STRATEGIC PLANNING PHASE: FINAL REPORT

TURNING POINT INITIATIVE

Colorado's Public Health Improvement Plan

Colorado Public Health Improvement Plan
Colorado Turning Point Initiative
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COLORADO TURNING POINT INITIATIVE

Contents

Background

ALMOST 14 YEARS AFTER THE PUBLICATION of the breakthrough report *The Future of Public Health* by the Institute of Medicine (IOM), some would contend that the U.S. public health system today is not much closer to realizing the goals of the IOM study than it was in 1988. While there have been public health achievements since then, new and more complex challenges have presented themselves. Among these new challenges are an increasingly diverse political constituency, the resurgence and spread of drug-resistant strains of disease-causing microbes, global transmission of new and emerging diseases, the threat of bioterrorism, decreased funding for public health programs and infrastructure, reduced health insurance coverage and overall access to health care, and health disparities. All of these issues present overwhelming challenges to safeguarding the future health of the public.

In the summer of 1999, the Colorado Department of Public Health and Environment (CDPHE) received a Turning Point strategic planning grant from the Robert Wood Johnson Foundation. The purpose of the grant was to facilitate a collaborative process to assess the health of Colorado residents, examine public health systems in Colorado, and then create a state public health improvement plan. This document is one product of that work. Colorado is one of 21 states participating in the National Turning Point Initiative and is guided by the overriding mission to transform and strengthen the public health system to make the system more effective, more community-based, and more collaborative.

A steering committee carried out the strategic planning process with input from workgroups. In examining health status and health systems within Colorado, it became clear that while Colorado is a relatively healthy state, there are still barriers that prevent optimal health for the general population, and there are specific population groups that are disproportionately impacted by disease, disability, and death, especially minority communities. In looking toward the future, public health is likely to face challenges never before seen, where a strong public health infrastructure and visionary leaders will be critical to maintaining the health of Colorado residents. Through its assessment, the Turning Point Steering Committee determined that many groups in Colorado have a difficult time accessing health care. This is due in part to a lack of insurance coverage and the fact that many rural areas in Colorado have been federally designated as Health Professional Shortage Areas. In terms of public health infrastructure, funding constraints currently prevent expanding the workforce, increasing information and data systems capacity, and enhancing organizational capacity, especially in local agencies.

Through its public health systems assessment, the steering committee determined that the key strategies for improving health status in Colorado include:

- Increasing the capacity of public health and environmental agencies
- Increasing the capacity to conduct population-based health status assessment
- Assuring access to quality health care
- Assuring access to insurance coverage
- Eliminating health disparities
- Promoting leadership development within the public health field and community partners

Beyond the steering committee and workgroups, the Turning Point Initiative used key informants, a review of the literature, and national and state data to examine each key strategy area. In this document, a national perspective will be included, as these key strategy areas are not unique to Colorado. This planning process was conducted by a diverse set of partners, many of whom are not from governmental public health agencies. The Colorado Turning Point Initiative believes that maintaining and improving the public's health requires partnerships with many different sectors and communities. This plan is meant to be carried out in collaboration and should be used as a guide. We believe that any person, community, or entity can take a leadership role in mobilizing partners around the recommendations in this plan, and we invite this participation in maintaining the health of our state.

Data Issues

This document attempts to provide the latest data available; however, data availability varies by year depending on the data source. In most cases, 1999 is the most recent year for available data. When 1999 data is not yet available, earlier data will be presented.

In preparing this plan, guidance was sought from the *Healthy People 2010* document, which will be referenced often. *Healthy People 2010* is a set of national health objectives to be achieved over the first decade of the 21st century. The objectives were developed by a consortium of partners, led by the U.S Department of Health and Human Services.

