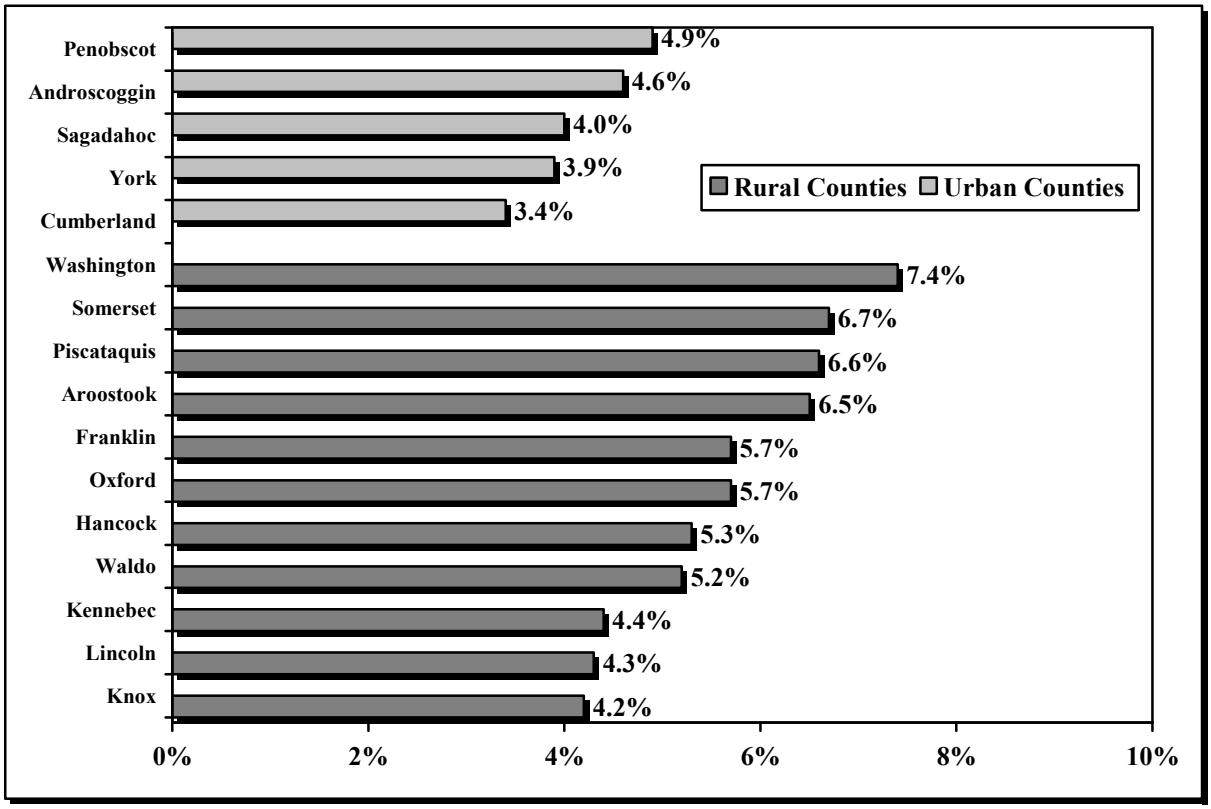
[83] Governor's Council on Maine's Quality of Place. (2007, December 4). People, place, and prosperity. Augusta, ME: Maine State Planning Office.
[84] Maine Department of Labor, Labor Market Information, Industry Employment Projections, Statewide, Option 2, http://198.182.162.220/analyzer/saintro.asp?cat=IND&session=indproj&time=&geo= [Last accessed on February 15, 2008].
[85] 2007 report on poverty (2007, February). Augusta, ME: Maine State Planning Office, Maine Economics and Demographics Program; Acheson, A.W. (2006). *Poverty in Maine 2006.* Retrieved February 15, 2008, from http://www.umaine.edu/mcsc/Research/2006PovertyRpt/06PovertyRpt/06PovertyRpt.pdf
[86] Maine Department of Labor, Labor Market Information, Labor Market Analysis, Labor Force, Labor Force, Employment, and Unemployment, Select a County. http://198.182.162.220/analyzer/mappages/cnty.asp?paramx=&blnFirstGeog=True&mapcode=04

Figure 3. Change in Average Employment, by County, 2001-2005



Source: 2007 Report on Poverty, Maine State Planning Office, Maine Economics & Demographics Program, p. 17

Figure 4. Unemployment Rates, by County, 2006



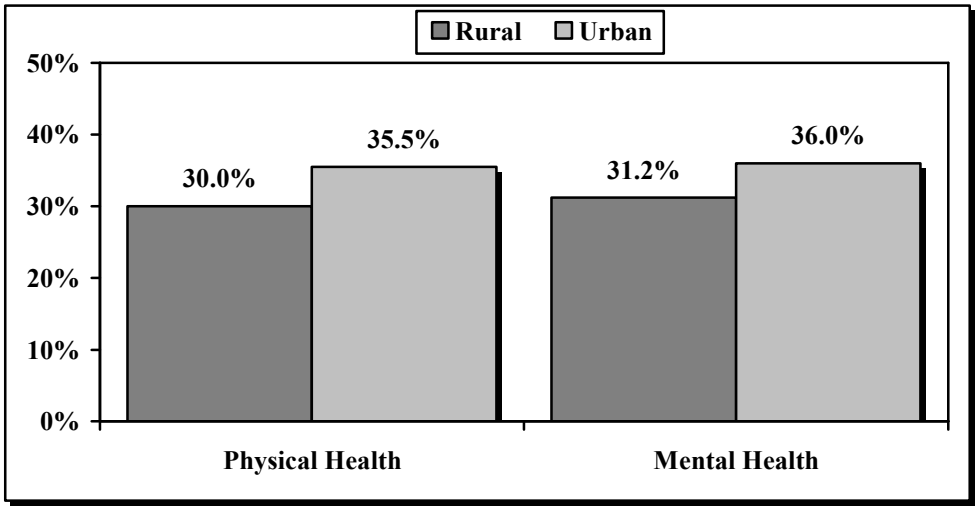
Source: Maine Department of Labor, Labor Market Information, Labor Market Analysis, Labor Force, Labor Force, Employment, and Unemployment, Select a County.
http://198.182.162.220/analyzer/mappages/cnty.asp?paramx=&blnFirstGeog=True&mapcode=04

C. Health Status and Behavior

In General Rural Residents Are in Poorer Health than Urban Residents

Rural residents are less likely to report that their general health is excellent compared to urban residents. As shown in Figure 5, they are also less likely to report that they have not had any days in the last month where their physical health was not good. They are also more likely to report having at least one day in the last month that their mental health was not good. Not surprisingly, rural residents are less likely than urban residents to say that their physical, mental, or emotional health has limited their daily activities. Finally, fewer rural residents are likely to report that they are very satisfied or satisfied with their life (43% vs. 52%).[87]

Figure 5. Percentage of Residents Reporting Not Having Poor Physical or Mental Health in the Past 30 Days



Source: *Maine Behavioral Risk Factor Surveillance System*. (2006) [Data File]. Augusta, ME: Department of Health and Human Services, Maine Center for Disease Control and Prevention.

Table 2. Counties Included and Level of Rurality for DHHS Health Districts

Health District	Counties Included	Level of Rurality
Aroostook	Aroostook	All rural
Central	Somerset and Kennebec	All rural
Cumberland	Cumberland	All urban
Downeast	Hancock and Washington	All rural
Midcoast	Waldo, Knox, Lincoln, Sagadahoc	One urban county
Penquis	Piscataquis and Penobscot	One urban county
Western Maine	Franklin, Oxford, and Androscoggin	One urban county
York	York	All urban

Source: *Maine DHHS District Health Profiles.* Retrieved February 19, 2008, from http://www.maine.gov/dhhs/boh/maine_dhhs_district_health_profiles.htm

Some Rural Residents More Likely to Have Disabilities or Chronic Conditions

[87] Results from an analysis of the 2006 Maine Behavioral Risk Factor Surveillance System (BRFSS).

The Maine Center for Disease Control and Prevention has created health profiles for a group of Maine health districts (see Table 2 for counties included in each health district). Aroostook County, and the Downeast and Penquis Health Districts had higher proportions of residents reporting a disability than the urban counties of Cumberland and York. The rate of cardiovascular disease deaths per 100,000 residents is similar across health districts with the Aroostook, Downeast, and Penquis Health Districts having higher rates than both Cumberland and York Counties. As shown in Table 3, many health districts have higher rates of high blood pressure, diabetes, asthma, and depression compared to the Cumberland Health District.[88]

Table 3. Disability and Chronic Conditions by DHHS Health Districts, 2007

	Aroostook	Central	Cumberland	Downeast	Midcoast	Penquis	WesternMaine	York
Disability	24.6%	23.0%	23.0%	28.5%	23.0%	30.4%	20.0%	21.8%
CVD Deaths†	287	254	205	263	237	282	251	216
HBP‡	28.7%	25.3%	18.7%	28.9%	25.5%	29.6%	25.0%	28.5%
Diabetes	11.4%	7.7%	6.0%	7.1%	6.7%	8.7%	6.4%	7.1%
Asthma	10.4%	9.0%	8.2%	11.8%	10.5%	12.4%	8.7%	8.3%
Depression	5.8%	9.1%	6.5%	7.8%	6.1%	13.3%	5.6%	7.0%

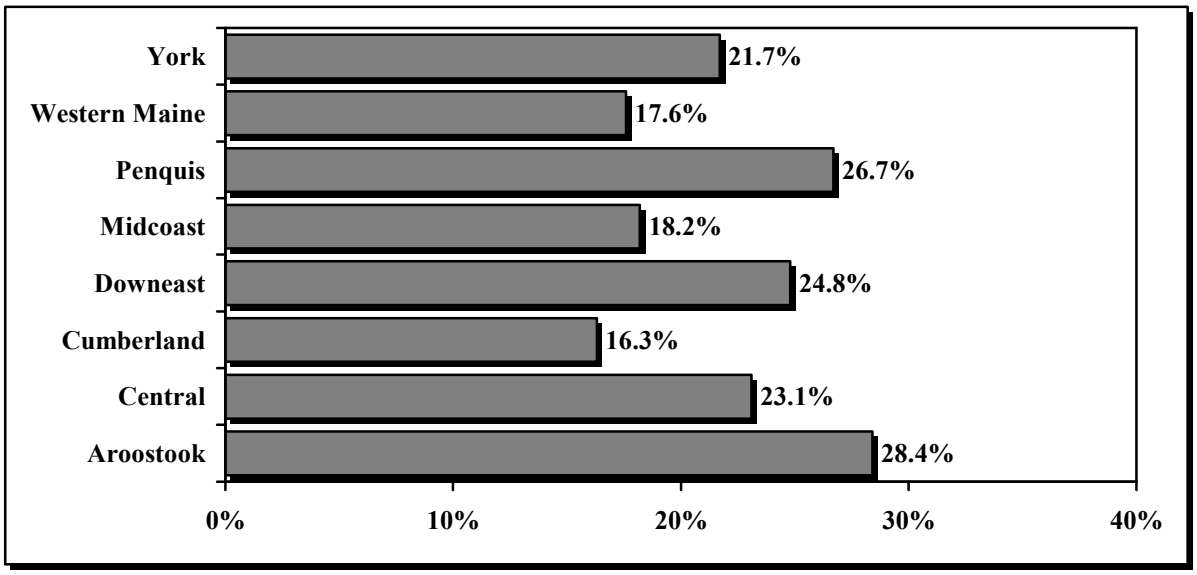
†Deaths per 100,000 Population; ‡High Blood Pressure
Source: *Maine DHHS District Health Profiles.* Retrieved February 19, 2008, from http://www.maine.gov/dhhs/boh/maine_dhhs_district_health_profiles.htm