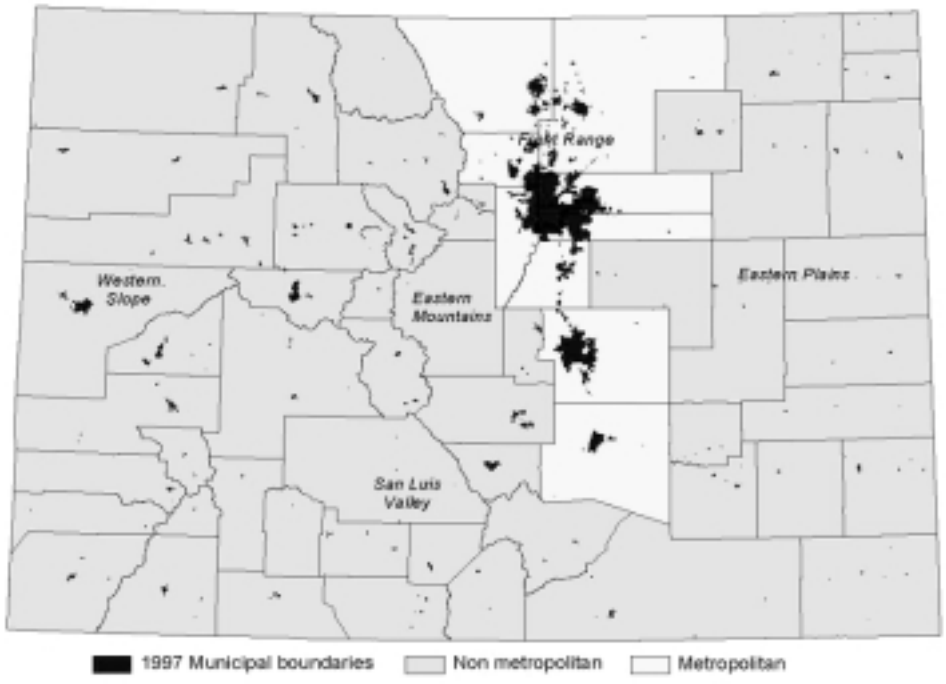
Colorado Turning Point also wishes to recognize the difficult issue of using labels when discussing race and ethnicity. It is hard to gain a consensus on the preference of categories such as "people of color/minority," "American Indian/Native American," "African American/black," "Hispanic/ Latino(a)," and "Caucasian/white." We acknowledge that not everyone identifies himself or herself with these categories, and we very much respect the importance of cultural differences in how communities prefer to be defined.

Finally, in accordance with the Centers for Disease Control and Prevention, Colorado Turning Point also recognizes that race and ethnicity are social constructs representing distinct histories and cultures of groups within the United States and that they are not valid biological or genetic categories.

Profile of Colorado

Colorado's population is young, healthy, rapidly growing, and increasingly wealthy, relative to national averages. With a population of approximately 4.3 million, Colorado is home to only 1.5 percent of the United State's population. Colorado's population density is 39.2 persons per square mile compared to the rest of the nation at 77.1.[1] Colorado is a geographically large state with 80 percent of its residents living in 10 metropolitan counties on the east side of the Rocky Mountains. This region is known as the Front Range. The remaining 20 percent of residents are scattered throughout the mountains, eastern plains, and western plains of the state (Figure 1). Colorado consists of 63 counties, 29 of which are considered rural and 23 are considered frontier (less than 6 people per square mile).[2,3] In November of 2001, Broomfield will become Colorado's sixty-fourth county.

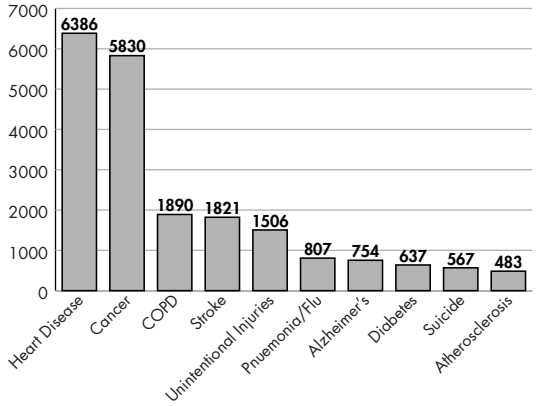
Figure 1: Metropolitan and Rural Regions of Colorado



Health Status

Colorado, by any number of measures, is a healthy state. In 1999, Colorado's age-adjusted death rate for all causes was 801.2 per 100,000 persons, well below the national rate of 881.9.[4] Colorado's death rate has remained lower than the U.S. rate for the past 16 years.[5] The fact that this rate has been adjusted for age indicates that the difference between Colorado and U.S. death rates is not due to Colorado's relatively younger population. Many of Colorado's health indicators are better than national health indicators, including leading causes of death. Colorado's death rates are lower than national death rates for chronic disease such as heart disease, cancer, stroke, and diabetes.[6] Leading causes of death in Colorado are displayed in Figure 2.