Health Behaviors and Preventive Care

Several health behaviors (smoking, obesity, lack of physical activity) increase individuals' risk for developing chronic diseases and other illnesses. These health behaviors tend to vary between rural and urban areas in Maine. As shown in Figures 6 & 7, some rural health districts have much higher rates of smoking and being above a healthy weight than Cumberland County.[89] Rural residents were also less likely to say they had had any exercise in the past month and less likely to report using their leisure time for physical activity during the last month.[90]

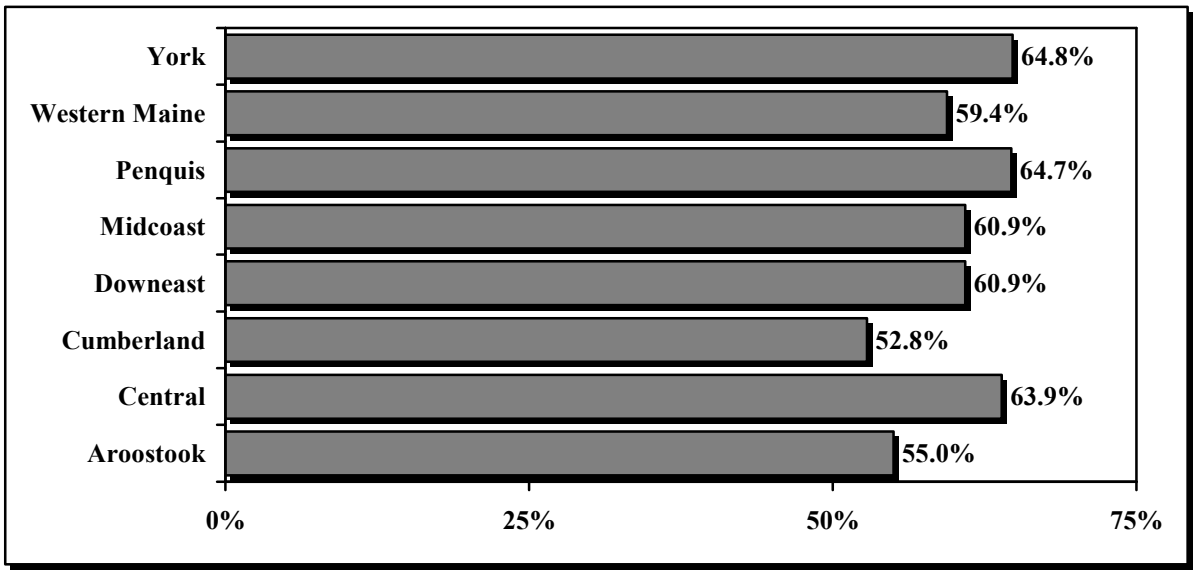
[88] *Maine DHHS District Health Profiles.* Retrieved February 19, 2008, from http://www.maine.gov/dhhs/boh/maine_dhhs_district_health_profiles.htm
[89] Ibid. *Maine Behavioral Risk Factor Surveillance System*. (2006) [Data File]. Augusta, ME: Department of Health and Human Services, Maine Center for Disease Control and Prevention.
[90] *Maine Behavioral Risk Factor Surveillance System*. (2006) [Data File]. Augusta, ME: Department of Health and Human Services, Maine Center for Disease Control and Prevention.

Figure 6. Smoking Prevalence by Health Districts, 2007



Source: *Maine DHHS District Health Profiles.* Retrieved February 19, 2008, from http://www.maine.gov/dhhs/boh/maine_dhhs_district_health_profiles.htm

Figure 7. Adults above a Healthy Weight by Health Districts, 2007



Source: *Maine DHHS District Health Profiles.* Retrieved February 19, 2008, from http://www.maine.gov/dhhs/boh/maine_dhhs_district_health_profiles.htm

Preventive services are also important since early detection may reduce the severity of illness. While there is little variation in the proportion of women who had a mammogram in the past 2 years and a pap smear in the past 3 years across Health Districts, rural and urban differences do exist. Approximately 37 percent of rural residents reported having a mammogram in the last year compared to 45 percent of urban residents. Only 39 percent of rural Mainers had a pap smear in the last 3 years, while half of urban Mainers had had a pap smear during this time

period.[91] When asked whether they had a sigmoidoscopy or colonoscopy, fewer residents of the Aroostook, Downeast, and Western Maine Health Districts reported having had one compared to residents of Cumberland and York Counties.[92]

D. Rural Mainers' Access to Health Care Services

Rural Residents Have Poorer Access to Health Care Services

In 2006, 39 percent of rural Mainers reported having a personal doctor, while 44 percent of urban residents had one. In addition, rural Mainers were more likely to have more than one personal doctor. This trend may have a significant effect on whether rural residents get the care that they need. Nearly 50 percent of urban residents stated that they had never needed to forgo care due to cost, while only 42 percent of rural residents had never needed to forgo care. Rural residents have also been shown to have poorer access to dental care, with only 31 percent having gone in the last year or less compared to nearly 39 percent of urban residents. Not surprisingly, rural residents were also less likely to have had a dental cleaning in the last year or less.[93]

Rural Residents Less Likely to be Insured and More Likely to Rely on MaineCare

Poorer access to health care services is partly due to the lack of health insurance coverage for rural Mainers. In 2004, only 50 percent of Maine employers offered their employees health insurance coverage.[94] With less private coverage available Mainers must rely on individual or public insurance coverage (MaineCare) or must go without coverage. While Maine's uninsurance rate was less than 10 percent, rural Mainers are significantly less likely to have health insurance coverage than urban residents.[95] Not surprisingly, rural residents are also more likely to have been on MaineCare.[96]

Rural Mainers' Access to Health Care Services Affected by Health Care Workforce Shortages

An adequate health care workforce is essential for access to high quality health care services, especially for rural residents who are poorer, older, and sicker than urban residents. Shortage and underserved areas across the state have been well documented. The Department of Health and Human Services designates specific geographic regions as medically underserved areas (MUAs), medically underserved populations (MUPs), and health professional shortage areas

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[91] *Maine Behavioral Risk Factor Surveillance System*. (2006) [Data File]. Augusta, ME: Department of Health and Human Services, Maine Center for Disease Control and Prevention.
[92] *Maine DHHS District Health Profiles.* Retrieved February 19, 2008, from http://www.maine.gov/dhhs/boh/maine_dhhs_district_health_profiles.htm
[93] Results from an analysis of the 2006 Maine BRFSS.
[94] Lipson, D.J., Verdier, J.M., & Quincy, L. (2007). *Leading the way? Maine's initial experience in expanding coverage through Dirigo Health Reforms*. Retrieved February 15, 2008, from http://www.commonwealthfund.org/usr_doc/Lipson_leadingthewayMaineexpDirigo_1079.pdf?section=4039
[95] DeNasas-Walt, C., Proctor, B.D., & Smith, J. (2007). *Income, poverty, and health insurance coverage in the United States: 2006.* Retrieved February 15, 2008, from http://www.census.gov/prod/2007pubs/p60-233.pdf ; *Maine Behavioral Risk Factor Surveillance System*. (2006) [Data File]. Augusta, ME: Department of Health and Human Services, Maine Center for Disease Control and Prevention.
[96] Ibid., 2006.

(HPSAs). MUAs are determined by the number of primary care physicians per 1000 people, the infant mortality rate, the percentage of the population below the poverty line, and the percentage of the population that is age 65 or older. MUPs are similarly designated, but the underserved population rather than the total population is used to assess eligibility. HPSAs are largely determined by the ratio of professionals to the population and include categories for primary, dental, and mental health providers.[97] As shown in Maps 1 & 2, these underserved and shortages areas are disproportionately found in rural Maine counties.[98] In addition to primary care and mental health providers, Maine has significant shortages of nurses, dentists, radiologists, lab technicians, pharmacists, and direct care workers.

Maine, especially rural areas, faces considerable challenges in improving and maintaining an adequate health care workforce.

- Maine's aging population both increases demand for health care services, while decreasing the supply of health care workers.

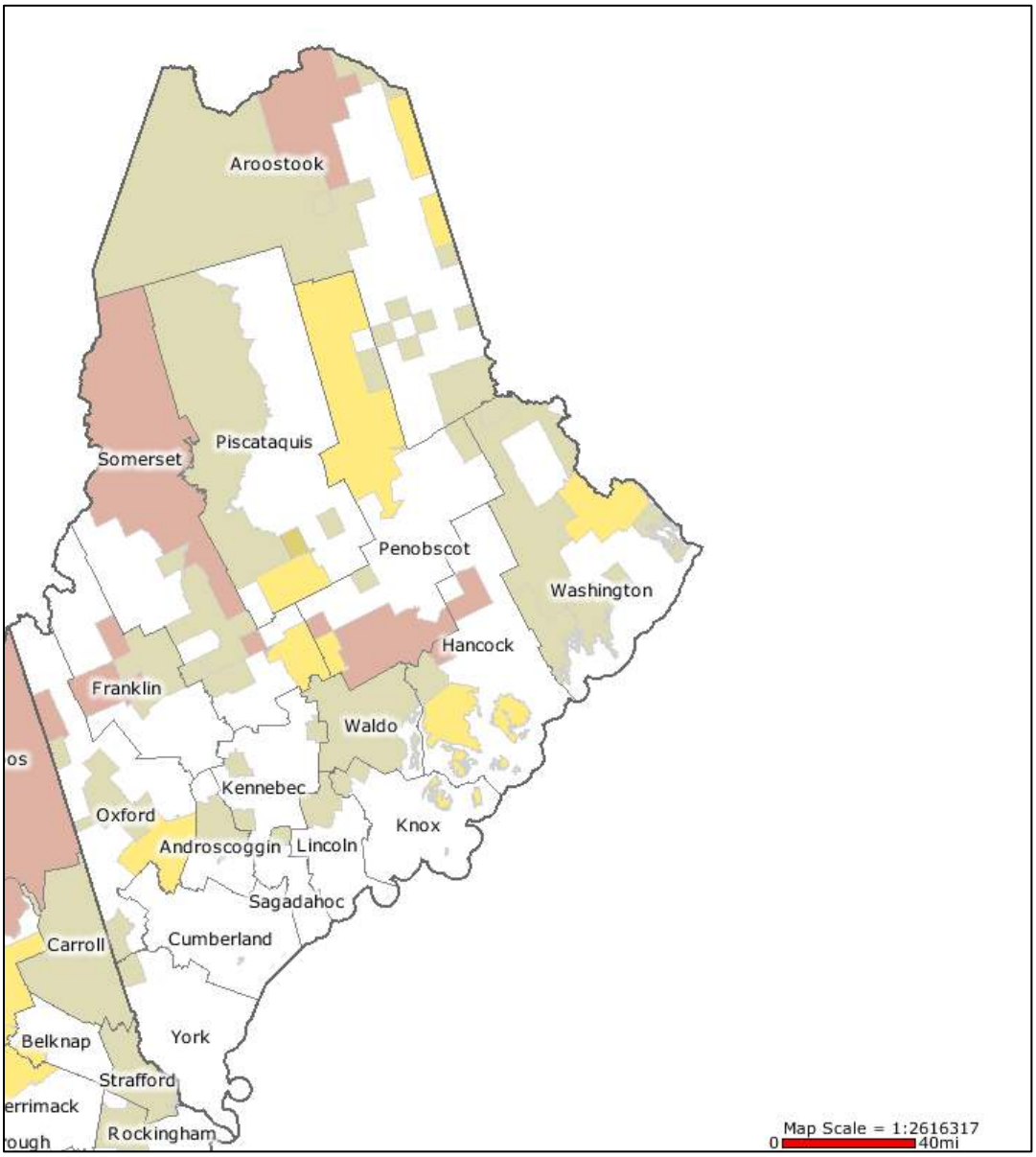
- The state has limited educational capacity for various providers, especially physicians, nurses, and dentists.

- Lower salaries offered in Maine make it increasingly more difficult to recruit and retain health care providers from states with much higher salaries.

[97] Health Resources and Services Administration, Bureau of Health Professions. Guidelines for Medically Underserved and Population Designation. Retrieved February 15, 2008, from http://bhpr.hrsa.gov/shortage/muaguide.htm; Health Resources and Services Administration, Bureau of Health Professions. Health Professional Shortage Area Designation Criteria. Retrieved February 15, 2008, from http://bhpr.hrsa.gov/shortage/hpsacrit.htm

[98] Maine Center for Disease Control and Prevention, Maine Office of Rural Health and Primary Care website, http://maine.gov/dhhs/boh/orhpc/

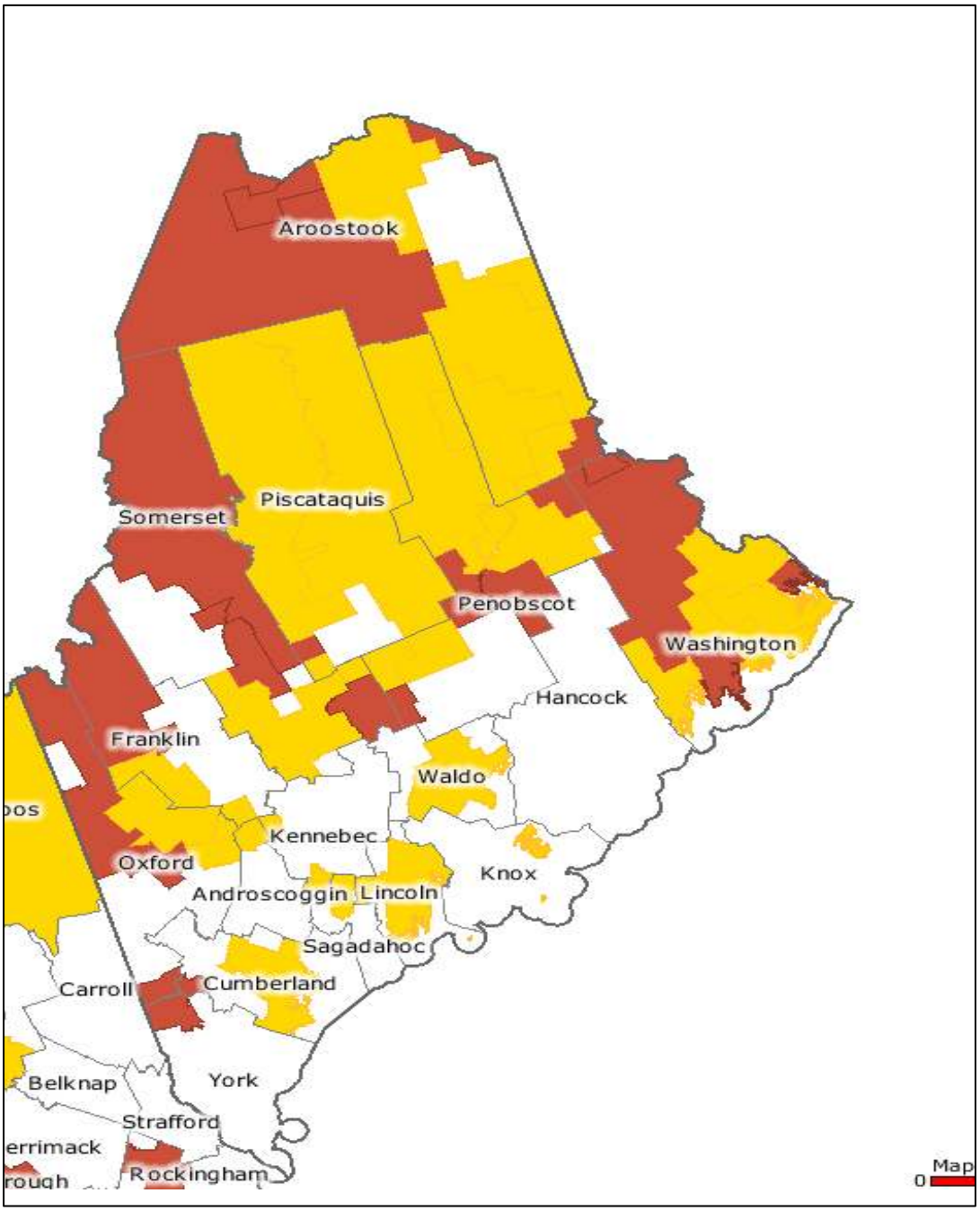
Map 1. Maine's MUA/MUPs Designation Type



Salmon = Governor Designated
Tan = MUA
Yellow = MUP

Source: Health Resources and Services Administration, Bureau of Health Professions, January 2008. Customized map created on Rural Assistance Center (RAC) website, Retrieved February 19, 2008, from http://www.raconline.org/maps/#hpsa

Map 2. Maine's HPSAs for Primary Care by Designation Type



Red = Geographical Area
Yellow = Population Group

Source: Health Resources and Services Administration, Bureau of Health Professions, January 2008. Customized map created on Rural Assistance Center (RAC) website, Retrieved February 19, 2008, from http://www.raconline.org/maps/#hpsa

With shortages throughout the state, rural areas have even more difficulty with health care workforce issues, especially given the professionally isolated nature of practicing in rural areas. Maine has several programs aimed at improving the supply of health care professionals in underserved areas.

- Various loan repayment programs that repay providers' loans if they agree to practice in underserved and shortage areas for a certain period of time. These programs include the National Health Service Corps (NHSC), Nursing Education Loan Repayment Program, the Maine Dental Education Loan and Loan Repayment Programs, and the Maine Health Professions Loan Program.[99]

- The Finance Authority of Maine (FAME) oversees the Maine Access to Medical Education Program, which offers "preferred access seats" to 20 Maine residents at three regional medical schools.[100]

- The National Rural Recruitment and Retention Network (3RNet), the J-1 Visa Waiver Program, the Maine Recruitment Center and the Conrad State 30 Program all help to recruit physicians to Maine.[101]

- Finally, Maine's Healthcare Workforce Forum reviews information gathered by the Maine's Departments of Health and Human Services and Labor and makes policy recommendations to the state.[102]

Health Care Providers Improve Access to Care through the Rural Safety Net

With rural residents being uninsured or on Medicaid and the shortage of health care providers, many rural health care providers play important roles in providing these residents with health care services. The 22 rural hospitals in Maine offer patients free care and also have high levels of uncompensated care (charity care and bad debt). As of September 2007, 14 hospitals offered free care at 200% Federal Poverty Level and 8 offered at 100% or higher.[103] During fiscal year 2005-2006, these rural hospitals spent between $400 thousand and $4.5 million on charity care and bad debt. The hospitals with the highest uncompensated care included Aroostook Medical Center, Franklin Memorial Hospital, Redington-Fairview General Hospital, and Miles Memorial

[99] Charles Dwyer, Maine Center for Disease Control and Prevention, Maine Office of Rural Health and Primary Care, personal communication, February 2008.
[100] FAME, Maine Access to Medical Education Program, Retrieved February 15, 2008, from http://www.famemaine.com/education/programEligibilityRequirements.asp
[101] Charles Dwyer, Maine Center for Disease Control and Prevention, Maine Office of Rural Health and Primary Care , personal communication, February 2008.; Kruk, M. (2007, January 31) 2006 Healthcare Occupations Report. Augusta, ME: Maine Department of Labor, Division of Labor Market Information Services.
[102] Charles Dwyer, Maine Center for Disease Control and Prevention, Maine Office of Rural Health and Primary Care , personal communication, February 2008.
[103] *Survey of free care policies* (2007, September 17). Retrieved February 15, 2008, from http://www.themha.org/pubs/charitypolicy.pdf

Hospital.[104] Some of these costs are attributed to MaineCare and the uninsured using the emergency care as a substitute for primary care services.[105]

Primary care clinics also play a significant role in Maine's safety net. Maine's federally qualified health centers (FQHCs) primarily offer services to Medicaid, Medicare, and the uninsured or self-pay patients. These clinics are required to provide care to the uninsured or underinsured and must be located in medically underserved areas or medically underserved populations (See Appendix B for a more detailed definition). In 2006, these centers provided medical services to nearly 146 thousand patients with 15 percent being uninsured and 30 percent being on Medicaid. Rural health clinics (RHCs) receive cost based reimbursement for providing primary care services in underserved rural areas. While not required to treat patients who are unable to pay for services, many offer discounted care for the uninsured and frequently accept Medicaid and Medicare patients. Free clinics also offer safety net services, but only one is available in rural communities. Lastly, school-based health centers (SBHCs) offer children primary care and mental health services regardless of their ability to pay. SBHCs are available in the rural counties of Oxford, Lincoln, Knox, Hancock, Washington, and Kennebec.[106]

Other programs also offer improved access to rural Mainers, including 1) Health access programs, 2) the National Health Service Corps, and 3) the J-1 Visa Waiver Program. Health access programs (HCAPs) provide primary care services through a network of volunteer providers. Patients are provided services at no cost or significantly discounted rates. These programs are available in Franklin, Kennebec, and Lincoln counties. The National Health Service Corp Program connects primary care and mental health providers with underserved communities through either scholarships or loan repayment for providers. These providers are primarily located in FQHCs, RHCs, and mental health agencies in rural areas of Maine. The effectiveness of this program has been limited in Maine with 67 vacancies in underserved areas resulting in the program only meeting 10 percent of the need for primary care and mental health providers. The J-1 Visa Waiver program allows foreign born physicians to waive the two years that they must spend in their home country after finishing their training. In return, these physicians must practice for three years in a shortage or underserved area. The majority of these providers serve in rural areas of Maine.[107]

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[104] *Maine hospitals: Financial information* (2007, May). Retrieved February 15, 2008, from http://www.themha.org/pubs/Financialinformation.pdf

[105] Fairchild, P., Stewart, J., McKinney, A., & Marks, A. (2006). *State of Maine: Primary care safety net environmental scan* (Final Report). Augusta, ME: Maine Health Access Foundation.

[106] Ibid, 2006.

[107] Fairchild, P., Stewart, J., McKinney, A., & Marks, A. (2006). *State of Maine: Primary care safety net environmental scan* (Final Report). Augusta, ME: Maine Health Access Foundation.

Appendix C. Fundamental Rural Community Health Building Blocks

Several categories of services and relationships constitute fundamental or foundational building blocks that must be in place if the State is to make long-term progress toward assuring strong, healthy, rural communities.[108] The following construct can support discussions of an extraordinarily complex set of variables, as well as the tradeoffs that must be considered as communities try to advance "health," not just the treatment of disease, in an era of significant resource challenges.

These foundational resources are not a limit on services that *could* be provided, but serve as a basis for services that *should* be provided. This core set of integrated parts defines long-term systems development goals, not current conditions. There are clearly substantial gaps in Maine between our realities and our aspirations.

It is easy to say that rural residents should have ready access to all of the identified services and referral linkages to more specialized providers and facilities. However, in many cases neither the local capacity nor the referral resources and linkages are adequate. To state that all identified resources should just "be there" is overly simplistic. This does not mean Maine should lower its sights. It does mean that priority should be given to putting in place the identified building blocks and securing the resources necessary for their sustainability.

The foundational priorities may be used to guide state policy decisions and to align available resources, including MaineCare payments. Other organizations, such as foundations, may use these priorities to channel grant funds. However, local communities have primary responsibility for addressing community needs and securing resources, as well as for the stewardship of those resources. The identified set of integrated priorities can support community, regional, and statewide resource allocation discussions.

Resources to build the envisioned system of care are certainly inadequate to address all issues simultaneously with the same level of emphasis. This highlights the need to use available resources wisely and creatively, as well as to focus on priorities that will leverage public and private actions and expenditures. To "do more with less" is a meaningless and highly inappropriate charge. However, to "do the right things, in the right ways, in the right places, with the resources we can secure" is essential.