Figure 2: Leading Causes of Death, Colorado 1999



Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics,1999.* Denver, CO: June 2001.

From a public health perspective, Colorado has much in its favor. In 1998, the state was declared the third healthiest in the nation. When considering *Healthy People 2000* national health objectives, Colorado exceeded or was close to meeting objectives on such preventive indicators as mammograms and pap smears for women over age 50, reducing a number of infectious diseases such as HIV and gonorrhea, reducing births among teens, and reducing infant deaths.[7,8]

According to 1998 data, the latest data available nationally, Colorado does have a few health indicators that are poorer than the national average, including the death rates from chronic obstructive pulmonary disease, unintentional injuries, suicide, atherosclerosis, and Alzheimer's disease. Also, Colorado residents failed to meet the *Healthy People 2000* national health objectives for physical inactivity, smoking, and cholesterol screening.[9]

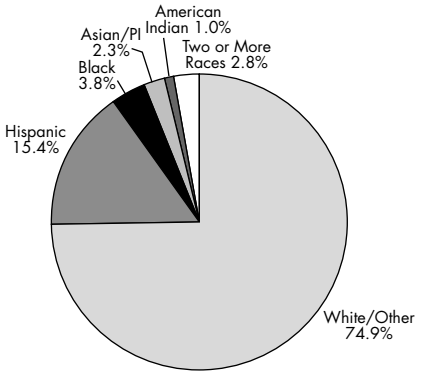
Demographics

In terms of racial and ethnic composition, minority groups account for 25.3 percent of Colorado's general population, and the number is increasing. The percentage of minorities in Colorado has increased over the past decade, mostly due to a nearly 33 percent increase in the number of Hispanics between 1990 and 2000. Population figures are provided in Figure 3. (Percentages do not add to 100 due to rounding.)[10]

Colorado's racial and ethnic composition differs from the national composition in that: the number of Hispanics in Colorado is higher, the number of Asian/Pacific Islanders is lower, and the number of blacks is significantly lower than national numbers. The number of American Indians in Colorado is proportionately similar to the rest of the nation.[11]

In 1999, Colorado's male to female ratio was 49.6 to 50.4. The median age was 35.7. The percentage of the population over age 65 was 10.1 compared to 12.7 percent nationally, and the percentage of the population over age 85 was 1.2 compared to 1.5 percent nationally.[12]

Figure 3: Colorado's Population by Race/Ethnicity, 2000



Source: Colorado Division of Local Government, "Table 3A: Census 2000 Counts of Colorado County Population by Race/Ethnicity and Hispanic Origin," *U.S. Census Bureau: Census 2000 Counts of Colorado Population,* Denver, April 13, 2001.

Poverty

In Colorado, the percentage of people living in poverty has been decreasing since the early 1990s and is below the national rate. In 1999, 8.3 percent of the Colorado population was below the federal poverty level, compared to 11.8 percent nationally. The difference is even more significant for children; 11.2 percent of school-age children in Colorado are below the federal poverty level versus 15.89 percent nationally.[13]

Education

The level of educational attainment for Coloradans is relatively high compared to U.S. average levels. In 1999, 90.4 percent of the population had a high school degree compared to 83.4 percent nationally. Also, 38.7 percent had at least a bachelor's degree, compared to 25.2 percent nationally.[14]

Notes

1. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *Colorado 2001, State Health Profile* (Atlanta, Ga.).

2. Colorado Rural Health Center, *Colorado Rural Health Plan: Submitted for Colorado's Participation in the Medicare Rural Hospital Flexibility Program* (Denver, January 1999).

3. Colorado Rural Health Center, *Colorado Rural, Frontier, and Urban Counties, 2000 Census* (Denver, 2001).

4. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1999* (Denver, June 2001).

5. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1998* (Denver, March 1999).

6. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1998* (Denver, March 2000).

7. U.S Department of Health and Human Services, Centers for Disease Control and Prevention, *Colorado 2000 State Health Profile* (Atlanta, Ga.: 2000).

8. U.S. Department of Health and Human Services, Public Health Service, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* (Washington, D.C.: U.S Government Printing Office, 1991), No. PHS 91-50212.

9. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado's Progress Toward Year 2000 Objectives,* Brief No. 26 (November 1998).