As was stated in the Maine Rural Health Association issue paper, the Rural Health Work Group believes that all Maine residents should have access to treatment, prevention, and educational resources as close to their homes as possible, where services can be provided with acceptable quality and at a reasonable cost. Resolution of workable definitions for "acceptable" and "reasonable" will require more discussion and careful balancing of realistic resource availability and access. Consistent with this philosophy, the care of veterans as close to home as possible in rural communities needs additional attention.

[108] This outline reflects the synthesis of examples from the Institute of Medicine's report Quality Through Collaboration, The Future of Rural Health, the "Fundamental of Rural Health" paper of the Maine Rural Health Association (June, 2003), consideration of the State Health Plan, and Rural Health Plan Work Group discussions to date.

It is not intended that these foundational services be seen as necessary *in* all rural communities, but rather that they should be reasonably accessible to clusters of communities. Often, these community clusters may fit within the general context of hospitals' primary service areas or clusters of communities that may be served by comprehensive community health coalitions. Regional and statewide referral relationships, which may be formal or informal, are essential to enhancing locally available resources and broadening access to care.

Direct clinical services (e.g., medical, oral health, and mental health services) and associated preventive and educational services can be offered by a variety of providers, within varied organizational structures, and in a variety of settings. Examples include: independent provider practices, hospitals and hospital-associated delivery systems (which may include hospital-based provider practices), Federal Qualified Health Centers (FQHCs), independent and hospital-based Rural Health Clinics (RHCs), schools, and/or other community organizations. Telehealth programs can enhance access to services, quality, and cost control. [109]

There are no universal solutions to Maine's difficult rural health challenges. Notably, there are substantial variations of actual and perceived needs, resources, and organizational capacity among communities. These variations are paralleled by significant differences in both overall health status and chronic disease morbidity across Maine's rural regions. They are also affected by factors such as the extent of "rurality", seasonality, socioeconomic conditions, the availability of transportation, community history, and associated culture and attitudes.

Priorities for the development of clinical services and other health improvement strategies will vary significantly among communities. Better community-specific needs assessments will support clearer priority setting. In some cases, there are multiple alternatives; in others, reasonable alternatives are not readily apparent. The MeRHA also noted that the definition of what is clinically appropriate and affordable in rural locations keeps changing with advancements in knowledge and technology and the associated changes in the costs of services.

Any limitations placed on community-driven evolutionary change should be very carefully considered in the context of community health and community development, as well as community-defined expectations and the willingness of communities to invest their resources. Nonetheless, the development of services that go beyond those noted should be carefully evaluated and data driven, with an emphasis on both quality and sustainability.

The notation of each service also implies the need for associated professional providers and a complementary workforce. It is critical that Maine give high priority to addressing its current and future workforce needs. Community-appropriate and cost-effective services cannot be provided in the absence of an appropriate workforce. The state needs to support effective solutions that utilize local, regional, and statewide resources to address the workforce issues.

<u>Outpatient, Medical, Surgical, and Obstetrical Services</u>

[109] In many rural areas, seasonal variations in population or anticipated demographic changes must be considered when addressing need.

Examples of providers include: allopathic and osteopathic physicians: family physicians, internists, pediatricians, and obstetrician/gynecologists; physician assistants, nurse practitioners, certified advanced practice nurses, school nurses, and midwives.

- Primary Care
  - Family Medicine
  - Internal Medicine
  - Pediatrics
  - Obstetrics and General Gynecology
- General Surgery (full-time in most rural hospitals but part-time in some, generally with particular emphasis on outpatient surgery)
- Orthopedics (full-time in some rural hospitals, at least part-time in most, but this is highly variable by size of service area and service planning requires service-area-specific assessment)
- Other limited specialty services

  Notes: The number of providers needed to sustain service will need to be based on community need as well as realistic expectations of a provider in terms of call responsibilities.

  Other specialty-physician services are generally not considered as "core" or fundamental services on a full-time basis in most rural communities, but they are often available at least on a part-time basis. (Note, however, that broader services may be appropriate and sustainable.) They are important both clinically to individuals and as adjuncts to the overall depth and quality of the local medical community and to improve access to care. In all cases, for continuity of care, part-time providers should be appropriately linked with full-time local providers

- Referral mechanisms to out-of-area providers

  In other instances, access must be through referral to specialists who practice outside the area. It should be anticipated that telehealth will be used to expand locally available options by linking patients or their physicians to in-state and out-of-state specialists.

  Notes: In all cases, when services cannot be sustained locally, there is a need for referral mechanisms to providers in other communities. Appropriate clinical information should be provided. Whenever possible, patients should be referred back to their local providers for follow-up care, again accompanied by appropriate clinical information.

  Timely access to referral sources is often essential and may require a flexible mix of formal and informal relationships.

Emergency/Urgent Care Services

- Mobile emergency medical services (ambulance services, emergency medical technicians, paramedics, and communications systems)

- Hospital emergency departments (including an appropriate scope of immediately available medical/surgical/mental health/substance abuse services, as well as triage and referral, and telehealth linkages)
- Interoperable communications systems
- Clinical education programs for all emergency service providers
- Automatic external defibrillator programs

Ancillary Services

- Diagnostic services (e.g., imaging, lab, endoscopy)
  Radiology (local and/or remote-teleradiology access)
  Pathology (local or remote access)
- Anesthesia (anesthesiologists or nurse anesthetists)
- Therapeutic services (e.g., occupational therapy, physical therapy, respiratory therapy, speech therapy, and audiology testing)

  Notes: Many ancillary services are most frequently hospital-based, but many can also be FQHC, RHC, and private provider-based facilities. Some services could also be provided through school-based health programs (e.g., speech therapy and audiology testing, and some laboratory test drawing).

Inpatient Hospital Services

The sustainable range of inpatient services will vary by community but generally includes the following:

- Basic inpatient care consistent with aforementioned primary care, general surgery, obstetrics and general gynecologic surgery, orthopedics and other specialty services within documented quality standards. Services usually include some form of critical care unit, increasingly with telehealth access to larger hospitals.
- Ancillary services (as indicated above)
- Referral mechanisms for inpatients

  Notes: The trend toward fewer family physicians delivering babies and increasing difficulties in recruiting and retaining obstetricians combined with limited delivery volumes is likely to lead to a need to more definitively assess the desirable locations of economically sustainable delivery services that can provide care at an expected level of quality.

  Well-developed referral mechanisms to regional or tertiary providers are necessary for inpatient hospital services that are not appropriate within a rural hospital. These referrals should also include return-referrals to the community for patients suitable for post-acute treatment in local skilled and non-skilled nursing facilities. Providers of skilled nursing care in hospital swing beds and skilled nursing facilities should partner to implement referral protocols that support the sustainability of both facilities in the local community.

In rural areas, inpatient services will usually be provided in the following facilities:

- Critical Access Hospitals (or those that by size and service mix could qualify as CAHs)

- Hospitals that are small or mid-sized and rural, but that are not CAH or CAH eligible hospitals. These hospitals generally serve a larger population and are likely to have more expanded physician resources (a wider range of full-time specialists) and inpatient care.

Education, Prevention, Health Literacy, and Cultural Competency

- Community health education, as well as patient and family health education, that addresses health promotion, prevention, and disease-specific treatment needs
- Screening programs and appropriate follow-up linkages to treatment when necessary
- Immunizations

Notes: An accelerated shift toward strategies for disease prevention is essential to long-term improvement in rural health and a mitigation of cost pressures. General health education, specific strategies to improve health literacy, and approaches to improve awareness of cultural issues (cultural competency) are essential companions to effective prevention strategies, as well as to the efficacy of all clinical services.

Educational processes should include information on how to access and use health services. As with patient or family treatment instructions, all educational programs should carefully consider the interplay of basic literacy, health literacy, cultural parameters and the ability to achieve goals. This is particularly significant in rural areas.

Within the scope of available staffing, consideration should be given to expanding the role of EMS providers in prevention and education.

Oral Health Services

- Preventive dental services including prophylaxis, appropriate use of fluorides, dental sealants, oral health education, and oral health promotion activities
- Basic restorative treatment (i.e., repair of cavities)
- Referral mechanisms to access more specialized treatment services (e.g., orthodontics, other restorative care, oral surgery, prosthodontics [e.g., crowns and bridges])

Notes: Access to dentists and/or dental hygienists (prevention and prophylaxis) can be provided in dental offices, schools, hospitals, clinics, or other locations.

Mental Health Services

- Crisis intervention, diagnosis, primary outpatient treatment, prevention, and referral, including services for adults, children, adolescents, and families
- Referral mechanisms to inpatient mental health providers in other communities with referrals back to local community outpatient providers

Notes: Services can be provided in a variety of locations by physicians, psychologists, and other mental health professionals, including, but not limited to, advanced practice

nurses and social workers. The needs of schools for learning disability and mental health testing are legally mandated and must be considered. Particular attention to meeting the needs of individuals within the corrections system and the system's need for collaborative service planning is required.

There is a critical need for the state to recognize the extreme shortage of both mental health and substance abuse services and the wide range of adverse effects this has on the health care system overall (e.g., on emergency room wait time, practitioner satisfaction, costs). Greater efforts should be made to stimulate innovative work regarding development of linkages between primary care and mental health and substance abuse services that are effective and *sustainable.*

Substance Abuse Services (Alcohol and Drugs)

- Crisis intervention, detoxification, diagnosis, primary outpatient treatment, prevention, and referral, including services for adults, children, adolescents, and families
- There is a need for well-developed referral mechanisms to inpatient substance abuse providers in other communities with referrals back to local community outpatient providers

Notes: As with mental health services, these services can be provided in a variety of locations by physicians and other professionals, including, but not limited to, advanced practice nurses, social workers, and other substance abuse counselors. Particular attention is required to meeting the needs of the corrections system.

Home Health Services and Hospice Care

- Home health and hospice services, including nursing care and care attendants, and as appropriate, physical therapy, occupational therapy, speech therapy, durable medical equipment support, and other support services, which can include homemaker services

Notes: Services can be provided by a variety of organizations. Inadequate home health or hospice services can lead to compromises in quality and to higher hospital utilization. Premature shifting of patients from home to institutional based living options can ultimately increase the cost of care in rural communities. Home-to-nurse telehealth monitoring and laptop computer-based mobile office support are increasing the efficiency of rural home health care.

Skilled Nursing Services and Nursing Facility Services

- Skilled nursing and nursing facility services

Notes: Services can be provided by a variety of organizations including hospitals and nursing facilities; the care may vary between short-term skilled services and long-term nursing facility or "nursing home" care. Skilled nursing facility (SNF) resources may often include hospital-based "swing-beds" particularly in CAHs. Inadequate SNF or basic nursing facility health services can lead to compromises in quality as well as higher hospital utilization and higher costs. Particular attention is warranted to assess the

balance between CAH-based swing beds and skilled nursing facility beds as well as the staffing needs of both types of facilities.

Non-acute, Assisted Living and Residential Care

- Supportive housing, both privately and MaineCare funded, providing assistance with meals, medications, and clinical services to support independence at a pre-nursing facility level of care

Pharmacy Services

- Financial and geographic access to prescription drugs as well as associated adverse risk screening and consumer education related to the appropriate use of medications

  Notes: There are numerous issues related to trade-offs between supporting the viability of local pharmacists, the role of hospitals, challenges in recruiting pharmacists, maintaining patient safety, and the positive and negative impacts of by-mail prescription programs. Often overlooked are the needs of hospital and skilled nursing facilities for round-the-clock pharmacy support. (See the Work Group report on information services.)