10. Colorado Division of Local Government, "Table 3A: Census 2000 Counts of Colorado County Population by Race/Ethnicity and Hispanic Origin," *U.S. Census Bureau: Census 2000 Counts of Colorado Population,* (Denver, April 13, 2001).

11. U.S. Department of Health and Human Services, *Colorado 2000 State Health Profile.*

12. U.S. Department of Health and Human Services, *Colorado 2001 State Health Profile.*

13. Ibid.

14. Ibid.

State Public Health Improvement Plan

Executive Summary

Purpose

In the summer of 1999, the Colorado Department of Public Health and Environment (CDPHE) received a Turning Point strategic planning grant from the Robert Wood Johnson Foundation. The purpose of the grant was to facilitate a collaborative process to assess the health of Colorado residents, examine public health systems in Colorado, and then create a state public health improvement plan. This document is the product of that work. Colorado is one of 21 states participating in the National Turning Point Initiative and is guided by the overriding mission to transform and strengthen the public health system in order to make the system more effective, more community-based, and more collaborative. The Turning Point Initiative and its partners have identified several key strategies to equip and motivate public health forces to initiate positive change:

- Increase the capacity of public health and environmental agencies.
- Increase the capacity to conduct population-based health status assessment.
- Assure access to insurance coverage.
- Improve access to quality health care.
- Eliminate health disparities.
- Promote leadership development within the public health field and its community partners.

Public Health in Colorado

Colorado, by any number of measures, is a healthy state. This, in large part, can be credited to the various public health entities that serve communities—distinctly, those entities whose efforts protect their residents from disease, disability, injury, and premature death. Colorado's public health system consists of the Colorado Department of Public Health and Environment; 14 local or district health departments, which include environmental health services; 39 public health nursing service agencies and numerous environmental health departments that typically serve smaller counties in the state.

The challenges facing the public health field continue to evolve. In examining both the health status of Colorado residents and the public health systems, it has become apparent that the challenges to public health in Colorado are not unlike those seen nationally. First, the public health system in Colorado is lacking funds for building and maintaining the needed public health infrastructure, which strives to adequately provide needed services. This is especially true with local public health agencies. Next, assessment, a core public health function used to determine the health status of populations, tends to be the function least performed. This is due to a lack of infrastructure, especially in local agencies, in terms of data and information systems and trained professionals. Also, Colorado has a number of uninsured and underinsured individuals who experience poor health outcomes, including a higher mortality rate. Even those with insurance experience barriers to health care access. Also, many of Colorado's rural communities have been federally determined to be Health Professional Shortage Areas. Last, although advances in medical science have led to substantial improvements in the nation's health, not everyone is benefiting. In Colorado, significant disparities in health status occur among different segments of the population. As public health seeks to redefine its role in the 21st century, leadership development for the public health field will be a vital strategy to ensure the future health of communities.

Recommendations

New efforts are needed to determine the best means to ensure the health of the public in the 21st century. It is in the interest of all public health systems to work toward a healthier Colorado. The strategies outlined in this state public health improvement plan represent an overall vision and a stepping stone in addressing these issues.

Capacity building: Among its priorities, the Colorado public health field needs to clearly define guidelines for capacity building of its public and environmental health systems by taking into consideration past and current efforts and then building upon these efforts. It will take a strong philosophical commitment backed by appropriate funding.

Population-based health status assessment: To increase the capacity to conduct population-based health status assessment, increased infrastructure is required along with collaboration capabilities to ensure that health programs and policies are "data driven." The first step in strengthening health status assessment capacity in Colorado is securing resources to increase the infrastructure within local public health agencies. Infrastructure includes hardware, software, and trained specialists in the areas of data collection and statistical analysis. Also, better training in health assessment needs to occur for the entire public health workforce. Resolving the data sharing issue is critical in looking comprehensively at community health and making data more available.

Insurance coverage: Increasing access to insurance coverage for all should remain a focal point as Colorado continues to participate in public health, public/private partnerships, and community-based efforts to eliminate the gap between the insured and uninsured populations of the state. The public health field should take a strong leadership role and involve key decisionmakers and policymakers in producing systemic and comprehensive changes toward this end. Specific recommendations include expansion of benefit coverage to be more comprehensive and include clinical preventive services, enhancement of effective outreach and enrollment procedures, and provision of quality assurance strategies. In terms of government insurance programs, the enhancement of effective outreach and enrollment procedures, the elimination of the Medicaid asset test, expanded eligibility, and a streamlined enrollment process for Medicaid and Child Health Plan will also expand coverage.

Access to quality health care: Access to quality health care will also improve with increased coverage but requires confronting other issues including: (1) expanding the state's Medicaid and State Child Health Insurance Plans; (2) promoting innovative physician practice management; (3) implementing physician recruitment programs; (4) implementing a state tax credit law for medical professionals; (5) assuring culturally competent care; and (6) building community partnerships to help assess and develop solutions to their community health care needs.

Elimination of health disparities: Finally, although the elimination of health disparities in Colorado is complex, it can be overcome by committing to identifying and addressing the underlying causes. New insights are needed to understand the determinants of population-based disparities, and the strategies to eliminate health disparities must be developed by considering the social, cultural, political, and historical context in which health disparities continue to exist.

Leadership development: Leadership development efforts within the public and environmental health fields and community partners should be enhanced by focusing on current and new emerging leaders through mentoring opportunities and formal training. Additionally, leadership development should be included in all workforce development plans and incorporated into individual employees' professional development plans. The public health field should encourage its leaders to become a more integral part of the political process, such as running for public office. This creates advocates for public health policies and increased infrastructure firsthand. Additionally, in order to enhance all the leadership in the public health field, public health in Colorado should adapt the National Association of City and County Health Officials' "Principles of Collaboration."

The Road to Success

So where do we go from here? How do we proactively influence the issues presented before us? First, it is important to recognize the efforts that have brought the state to where it is today. Because of collaborative relationships that have been formed thus far, multifaceted and practical strategies were developed. With that in mind, it will undoubtedly be the result of continued collaborative efforts and the expansion of existing partnerships that creates a more advanced public health system. Reaching out to new and nontraditional partners will ensure success. These partnerships will establish an environment for growth and provide opportunities to tap into talents and resources that move us toward a healthy community. Success will require a coordinated and comprehensive approach to increase the capacity of public health and environmental agencies; to expand the capacity to conduct population-based health status assessment through data and information systems; to promote leadership development within the public health field and community partners; to increase insurance coverage; to improve access to quality health care; and to eliminate health disparities.

CHAPTER 1

KEY STRATEGY:

Increase the Capacity of Public and Environmental Health Agencies

Executive Summary

Purpose of Chapter

The Turning Point Initiative identified public and environmental health capacity as one of several priority issues for Colorado. The Initiative's strategic planning process has determined that Colorado requires an assessment of its capacity, an agreement on essential services, and increased infrastructure to meet the needs associated with protecting and improving the health of the public. This chapter outlines the elements of successful capacity building as well as recommendations for ensuring successful capacity building in Colorado.

Problem

As defined by the Centers for Disease Control and Prevention, the public health system is a complex network of people, systems, and organizations working at the local, state, and national levels. This complex system requires ongoing assessment of its ability to adequately provide health services. However, recent scrutiny of the U.S. public health system unveiled a lack of evidence and support of established guidelines for capacity building. New efforts are needed to determine the best means to ensure the health of the public in the 21st century. It is in the interest of all public health systems to clearly define guidelines. With guidelines in place, essential services can be provided and the health needs of the public will be met. Contributing to a current lack of capacity building efforts is a shortfall of allocated resources. Sixty percent of Colorado's local public health resources are aimed at providing direct services and enabling activities rather than infrastructure and population-based services. To meet the national goal of decreasing the amount of direct services and increasing population-based services and infrastructure, it will take more than a strong philosophical commitment. Funding constraints that currently prevent expanding the workforce, increasing information and data systems capacity, and enhancing the organizational capacity of local public health agencies will have to be overcome.

Findings

Colorado's public health system consists of the Colorado Department of Public Health and Environment (CDPHE), 14 (soon to be 15) local or district health departments, and 39 public health nursing service agencies that typically serve smaller counties in the state. A Colorado state statute provides for the creation of regional health departments, of which there are none currently. Most counties, and some cities are served by environmental health departments. In accordance with *Healthy People 2000*'s National Health Objective 8.14, the Colorado Department of Public Health and Environment is planning to facilitate an effort to strengthen the relationship between state and local agencies by initiating a statewide local capacity building assessment.