Eye Care Services

- Ophthalmology (also above as a physician specialty)
- Optometry and Optical Services

Community Health and Other Public Health Issues

There are numerous community health and public health issues in rural areas, which must not only be part of a comprehensive vision and health strategy but must also be better integrated with the practice of medicine. These issues do not fit within, but overlap, the previous categories and associated strategies and programs are usually spread over a variety of different state, federal, and local agencies, as well as private organizations. Examples of several concerns are listed below. Each need or issue is listed by predominant, ***but not exclusive*** category. Each may have unique rural or community-specific twists. All of the following points need to be integrated with recommendations of the SCC (formerly the Public Health Work Group).

Broad public health issues with individual, family, or employer orientations

- Care management systems and chronic disease management programs with effective integration with primary care and other service providers
- Domestic/child violence prevention and intervention
- Teenage pregnancy prevention (and as necessary, maternal and child support)
- Migrant health
- Occupational health/work risk exposure reduction (with particular attention to agricultural health issues in some areas)
- Immunizations and other personal health risk prevention strategies
- Nutrition
- Smoking cessation
- Auto safety

Other necessary public health services

- Sanitation and water supplies
- Communicable disease prevention
- Environmental protection issues
- Bio-terrorism and pandemic disease prevention and mitigation strategies
- Housing
- Transportation
- Access to a competent public health workforce
- Development of multi-community public health strategies
- Appropriate public health policy, laws, regulations, and enforcement
- Rural health research

Appendix D. Summary of Rural Health Plan Goals and Recommendations

Goal 1: Maine's rural health system must provide a foundational, core level of health services within local communities or a reasonable regional cluster of communities.

Recommendations

a. Organizations involved in state, regional and local health systems planning and development should use the "Fundamental Rural Community Health Building Blocks" as the expected framework for community health systems development and funding decisions.

   - The framework should be discussed with and adopted by all state agencies. (Some modifications and amendments may be needed following additional public input.)
   - District Coordinating Councils and Healthy Maine Partnerships (HMPs) will be expected to use this framework in their local needs assessment and planning.
   - Community planning initiatives (e.g., by hospitals and HMPs) should use this framework as the basis for community needs assessments, priority setting, and strategic development.

b. While local communities have the primary responsibility for addressing community needs and securing resources, state policy makers and other organizations should use community level priorities and decisions to guide policy decisions and align available resources.

   - The State should provide resources through state revenues and available federal grants (e.g., the Flex Program grant), and other in-state grant giving organizations should be encouraged to collaboratively support greater community engagement in health systems planning. These funders should require the use of "The Building Blocks".
   - A central place should be created for communities to record their priorities and decisions regarding health either through the State Office of Rural Health and Primary Care or the Maine CDC.

c. Pilot programs that promote better community engagement should be implemented, evaluated, and translated into tools for other communities.

Goal 2: Maine's rural health system should functionally integrate physical, behavioral, oral, and public health services to achieve greater access, efficiency, and quality.

Recommendations

a. The Office of Rural Health and Primary Care should develop a more detailed analysis of regional and local patterns of service and care in rural Maine, identify replicable examples of service coordination and integration that can be applied in other regions and communities, and assess potential barriers to their implementation (and strategies for overcoming these barriers). A key element of this review should be to identify regions that excel in chronic care outcomes (e.g. cardiac care) to identify what is working to produce those outcomes.

b. Conduct and evaluate demonstration(s) of coordinated or blended funding and other strategies for encouraging organizational and service network development and other service coordination and continuity of care outcomes. These demonstrations should support the SCC's District Coordinating Councils and Healthy Maine Partnerships (HMPs), well as the developing mechanisms for regional and local collaborative planning and network development. Demonstrations should be designed to test policies, reimbursement, and funding mechanisms to overcome barriers to network development and/or service coordination. Demonstrations could build on the Maine CDC, DHHS' coordinated funding initiative that is supporting the state's HMPs.

c. The Office of Rural Health and Primary Care should develop projects and funding requests under the Medicare Rural Hospital Flexibility grant program that advance the development of both horizontal (linking CAHs together) and vertical (linking CAHs to FQHCs other health care entities) to develop networks for quality improvement, health information technology, and other initiatives. The goal for these activities would be to integrate systems and services to achieve care coordination, continuity, and improved quality and outcomes.

d. MaineCare should consider options for using a Medicaid enhanced match to assist and support the adoption of Electronic Medical Records (EMRs).

Goal 3: Maine must address the current and future health workforce needs of the state's rural health system to sustain and expand access.

Recommendations

a. Provide ongoing leadership to address the shortage of skilled health care workers.

- The Department of Health and Human Services should raise the profile of the Health Workforce Forum and seize the opportunity to minimize duplication of

effort and maximize successful outcomes in areas of interest shared by employers, public and private higher education institutions, foundations, and public policy leaders.

- The Legislature should provide funding for staffing the Health Workforce Forum to assure continuity of information and action.
- Maine's higher education regulatory and professional licensure bodies should consider and publicly report on the implications of any proposed change in entry level requirements on the rural health workforce.

b. Maintain current data on demand for and supply of health care workers in Maine.

- The Legislature should support the continued survey and analysis of workers in key health care occupations/professions. Trend analysis and forecasting of future needs within clusters of rural communities (e.g., District Coordinating Councils, local Comprehensive Community Health Coalitions) should be included to ensure a more proactive approach to workforce issues.
- The Department of Health and Human Services and the Department of Labor should continue to collaborate to produce a Healthcare Occupations Report every four years and provide updated fact sheets to the Health Workforce Forum and the Legislature annually as new information becomes available.
- Additional evaluation of key healthcare professionals such as dentists, primary care physicians and general surgeons is needed to accurately address shortages.

c. Continue and further develop the Office of Rural Health and Primary Care's role in identifying medically underserved areas (MUAs) and Health Professional Shortage Areas (HPSAs), monitoring changes to federal shortage definitions, and administering the J-1 Visa, Conrad 30, and National Health Service Corps programs.

- Evaluate the current definitions of medically underserved area, health professional shortage areas. Explore opportunities to enhance definitions, criteria and analysis to better reflect and address the State's health care needs.

d. Expand the capacity of existing health professions education programs and/or create new programs in higher education.

- Schools of Nursing should increase the availability of rural clinical rotations by developing adjunct faculty within rural hospitals and establishing opportunities for advanced preparation in rural hub communities (AND to BSN to MSN) using distance education technology.
- Institutions of higher education should redesign current curricula to enable rural non-traditional students to move into advanced levels of responsibility (AND to BSN to MSN) through participate in distance learning programs using telehealth video-conferencing network and internet technologies.

e. Provide additional financial support to recruit more students into health care fields and to encourage existing health care professionals to remain at work.

- The Finance Authority of Maine should increase the number of Access Program seats available to Maine students at participating medical schools.
- Expand the State Loan Repayment Program to include non-physician health care professionals who commit to work in Maine's health professional shortage areas. Seek to leverage state funds with non-state funds to maximize the size and scope of the program.
- The Legislature should develop an Income Tax Credit Program for health professionals at retirement age who wish to continue work in rural Maine.

f. Establish more effective partnerships between higher education institutions and health care providers.

- The Legislature should provide support for the Maine AHEC Network to develop clinical placements for a broad range of health care occupations.
- The Health Workforce Forum should strengthen ties between higher education institutions and employers in order to align educational opportunities with industry needs.

g. Ensure that the Legislature continues to address issues affecting the direct care workforce in Maine, especially in rural areas.

- Ensure that rural long-term care providers are included in any demonstrations that offer these providers higher reimbursement to provide insurance coverage for direct care workers.
- Provide input into the upgrade in the Maine Direct Worker Registry.

h. Work with the Telehealth Work Group to ensure that they consider the use of telehealth and telemedicine as a tool for workforce retention in rural areas.

- Rural health care providers should be surveyed to determine the best use of the current system to support their work and professional development.

i. Rural community providers should be assisted by AHEC and/or the Office of Rural Health and Primary Care to target their recruitment efforts on local individual candidates as they move through the educational continuum from middle school through the completion of professional training and entry into local practice.

Goal 4: Rural health systems must support a planned care model that ensures better patient level coordination, integration of chronic care, and quality of care.

Recommendations

a. MaineCare and commercial insurers need to explore and develop financial incentives to assist rural providers in implementing the PCM. The implemented PCM should be

patient based rather than disease based to ensure the efficient management of patients with multiple chronic illnesses. Incentives should include financing community-based disease management, care management activities, group appointments, reimbursement for same day visits to primary care and specialty providers, co-location of certain providers, comprehensive health care assessments, and support for patient behavior change.

- The MaineCare program could research the potential impact of these incentives on cost and quality of care. The research could include the collection of data from Maine health care organizations that have already implemented the PCM or aspects of the PCM.
- MaineCare and commercial insurers should establish an all payer pilot program to identify and assess the best strategies for implementing the PCM community-wide.

b. All rural primary care providers/practices should have access to a case/care manager. For larger group practices care managers can be located within the practice office. For smaller groups or solo practitioners these managers can be located at the local hospital or FQHC.

- Care managers should have a maximum case load to ensure that they are not overwhelmed. Certification and training should also be provided to primary care practices to assist them, where possible, in developing care management activities among their current staff.
- The Maine AHEC Network should offer continuing education programs in care management, disease management and chronic care management. It should also explore ways to assist rural residents in obtaining certification in care management.

c. The Maine Quality Forum should develop and maintain a clearinghouse of tools that have been created to assist in the implementation and utilization of evidence-based guidelines and protocols.

d. The Maine Quality Forum, rural health care providers and local communities should work collaboratively to develop a plan for obtaining and implementing clinical registries or electronic medical record systems in rural health care organizations, which provide easy to use tools for quality assessment and disease monitoring. This should include the development of metrics for quality measurement.

e. Local communities, clusters of communities, or health care systems should create collaboratives to identify barriers to implementing the PCM in their communities, develop strategies to overcome these barriers, and create plans to implement the PCM community/system-wide.

f. Rural health care providers and the public health care system should work collaboratively to develop a plan for incorporating prevention, health promotion, and other public health services into the PCM.

Goal 5: Maine's quality and performance improvement system must incorporate *rural-relevant* measures that monitor the effectiveness of the rural health care system and its impact on rural residents' health.

Recommendations

a. The Office of Rural Health and Primary Care, the Maine Quality Forum, the Maine Hospital Association, and Maine's 15 CAHs should continue their collaborative efforts to develop a core set of rural-relevant quality measures for CAHs. During this process, the group should:

   - Involve other organizations and state agencies (Maine Health Management Coalition, Anthem and other health insurers, etc.);
   - Review quality indicators being used across the nation and internationally;
   - Draw on previous work done by the Flex Monitoring Team and others; and
   - Set goals to extend their efforts to include other types of rural health care providers, including non-CAHs and community health centers.

b. Create a work group consisting of representatives from the state's Quality Improvement Organization, the Maine Quality Forum, the Maine Health Management Coalition, large employers, and rural health care providers to address issues related to public reporting requirements. This group would be charged with:

   - Identifying problems with public reporting for rural health care providers;
   - Determining whether the many groups requiring/requesting quality information could agree on a common set of indicators for public reporting; and
   - Developing a plan to create a more efficient approach to submitting data for public reporting.

c. The Maine CDC, District Coordinating Councils, and rural providers must work collaboratively to develop a system for assessing the health status of rural Mainers. The key steps are:

   - To identify priority areas for measurement;
   - To identify currently available data sources, such as the Behavioral Risk Factor Surveillance System;
   - To determine what organization/agency will be responsible for the analysis and reporting of data; and
   - To create a process to use the data to improve the health status of rural Mainers.

d. The Governor's Office, Maine Office of Rural Health and Primary Care, and rural health care providers should work collaboratively to develop a performance measurement system to monitor the rural health care system as a whole. To create this measurement system, they should:

   - Convene a group of rural health care providers and stakeholders to select priority areas and measures;

- Consider current models and approaches to measuring system performance, such as the Commonwealth Fund's National Scorecard;
- Create an efficient system for collecting and disseminating the results; and
- Develop a process to use the performance measurement system to improve the rural health care system.

e. The Maine Health Access Foundation (MeHAF) should convene a conference including but not limited to hospital and community health center administrators, physicians, nurse and quality managers, liability and defense attorneys, transportation managers, and ethicists to clarify and help resolve problems in developing a "Culture of Quality" in Maine's health care system.