By developing public health performance standards to identify and benchmark superior performance, state public health systems will be better equipped to assess and improve delivery of the essential public health services and achieve improved health of the public. Several initiatives across the state will have an impact on Colorado's capacity building efforts. They include the Colorado Health Advisory Network for Government Efficiency, the Local Capacity Building Project targeted at Environmental Health, and Health Alert Network. In addition, Washington and Illinois provide leadership as two model states that have experienced continued accomplishments in building local public health infrastructure. Keys to their success have been federal, state, local, and community partnerships. In addition, the state legislatures embraced their work and committed of general funds to support public health, not only in their current level of service provision but for improving future capacity.

Colorado Analysis

In September 1999, at the suggestion of the Office of State Planning and Budgeting, the Colorado Department of Public Health and Environment developed a long-term plan to address specific outcomes that are of a particular concern to the state.

This resulted in the development of a capacity building plan by the Office of Local Liaison, which is currently in the planning phase. Impacting and building the capacity of local public and environmental health service providers is a complex task that requires significant focus. Understanding past and current efforts has provided the foundation for recognition of the level at which Colorado's public health system has been operating. Building upon this through the use of models developed and lessons learned by national partners paves the way for a competent and effective yet uncomplicated process design to guide the future.

Recommendations

The concept of enhancing the capacity of public health providers involves a significant degree of complexity demanding a sophistication that is multifaceted and purposeful. The process can be simplified through an organized step-by-step approach. Characteristics of such a plan must include a distinct review of past capacity building efforts, a baseline assessment of the current level of service delivery, and a well-developed, thoughtful itinerary of how to achieve the ultimate vision. In support of this, the Turning Point Initiative developed a set of recommendations that provide important considerations for future capacity building efforts. The committee encourages the implementation of the "Principles of Collaboration" between state and local health officials; mechanisms at the state level to support expanded cross-jurisdictional health promotion/disease prevention efforts; flexibility of efforts to reach all parts of the state and that allow funding to go to consortia of local health departments; and the promotion of regionalization of selected services. The Turning Point Initiative also supports collaborative partnerships; an increase in general fund appropriations; investigation of nontraditional funding sources; and additional personnel to enhance prevention efforts, in particular, local health educators and grant writers.

Public and Environmental Health Capacity

The topic of capacity often arises when assessing the ability to adequately provide health services by public health systems. The Centers for Disease Control and Prevention (CDC) defines the public health system as a "complex network of people, systems, and organizations working at the local, state, and national levels."[1] With such a complex system, the clarification of roles and the delineation of responsibilities are important tasks that require the appropriate and adequate capacity to achieve. Yet the overall goal of improving health is a significant underlying theme in evaluating the capacity levels in public health.

Capacity building can be described in several ways, each pertinent to the assessment of local public and environmental health capacity. Capacity used alone is the actual or potential ability to do something. To build public health capacity, one must recognize it as an approach to the development of sustainable skills, structures, resources, and the commitment in health and other sectors to prolong and multiply health gains many times over.[2] But building capacity in public health requires an effective local health plan that includes partners from the federal, state, local, and community levels. Once these partners have been identified, the local and environmental capacity plan should maximize people, programs, and fiscal resources; deliver maximum services to local constituents; and recognize and incorporate local priority setting.[3]

In Colorado, the assessment of the ability to provide essential public health services in local public health agencies has primarily been the result of budget and funding requests. However, the provision of these services has long been the foundation and purpose of the public health system. Public health leaders acknowledge that the assurance of essential public health services can only be gained when there is a solid foundational relationship between local agencies and their state counterparts.[4] This point of view can be traced to the Institute of Medicine's seminal report, *The Future of Public Health,* which has been the acknowledged touchstone for understanding the role of local public health departments.[5] It delineates the three core public health functions of assessment, policy development, and assurance that continue to provide the conceptual framework for understanding the mission and goals of public health organizations. Over time, through the efforts of various national public health organizations and the CDC, these three core functions have come to be associated with "ten essential services."[6]

Given the scrutiny of and discussion surrounding the U.S. public health infrastructure, it is not surprising that the Institute of Medicine, the authoring body of the work outlining core public health functions in 1988, has just initiated a new 18-month interagency-sponsored study to determine the best means to ensure the health of the public in the 21st century. "The overarching goal of the study will be to describe a new, more inclusive framework for assuring population-level health that can be effectively communicated to and acted upon by diverse communities."[7] Thus, the 10 essential services provide guidance when planning to build local public health capacity. These will serve as areas of focus when developing measures to assess performance and prepare for the future.

Ten Essential Services in Building Local Public Health Capacity

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships and action to solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and ensure the provision of health care when otherwise unavailable.
8. Ensure a competent workforce—public health and personal care.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Conduct research for new insights and innovative solutions to health problems.[8]

Additionally, the latest CDC status report, *Public Health's Infrastructure*, was written in response to a U.S. Senate Appropriations Committee request for an assessment of the nation's public health infrastructure.[1] Its timely release of recommendations provides additional guidance during the development of a capacity building planning process. Specifically, the CDC recommends a major national initiative, linking partners at the local, state, and federal levels to address crucial gaps in: (1) workforce capacity and competency; (2) information and data systems; and (3) organizational capacities of local and state health departments and laboratories.

The CDC also proposes a performance-based approach to capacity building to: (1) assess capacity at the local and state levels using consensus performance standards; (2) develop statewide public health infrastructure-improvement plans based upon the capacity assessment; (3) provide core capacity grants and technical assistance to close specific gaps; and (4) evaluate the impact of the assistance using the consensus performance standards.

The Colorado Department of Public Health and Environment is Office of Local Liaison is leading the effort to strengthen relationships by initiating a statewide local capacity building assessment to address many issues related to increasing the local public health and environmental capacity. In the 1999 document *Challenges and Opportunities for a New Century: A Four-Year Strategic Plan, A Twenty-Year Perspective*, the Colorado Department of Public Health and Environment identified capacity building as one of the critical investment areas for the state.[9] The mission of the Office of Local Liaison is to increase the capacity of local health partners through workforce development, collaboration, technical assistance, consultation, monitoring, funding, and technology resources. One of the office's primary objectives is to assist in the provision of all core public health functions and the 10 essential public health services. To fulfill these obligations, assurances of essential public health services can only be gained when there is a solid foundational relationship between local agencies and their state counterparts. There has been a lack of agreement on the state's minimum service standards for local public health, which has impacted current service provisions. Thus became the need to develop an effective local public health plan—including federal, state, and local community partners—that maximizes people, programs, and fiscal resources and at the same time delivers maximum services to local constituents while recognizing and incorporating the local priority setting.[3]

The Turning Point Initiative Steering Committee has identified public and environmental health capacity as a priority issue for Colorado. The committee believes that Colorado needs an assessment of its capacity, an agreement on essential services, and increased infrastructure to meet the needs in order to protect and improve the health of the public.

Overview of Colorado's Public Health System

Colorado's governmental public health system includes a state agency (Colorado Department of Public Health and Environment); 14 (soon to be 15) local health departments (Appendix A); 39 county nursing service agencies (Appendix B); and environmental health agencies (Appendix C), which serve less-populated counties. A Colorado state statute provides for the creation of regional health departments, of which there are none currently.

The statutory requirements for the Colorado Department of Public Health and Environment are extensive. They include investigating and controlling the causes of epidemics and communicable diseases (CRS 25-1-107 (a)), licensing hospitals and health facilities (CRS 25-107 (l)), as well as implementing the policies of Colorado for cleaning up waste sites (CRS 25-1-107 (w)). In contrast, the responsibilities of the county and district health departments, environmental health departments, and the county nursing services are more circumscribed. As every local board of health must ensure the provision of public health nursing services to areas within its jurisdiction, those counties not under a local health department receive state general fund dollars to provide public health activities within their individual counties. These services include providing public health nursing services along with the performance of a community assessment every five years to be submitted to the Office of Local Liaison. This information is used to complete a statewide summary of local public health services and needs. Additionally, counties may opt

to provide environmental services and may charge necessary fees (25-1-608 (3)). Nonetheless, the 14 organized health departments administer a number of different programs, including epidemiological investigations and epidemic control. Additionally, health departments may initiate and carry out health programs that are thought to be important for the protection of the public's health and the control of disease. Also, these jurisdictions act as local registrars of vital statistics.

The four components, in rank order, of public health capacity are infrastructure, population-based activities, enabling services, and direct services. Infrastructure should garner the lion's share of public health expenditures, and direct services the least.