Goal 6a: Maine's rural health care system must have an interoperable health information technology system that facilitates communication, improves quality and efficiency, and supports greater integration among health and public health care providers.

Recommendations

a. The Office of Rural Health and Primary Care should undertake an assessment of HIT capacity and readiness, adoption, and utilization (including electronic medical records, telehealth, and distance learning) of Maine's Rural Health System. Based on the results, it should develop a statewide plan for addressing priority gaps and needs.

b. The Office of Rural Health and Primary Care should have an expanded role in assisting rural health care providers in obtaining HIT systems. They should

- develop and maintain a website with information on best practices for planning and implementing HIT systems;
- provide information on public and private sector funding opportunities and technical assistance to rural health care organizations that want to apply for these grants;
- advocate for supplemental funding for HIT projects;
- encourage and support the development of collaborative relationships between IT vendors and rural providers; and
- support the development of HIT systems and their use to improve quality of care and efficiency.

c. The state should explore ways to assist rural providers in obtaining HIT through MaineCare reimbursement, grant or loan programs, and/or legislation.

d. The Telehealth Work Group should be expanded to include health information technology.

e. HealthInfoNet should develop a plan to assist rural providers in preparing to use, maintain, and support the new HIE system.

Goal 6b: Maine's health care system must have a telehealth infrastructure that is accessible, adequately reimbursed, and enhances access to care.

Recommendations

The RHWG commends the work being done by the Telehealth Work Group. However, the RHWG would like to provide recommendations to ensure that certain issues are addressed.

a. MaineCare and commercial insurers should address reimbursement issues, especially adequate reimbursement for host site transmissions. They should:

    - investigate the reimbursement policies of other state Medicaid programs;
    - explore the use and reimbursement of store and forward services; and
    - establish reimbursement for tele-home health services.

b. The Governor's Office and the Office of Rural Health and Primary Care should focus on accessibility and affordability of bandwidth for rural facilities to:

    - identify potential sources of funding; and
    - work with telecommunication companies to address poor access, prohibitive costs, and delays in obtaining needed bandwidth.

c. The Telehealth Work Group should identify champions among providers to lead an effort to educate their colleagues and consumers about the quality and efficacy of telehealth services.

Goal 7: Financial access to the rural health system and the overall financial stability of the system are essential for the health of rural populations and communities.

Recommendations

a. The Office of Rural Health and Primary Care should develop a Flex Plan for Maine with a two to three year vision consistent with the Rural Health Plan

    - Continue to support Critical Access Hospital and other rural hospital development with increasing emphasis on multi-hospital collaboration, community health systems development, rural-specific quality indicators, as well as other steps that facilitate the optimal use of federal, State, and community resources.

b. Pursue discussions with Community Health Centers and other rural providers and systems (including the Healthy Maine Partnerships to identify ways MaineCare can be an influential partner in advancing rural health and how it can use its leverage as a major payer to foster systems development, while continuing to meet its financial obligations.

c. Conduct a study to clearly identify the relationships between MaineCare eligibility, benefits, and reimbursement and the ability to recruit and sustain necessary rural providers.

    - Identify options for aligning payment levels and community health needs;
    - Continue to promote the identification and enrollment of eligible rural Maine residents and adequate reimbursement to providers for an increased number of enrollees; and
    - Identify options for creating incentives to expand the proposed planned care models for MaineCare recipients.

d. Continue to improve administrative systems to address MaineCare responsiveness to rural providers.

e. Advocate for sustaining the State Children's Health Insurance Program

    - Continue to promote state eligibility and enrollment flexibility and the identification and enrollment of eligible children.
    - Advocate for adequate federal funding for the program through legislators representing Maine in the United States Congress.

f. Assure that rural needs are specifically addressed in relationship to refinements in the Dirigo Health initiatives.

    - Clarify investment capital needs of rural providers (e.g., for health information technology especially electronic medical record systems) and any desirable changes to existing State-supported strategies to expand low cost capital access.
    - Develop a Maine-based disease management capability to keep administrative funding in the State, particularly if this capability can be developed while creating rural jobs.

Appendix E. Glossary

A

access
"An individual's ability to obtain appropriate health care services. Barriers to access can be financial (insufficient monetary resources), geographic (distance to providers), organizational (lack of providers), and sociological (discrimination, language barriers)".[110]

Advisory Council for Health Systems Development
With 11 members representing providers, insurers, consumers and business, it directs the development of the State Health Plan and Capital Investment Fund. The Council's key duties include advising the Governor's Office in establishing the state health plan and capital investment fund, conducting hearings and synthesizing data and research.

Agency for Healthcare Research and Quality (AHRQ)
A federal agency authorized in 1999 to support research focused on quality, safety, efficiency and effectiveness of health care. To learn more about this agency, visit their website at www.ahrq.gov.

Alpha One Program
A program to support independent living for Mainers with disabilities. For more information, visit http://www.alpha-one.org/index.php.

Anti-kickback law
A law developed to prevent health care providers from using money or other valuable items to influence the referral of federal health care program business. The law has been amended several times to provide "safe harbors" or exceptions to the law to allow for arrangements between providers that are considered beneficial to patients or the health care system.[111]

Area Health Education Center (AHEC)
An organization or organized system of health and educational institutions whose purpose is to improve the supply, distribution, quality, use and efficiency of health care personnel in medically underserved areas. An AHEC's objectives are to educate and train the health personnel needed by the underserved areas and to decentralize health workforce education, thereby increasing supply and linking the health and educational institutions.

B

Behavioral Risk Factor Surveillance System (BRFSS)
The Behavioral Risk Factor Surveillance System (BRFSS) is the world's largest, on-going telephone health survey system, tracking health conditions and risk behaviors in the United States yearly since 1984. Conducted by the 50 state health departments as well as those in the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands with support from the CDC, BRFSS provides state-specific information about issues such as asthma, diabetes, health care access, alcohol use, hypertension, obesity, cancer screening, nutrition and physical activity, tobacco use, and more. Federal, state, and local health officials and researchers use this

[110] *Glossary of terms commonly used in health care.* (n.d.) Washington, DC: Alpha Center.
[111] *Federal Anti-Kickback Law and regulatory safe harbors: Fact sheet November 1999*. (1999). Retrieved February 15, 2008, from http://oig.hhs.gov/fraud/docs/safeharborregulations/safefs.htm

information to track health risks, identify emerging problems, prevent disease, and improve treatment. For more information, visit http://www.cdc.gov/brfss/.[112]

benchmarking
A process used to compare an organization's performance to a standard or to other similar organizations. The process is often used as a tool in quality or performance improvement efforts.

C

care management, case management
Care or case management assigns the administration of care for a patient to a single person (or team) who coordinates all the necessary health care and supportive services needed. Case or care management tries to enhance access to care and improve the continuity and efficiency of services. Case or care managers may arrange need services for patients, assess the patient's needs, arrange for support services (housing, benefit programs, job training, etc.), and monitor medication and use of services. They are often used in primary care to assist with the coordination of care among multiple providers for patients with chronic illness.

CarePartners
CarePartners is a "program being implemented in three Maine Counties in collaboration with MaineHealth" to improve low income and uninsured Mainers' access to health care services and their health status. Under the program, low income Mainers are provided with access to comprehensive healthcare services, care management and low cost or free pharmaceuticals. Persons are eligible for CarePartners if they are uninsured, have a household income under 175% of the Federal Poverty Level, live in the program service area for at least six months, meet an assets test, and are not eligible for coverage through their employer or school. All persons enrolled in CarePartners are assigned a Primary Care Provider, (PCP) and Care Manager. The Care Manager helps enrollees to access needed health care, social and economic services in the community. All healthcare services, except for office visits and prescriptions are free. Patients pay $10 for an office visit and $5 for a month's supply of prescription drugs. For more information on this program, visit http://www.communitiesincharge.org/Documents/PhaseII%20PressRelease/Portland.htm.[113]

chronic illness
Chronic illness is "an illness that is permanent or lasts a long time. It may get slowly worse over time. It may lead to death, or it may finally go away. It may cause permanent changes to the body. It will certainly affect the person's quality of life".[114]

co-morbidity
The co-existence of two or more diseases, including chronic illness.

community-based care
"The blend of health, public health, and social services provided to an individual or family in their place of residence for the purpose of promoting, maintaining, or restoring health or minimizing the effects of illness and disability".[115]

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[112] *About the BRFSS.* Retrieved February 4, 2008, from http://www.cdc.gov/brfss/about.htm
[113] *Communities in charge: Financing and delivering health care to the uninsured.* Retrieved February 4, 2008, from http://www.communitiesincharge.org/Documents/PhaseII%20PressRelease/Portland.htm
[114] Chronic Illness Alliance website. Retrieved February 18, 2008, from http://www.chronicillness.org.au/
[115] *Glossary of terms commonly used in healthcare.* (n.d.) Washington, DC: Alpha Center.

comprehensive health assessment
Typically conducted by a patient's primary care provider, this assessment does not just evaluate a patient's physical and mental health status, but assesses a patient's stress level, current life circumstances, wellness and prevention, occupational information, and general life satisfaction. A more comprehensive assessment can help providers the patient as a whole and better identify problems that should be addressed.

Conrad State 30 Program (Physician's J-1 Visa Waiver Program)
"This program allows state health agencies to annually hire up to 30 foreign physicians to practice in rural and inner-city communities that often have difficulty recruiting physicians. The Conrad State 30 program was designed to provide each of the fifty U.S. states up to 30 waivers for physicians each federal fiscal year. Each state has been given some flexibility to implement its own guidelines, but there are some basic requirements that are common to all State 30 programs. For physicians who qualify, the State 30 program is an excellent method of obtaining a waiver. Each Conrad 30 state typically has their own application materials that are separate from the DHHS program and the DOS application for waiver."[116]

cost-based reimbursement
"Payment made by a health plan or payer to health care providers based on the actual costs incurred in the delivery of care and services to plan beneficiaries."[117] Medicare and Medicaid often pay rural providers, such as Critical Access Hospitals and Federally Qualified Health Centers, on a cost basis.

Critical Access Hospital (CAH)
"CAHs are hospitals that must be located in a rural area (or an area treated as rural), be more than 35 miles (or 15 miles in areas with mountainous terrain or only secondary roads available) from another hospital or be certified before January 1, 2006 by the State as being a necessary provider of health care services. CAHs are required to make available 24-hour emergency care services, have a maximum of 25 acute care and swing beds, and must maintain an annual average length of stay of 96 hours or less for their acute care patients. CAHs are reimbursed by Medicare on a cost basis (i.e., for the reasonable costs of providing inpatient, outpatient and swing bed services)."[118]

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[116] *J-1 Visa Waiver frequently asked questions,* Retrieved December 19, 2007, from http://www.raconline.org/info_guides/hc_providers/j1visafaq.php#conrad30
[117] *Glossary of terms commonly used in health care.* (2004). Washington, DC: AcademyHealth.
[118] Loux, S., et al (2006). *A review of state Flex Program plans: 2004-2005.* (Flex Monitoring Team Briefing Paper #10) Portland, ME: Muskie School of Public Service, University of Southern Maine.

D

DirigoChoice
"DirigoChoice is health care coverage designed to give Maine businesses with 50 or fewer employees, the self-employed, and individuals an affordable, high-quality option for health coverage. Enrollees receive discounts on monthly payments and reductions in deductibles and out-of-pocket expenses based on their income and family size. Discounts can be as high as 100%".[119] DirigoChoice is a voluntary program with health insurance coverage now provided through Harvard Pilgrim Health Care.

Dirigo Health Initiative
In addition to improving access to health care for Maine residents, the Dirigo Health Initiative was developed to contain costs and improve health care quality for Mainers. Through the initiative the Governor plans to contain costs by reducing bad debt and charity care, strengthening the Certificate of Need process, developing a capital investment fund, and creating transparency in prices. The strategies for improving quality are to improve the use of data and information technology to measure quality, to support the development of electronic medical records for all Mainers, and to provide informational resources to providers and consumers to assist them in making informed health care choices. The initiative will also include a biennial State Health Plan to identify health problems and create strategies to make Maine the healthiest state in the country.

disease management
"The process of identifying and delivering the most efficient and effective combination of resources and interventions for the treatment or prevention of a specific disease. Disease management can be provided by physicians and other health care providers, but is also frequently used by health insurance providers to improve care and contain costs."[120]

District Coordinating Councils (DCCs)
Eight regional organizations across Maine created by the Public Health Work Group to collaborate and coordinate public health services at the regional level. These councils will have the responsibility of collaborative planning and decision-making at the district level. Each district will select members from a wide array of local government and health care organizations.

E

electronic medical records (EMR)
A set of databases that contains the health information for patients from a variety of clinical service delivery processes, including laboratory data, pharmacy data, patient registration data, radiology data, surgical procedures, clinic and inpatient notes, preventive care delivery, emergency department visits, billing information, and so on. EMRs may also include clinical applications that can act on the data contained within the record, including clinical decision support systems, computerized provider order entry, and a reporting system.

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[119] *DirigoChoice: Working for Maine.* Retrieved February 4, 2008, from http://www.dirigohealth.maine.gov/dhlp02.html
[120] *Glossary of terms commonly used in health care.* (2004) Washington, DC: AcademyHealth.

evidence-based medicine
The "explicit and judicious use of current best evidence/practice in making decisions about the care of individual patients". The approach must "balance the best external evidence with the desires of the patient and the clinical expertise of providers".[121]

F

Federally Qualified Health Center (FQHC)
A FQHC serves in high need communities (Medically Underserved Areas or Populations), provide comprehensive primary health care services and supportive services (education, translation, etc.), offer services to all patients based on ability to pay, has a community board that consists of at least 51% of their patients, and meets performance and accountability standards.[122]

Finance Authority of Maine (FAME)
The organization was originally started to provide financial support for the development and expansion of Maine businesses. In 1990, they assumed the role of overseeing the state's higher education finance programs, including programs in health care.[123]

Flex Monitoring Team
"The Rural Health Research Centers at the Universities of Minnesota, North Carolina, and Southern Maine, under contract with the federal Office of Rural Health Policy are cooperatively conducting a performance monitoring project for the Medicare Rural Hospital Flexibility Program (Flex Program). The monitoring project assesses the impact of the Flex Program on rural hospitals and communities and the role of states in achieving overall program objectives, including improving access to and the quality of health care services; improving the financial performance of Critical Access Hospitals; and engaging rural communities in health care system development."[124]

H

Health Workforce Forum
The forum was established by Maine Legislation in 2005 to review the report developed by the Department of Labor on health care occupations and to discuss health workforce issues. The forum convenes at least once annually and includes representatives of health professionals, licensing boards, employers, health education programs, and the Department of Labor.[125]

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[121] *Glossary of terms commonly used in health care.* (2004). Washington, DC: AcademyHealth.
[122] *What is a health center?* Retrieved July 22, 2008, from http://bphc.hrsa.gov/about/
[123] Finance Authority of Maine website. Retrieved February 18, 2008, from http://www.famemaine.com/aboutFAME.asp
[124] The Flex Monitoring Team website. Retrieved February 18,2008, from http://www.flexmonitoring.org/index.shtml
[125] An Act to Ensure an Adequate Supply of a Skilled Health Care Workforce, Maine Public Law, 1st Special Session of the 122nd Laws of Maine §§ 327-256-A-257 (2005).

health information exchange (HIE)
"Health information exchange (HIE) refers to the sharing of clinical and administrative data across the boundaries of health care institutions and other health data repositories."[126] Many stakeholder groups (payers, patients, providers, and others) realize that if such data are shared health care processes would improve with respect to safety, quality, cost, and other indicators.

HealthInfoNet
An independent, nonprofit organization created to develop a statewide clinical information sharing infrastructure for Maine. This infrastructure will permit the sharing of patient health care information across health care providers and organizations. The organization is Maine's statewide regional health information organization.[127]

health information technology (HIT)
Health information technology is a technology tool used by health care organizations to acquire, store, share and use information to improve the efficiency and effectiveness of health care services. Examples of HIT include personal digital assistants (PDAs), electronic medical records (EMR), and computerized physician order entry (CPOE).

health care network
An affiliation of providers through formal and informal contracts and agreements.

health planning
Planning focused on improving health or health care systems for a whole community or particular population, type of health service, institution or health program. The key components of the process are data assembly and analysis, goal determination, action recommendation, and implementation strategy.

Health Professional Shortage Area (HPSA)
Areas or communities with diminishing health care services for primary care, mental health, and dental health. Once designated a shortage area, the community becomes eligible for state and federal assistance to recruit and retain health professionals and access to additional reimbursement dollars.

health promotion
Any combination of health education, behavior or lifestyle change and environmental interventions designed to facilitate the individual to achieve an optimal level of physical, emotional, social, spiritual, and intellectual health.

Healthy Maine Partnerships
First established in 2001, these partnerships were created with tobacco settlement funds to provide prevention and health promotion services at the local level. These partnerships have become the local public health coalitions created by the Public Health Work Group in 2007.

home health care/home health

[126] *Definition and select characteristics of HIE initiatives.* Retrieved February 4, 2008, from http://www.ehealthinitiative.org/pressrelease825A.mspx
[127] HealthInfoNet website. Retrieved February 4, 2008, from http://www.hinfonet.org/about_hinfo.shtml

Health services provided in the home to the aged, disabled, or sick who do not need institutional care. The most common services are nursing care, speech, physical, occupational and rehabilitation therapy, homemaker services, and social services.[128]

I

Institute for Healthcare Improvement (IHI)

A nonprofit organization created to improve health care quality. The organization developed the 100,000 lives campaign to assist hospitals in reducing preventable deaths. They recently developed the 5 million lives campaign with a goal of preventing five million incidents of medical harm by the end of 2008.[129]

Institute of Medicine (IOM)

The IOM was chartered in 1970 as a component of the National Academy of Sciences. They provide "unbiased, evidence-based, and authoritative information and advice concerning health and science policy to policy-makers, professionals, leaders in every sector of society, and the public at large".[130]

interoperability

"The ability of different information technology systems and software applications to communicate, exchange data accurately, effectively, and consistently, and use the information that has been exchanged".[131]

J

J-1 Visa Program

"The J-1 Visa allows an international medical graduate to come to the United States under an educational exchange program for up to seven years. When the visa expires, the physician must return to his/her own country for at least two years before applying for a permanent visa in the United States. J-1 Visa categories include Physicians, Professor & Research Scholar, Trainee, International Visitor, Government Visitor, College & University Student, and Short-Term Scholar."[77]

The Joint Commission (TJC was formerly JCAHO)

An independent, not-for-profit organization that evaluates and accredits a variety of health care organizations, including hospitals, ambulatory care, long-term care, and laboratory services). The Joint Commission develops its own accreditation standards, which include a number of required patient safety goals.[132]

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[128] *Glossary of terms commonly used in health care.* (2004). Washington, DC: AcademyHealth.
[129] Institute for Health Improvement website, Retrieved February 18, 2008, from http://www.ihi.org/ihi/about
[130] Institute of Medicine website, Retrieved February 15, 2008, from http://www.iom.edu/
[131] *Interoperability definition,* Retrieved February 4, 2008, from http://www.nahit.org/cms/index2.php?option=com_content&do_pdf=1&id=186
[132] The Joint Commission on Accreditation for Health Organizations website. Retrieved February 4, 2008, from http://www.jointcommission.org/AboutUs/joint_commission_facts.htm

L

Leapfrog Group, The

"The Leapfrog Group is a voluntary program aimed at mobilizing employer purchasing power to alert America's health industry that big leaps in health care safety, quality and customer value will be recognized and rewarded." The organization's four leaps are focused on computerized physician order entry, evidence-based hospital referral, ICU physician staffing, and an assessment of providers' progress on achieving the National Quality Forum's 30 Safe Practices. For more information about the Leapfrog Group visit http://www.leapfroggroup.org/.[133]

M

MaineCare

Maine's Medicaid program. Medicaid provides low-income children, pregnant women, and parents with health insurance coverage for little or no cost. The program also covers low income elderly and the disabled. Adults without children may be eligible through the non-categorical needy waiver, but this program has been limited in recent years.

Maine Center for Disease Control and Prevention (Maine CDC)

A Maine state agency that "develops and delivers services to preserve, protect and promote the health and well-being of the citizens of Maine".[134] Divisions within the agency include chronic disease, family health, infectious disease and public health. Maine's State Office of Rural Health and Primary Care is located within the Division of Public Health at the Maine CDC.

Maine Direct Care Worker Coalition

An organization with representatives from long-term care which "promotes policy and practices that respect and value direct care workers in order to sustain quality direct care in Maine". [135]

Maine Direct Worker Registry

A federally mandated registry of certified nurse aides (CNAs). The registry lists individuals certified as CNAs and those barred from working as a CNA due to fraud, abuse, etc. CNAs are required to re-register in the registry every two years and are not required to pay any fees to be listed. Employers are required to check the registry before hiring CNAs at their facilities.[136]

MaineHealth

MaineHealth is a not for profit integrated health care delivery system. The organization has both members (owned by MaineHealth) and affiliates (not owned by MaineHealth). MaineHealth provides a number of voluntary programs and services to its members and affiliates.

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[133] The Leapfrog Group website. Retrieved February 4, 2008, from http://www.leapfroggroup.org/

[134] Maine Center for Disease Control and Prevention website. Retrieved February 4, 2008, from http://maine.gov/dhhs/boh/

[135] Direct Care Worker Coalition, Maine Center for Economic Policy website. Retrieved February 4, 2008, from http://www.mecep.org/direct_care_worker_coalition.asp

[136] *Study of Maine's direct care workforce: Wages, health coverage, and a worker registry.* Report to the 123rd Maine Legislature, Maine Department of Health and Human Services, March 2007.

Maine Health Access Foundation (MeHAF)
The Maine Health Access Foundation founded in April 2000 provides grant funding and other programs to address access to health care for Mainers, especially the uninsured and medically underserved. The organization provides approximately $5 million in grant and program funding annually. For more information visit http://www.mehaf.org/.[137]

Maine Health Alliance
The Maine Health Alliance is a health care provider organization which promotes the ability of its member providers to deliver locally accessible, high quality, cost effective services in a changing health care environment. The organization achieves these objectives by interacting with purchasers of health care, improving care management, and other activities.

Maine Health Management Coalition (MHMC)
"A non-profit coalition of 34 employers that includes doctors, hospitals, insurers, and public and private employers."[138] The coalition has focused on reducing the costs and improving the quality of health care in Maine. They have developed the Pathways to Excellence programs for primary care providers and hospitals. For more information visit http://www.mhmc.info/.

Maine Hospital Association (MHA)
"The Maine Hospital Association represents 39 community-governed hospitals in Maine. Formed in 1937, the Augusta-based non-profit Association is the primary advocate for hospitals in the Maine State Legislature, the U.S. Congress and state and federal regulatory agencies. It also provides educational services and serves as a clearinghouse for comprehensive information for its hospital members, lawmakers and the public. MHA is a leader in developing health care policy and works to stimulate public debate on important health care issues that affect all of Maine's citizens."[139]

Maine Office of Rural Health and Primary Care (MeORHPC)
Maine's State Office of Rural Health located within the Maine CDC. The Maine Office of Rural Health and Primary Care manages health personnel recruitment and retention programs, manages Maine's Medicare Rural Hospital Flexibility Program, and facilitates communication on rural health issues among providers, consumers and government programs.

Maine Personal Assistance Services Association (MePASA)
"Maine PASA is an association that promotes professionalism and development for the direct care, direct support and personal assistance workforce to support the highest quality of life for elders and people with disabilities".[140] The program currently provides direct care and support workers with scholarships to educational programs and conferences.

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[137] Maine Health Access Foundation website. Retrieved February 4, 2008, from http://www.mehaf.org/
[138] *Maine Health Management Coalition frequently asked questions*. Retrieved February 4, 2008, from http://www.mhmc.info/about/faq.php
[139] Maine Hospital Association website. Retrieved February 4, 2008, from http://www.themha.org/about/mission.htm
[140] Maine Personal Assistance Services Association website. Retrieved February 18, 2008, from http://www.mainepasa.org/

Maine Primary Care Association (MPCA)
The Maine Primary Care Association promotes universal access to healthcare and the elimination of health disparities in Maine. It is an association of health centers providing superior comprehensive primary care to all, regardless of insurance coverage or the ability to pay. They provide a variety of outreach and community level programs.[141]

Maine Quality Forum (MQF)
The forum was created by the Governor in 2003 through the Dirigo Initiative to improve the quality of health care in Maine. The charge for the MQF is to "collect research, promote best practices, collect and publish comparative quality data, promote electronic technology, promote healthy lifestyles and report to consumers and the Legislature".[142]

Medicaid
A health insurance program funded through state and federal dollars to provide coverage to low-income and disabled individuals. Specifically, the program covers low-income children, their mothers/parents, the elderly, and the disabled. The federal government pays states matching funds for costs incurred in providing health care coverage to these individuals.

Medical Home
"A medical home is defined as primary care that is accessible, continuous, comprehensive, family- centered, coordinated, compassionate, and culturally effective".[143] A medical home addresses how a primary health care professional works in partnership with the family/patient to assure that all of the medical and non-medical needs of the patient are met".

Medically Underserved Areas (MUAs)
Areas that have shortages of primary care, dental or mental health providers. The designation of an area as underserved is determined by four variables: 1. ratio of primary medical care physicians per 1,000 population, 2. infant mortality rate, 3. percentage of the population with incomes below the poverty level, and 4. percentage of the population age 65 or over.[144]

Medicare
Medicare is a federal entitlement program that provides individuals 65 and older with health insurance coverage for certain services.

Medicare Rural Hospital Flexibility Program
"The Medicare Rural Hospital Flexibility Program (Flex Program) was created by the Balanced Budget Act of 1997 and is intended to strengthen rural health care by encouraging states to take a holistic approach. A major requirement for participation in the Flex Program is the creation of a state rural health plan. The Flex Program provides grants to each state which are used to implement a Critical Access Hospital program, to encourage the development of rural health networks, to assist with quality improvement efforts, and improve rural emergency medical services. The Flex Program promotes a process for improving rural health care, using the Critical

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[141] Maine Primary Care Association website. Retrieved February 18, 2008, from http://www.mepca.org/about_mpca.php
[142] The Maine Quality Forum website. Retrieved February 4, 2008, from http://www.mainequalityforum.gov/mqlp06.html
[143] Ad hoc Task Force on the Definition of the Medical Home (1992). The medical home. *Pediatrics, 90*(5), 774.
[144] *Guidelines for medically underserved area and population designation*. Retrieved February 5, 2008, from http://bhpr.hrsa.gov/shortage/muaguide.htm

Access Hospital (CAH) program as one method of promoting strength and longevity through CAH conversion for appropriate facilities."[145]

Mental health parity
Mental health parity argues for equal insurance coverage for mental health services and physical health services. Maine currently has a mental health parity law, but it does not apply to businesses with less than 20 employees.

N
National Health Service Corps Program
This program offers students interested in primary care tuition reimbursement and stipends for attending an allopathic or osteopathic medical school, a family nurse practitioner program, a nurse midwifery program, a physician assistant program, or dental school. After completing their training, graduates are required to practice in a federally designated Health Professional Shortage Area for each year that they received support from the program.

non-categorical waiver program
This waiver program allows states to cover low income childless adults with Medicaid coverage. Typically, Medicaid would only cover low income parents and children, the elderly, and the disabled. Because childless adults do not fit under the above categories, their coverage is often labeled non-categorical.[146]

P
Patient safety
An area of quality improvement that focuses on preventing medical errors and the adverse outcomes associated with them. In order to prevent these errors, health care organizations have implemented a number of initiatives to increase the reporting of errors, to analyze why the errors occurred, and to develop strategies from preventing them from happening again. Patient safety initiatives have recently focused on medication safety and surgical infections and errors.

Performance improvement
Health care organizations measure outputs or outcomes to assess the efficiency and effectiveness of their organization. For poor outcomes, they identify strategies or changes to improve the process or service.

Physician Hospital Organization (PHO)
"A PHO is a joint venture between one or more hospitals and physicians".[147] These organizations may develop to increase their power in developing contracts with insurance companies. They may also share administrative services and offer other programs to its members.

Picture Archiving and Communications System (PACS)

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[145] *CAH frequently asked questions*. Retrieved December 19, 2007, from http://www.raconline.org/info_guides/hospitals/cahfaq.php#whatis
[146] *Medicaid, SCHIP and federal authority*. Retrieved February 5, 2008, from http://statecoverage.net/matrix/waivers.htm
[147] Burns, L.R. (1995). *Models of physician hospital organization: Possibilities and pitfalls*. (Issue Brief 2, 7) Philadelphia, PA: Wharton School, University of Pennsylvania.

A PACS is a radiology system that allows for the acquisition, storage, display, and communication of radiology images in a digital form.

Pine Tree Zones
Pine Tree Zones were created to assist in the development of new businesses in Maine. Currently, zones include Aroostook County, Androscoggin Valley, Downeast, Kennebec Valley, Midcoast, Penobscot Valley, PenQuis, Southern Maine, an increase in Maine Indian Tribe eligibility, and a military redevelopment zone. The initiative offers tax incentives and benefits to companies who develop new business activities in a Pine Tree Zone. For more information on this program, please visit http://www.mainebiz.org/why_maine/pine_tree_zones.asp.

Population health
Population health is an approach to health that goes beyond the individual level of focus of medicine and public health in order to improve the health of an entire population. The approach addresses a broad range of factors that impact health with a particular focus on the social determinants of health.

Practice guidelines/protocols
Practice guidelines or protocols provide health care professionals information or processes to assist in patient diagnosis and treatment. Frequently they are developed based on research evidence.

Pregnancy Risk Assessment Monitoring System (PRAMS)
Initiated in 1987, PRAMS is a surveillance system developed by the Center for Disease Control and Prevention to collect information on maternal attitudes before, during, and after pregnancy. The system was created to reduce adverse outcomes and for state level planning and program evaluation.[148]

Primary care
Primary care providers are often seen as a patient's main provider that offers preventive and medical care and coordinates all care for the patient. These providers are typically general practitioners, internists, family physicians, obstetricians/gynecologists, and pediatricians.

Prevention
There are typically three levels of prevention: primary, secondary, and tertiary. Primary is the prevention of an illness or condition from occurring. Secondary prevention attempts to lower the prevalence of the illness or condition. Tertiary prevention tries to decrease the amount of disability caused by the illness or condition.

Public Health
Public health is focused on population or community health. This area of care typically identifies populations that are at risk for illness and tries to prevent it, develops policies that

[148] Pregnancy Risk Assessment Monitoring System website. Retrieved February 5, 2008, from http://www.cdc.gov/prams/

address health problems, and assures that the community has access to needed and effective services.[149]

Q

Quality Counts
A Maine organization created in 2003 to improve chronic illness prevention and care in the state.

Quality improvement
Quality improvement is an interdisciplinary approach to assess poor health outcomes and develop strategies and processes to improve outcomes in the future. In some cases, quality is measured based on a standard of health care delivery.

Quality Improvement Organization (QIO)
QIOs are health care organizations developed through the Centers for Medicare and Medicaid Services to ensure that Medicare beneficiaries receive high quality and safe care from Medicare providers.[150]

R

Regional Health Information Organization (RHIO)
A RHIO is a formal organization within a geographically defined area that oversees the electronic exchange of information and maintains health information exchange standards.

Rural Health Care Pilot Program
A Federal Communications Commission program that supports the development of state and regional broadband telehealth networks. The program will provide $417 million to fund more than 69 of these networks.[151]

Rural Health Clinic (RHC)
A federal program created to increase the use of mid-level providers (nurse practitioners and physician assistants) and to provide rural primary care providers and clinics cost-based reimbursement for Medicare and Medicaid beneficiaries. All clinics must be in a rural area, must employ a mid-level provider at least 50% of their time, and must at least provide primary care and emergency care on-site.[152]

S

Safety net
Providers and other health care organizations that offer free or low cost care to "medically needy, low income, or uninsured populations". These providers typically have disproportionately large shares of Medicaid and indigent patients.

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[149] Med Terms.com website. Retrieved February 5, 2008, from http://www.medterms.com/script/main/art.asp?articlekey=5120

[150] *Centers for Medicare and Medicaid Services, Quality Improvement Organizations*. Retrieved February 18, 2008, from http://www.cms.hhs.gov/QualityImprovementOrgs/

[151] Federal Communications Commission. FCC launches initiative to increase access to health care in rural America through broadband telehealth services. Retrieved from http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-278260A1.pdf

[152] *Comparison of the Rural Health Clinic and Federally Qualified Health Center Programs*. (2005). Sterling, VA: Department of Health and Human Services, Health Resources and Services Administration. Retrieved February 5, 2008, from http://www.ask.hrsa.gov/downloads/fqhc-rhccomparison.pdf

Stark Law
"A law that prohibits physicians from referring Medicare or Medicaid patients to an entity for the provision of designated health services if the physician (or a member of the physician's immediate family) has a direct or indirect financial relationship with the entity".[153]

State Children's Health Insurance Program (SCHIP)
Created in 1997, this program was designed to provide health insurance coverage to children whose family income was low, but too high to qualify them for the Medicaid program. The program is a partnership between state and federal governments. States can either use SCHIP funding to expand eligibility for their Medicaid programs, create a separate program for SCHIP, or do both. States' have used SCHIP waivers to expand coverage to various groups, including childless adults.[154]

Store and forward
This technique, most commonly used in telehealth, allows health care providers to store health care information or images and later send it to another provider for review. Store and forward is commonly used in tele-radiology and tele-dermatology.

T
Telehealth
The use of telecommunications to transmit voice, data, and video to facilitate medical diagnosis, treatment and/or distance learning.

U
Underinsurance
Being underinsured can be defined in at least two ways: 1) an individual's perception or satisfaction with his or health plan or 2) an individual's ability to pay for health care. Those that use definition 1 typically measure whether people are underinsured by how they feel about the benefits or illnesses that are covered through their insurance plan. The second definition is assessed based on the level of financial burden and its effect on access to health care.

V
Veterans Health Information Systems and Technology Architecture (VistA)
VistA is an integrated inpatient and outpatient electronic health record created by Veteran Affairs. The VA allows health care organizations to download their software for free.

[153] Lebowitz, P.H. & Jones, J.W. (2001). An overview of the Stark Law. *American Clinical Laboratory, Clinical Note,* 31-32.
[154] Children's Health Insurance Program. Retrieved February 5, 2008, from http://www.nashp.org/_catdisp_page.cfm?LID=2A78988C-5310-11D6-BCF000A0CC558925

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