The professed goal of national public health policymakers is to decrease the amount of direct services and to increase population-based services and infrastructure in local public health agencies. In fact, 60 percent of Colorado's local public health resources are aimed at providing direct services and enabling activities, rather than infrastructure and population-based services. In Colorado, despite a decrease in the resources devoted to direct services and an increase in the resources targeted for population-based activities between 1999 and 2000 (direct services dropped to 30 percent from 40 percent, and population-based activities increased to 30 percent from 20 percent), the local public health infrastructure continues to garner only 10 percent of total local funding.[10] Even in the presence of a strong philosophical commitment to increasing the local public health infrastructure, funding constraints continue to prevent expanding the workforce, the information and data systems, and the organizational capacity of local public health agencies.

A joint study conducted by the National Association of County and City Health Officials (NACCHO) and the Robert Wood Johnson Foundation reveals new data about the unique infrastructure needs of nonmetropolitan (rural) local public health agencies. One could view these rural public health agencies as a proxy for Colorado's smaller, nonurban county health agencies. Predictably, nonmetropolitan agencies lack the financial and workforce resources of metropolitan agencies. They also heavily depend upon state funding and service reimbursement funds, such as Medicare, Medicaid, insurance, and patient fees (as opposed to local governmental sources for metropolitan local public health agencies).

The kinds of services provided varied by local public health agency type as well. While nonmetropolitan agencies provided more direct care services such as prenatal care and disease screening, they also provided more "classic" public health services such as immunization and family planning programs. In contrast, metropolitan agencies administered more environmental health programs as well as inspection and licensing services.[11]

As stated earlier, past attempts at assessing the ability to provide essential public health services in Colorado has primarily been the result of budget and funding requests. The state general fund partially supports the provision of public and environmental health services across all 63 counties in Colorado in accordance with the Colorado Revised Statutes, which mandates that "the State shall provide support on a per capita basis for local and regional health services."[12] Each legislative session, the appropriation of general funds for public health is reviewed. Three legislative footnotes were critical factors in the identification of resource appropriations to the local agencies. Despite assiduous efforts, each of these items were defeated and not funded as suggested.

Footnotes 150/151 and 168

In 1997, a funding request from the Joint Budget Committee of the Colorado General Assembly titled Footnote 150 and Footnote 151 was sent to the Colorado Department of Public Health and Environment. Footnote 150 requested that the state health department compile detailed information of the expenditures of public health nurses, sanitarians, and local health departments and for it to include this information in the annual budget submission. Footnote 151 required the Colorado Department of Public Health and Environment to complete a detailed report on local health services. Task forces were formed in June 1997 to determine how to address the issues set forth in Footnotes 150 and 151. As a result, a task force developed a survey to capture the necessary information and the results were analyzed in September 1997. The four tasks of this committee were to:

1. Identify funding supporting public health services.

2. Propose a level of state support, as well as alternatives for annually adjusting the appropriation based on a quantitative analysis of the data.
3. Examine the need for a performance-driven funding formula.
4. Determine if consolidation of local health funding streams would enable a more efficient public health delivery system.

The task force concluded that many local health agencies lacked the resources to address population-based, essential public health services that impact the leading causes of death and disability in the state. The following proposals were recommended:

1. State support for public health should be increased for the purpose of maintaining a minimum public health infrastructure for now and in the future.
2. Basic health services should be provided in every county to a minimum standard.
3. Counties should be provided with incentives to enhance basic public health services; the Executive Director of the Colorado Department of Public Health and Environment decided to prioritize seven essential services that could be most efficiently addressed by state and local public health.

In response to the Footnote 151 report, and as a result of the task force recommendations, the Joint Budget Committee requested a new formula for funding local public health.[13] Additionally, unmet needs for each agency as they related to the seven essential basic services were identified. Local health agencies responded to provide documentation of current levels of funding and the cost of unmet public health needs in response to Footnote 151. The Footnote 151 report identified service gaps but did not quantify revenues and expenditures relative to those service gaps. The Colorado Legislature defeated the request for the increase in funding.

The following year, 1998, Long Bill Footnote 168 instituted continued efforts building on the outcomes of Footnote 151. In addition, Footnote 168 requested supplemental public health funding for local health departments and county nursing services. This legislative initiative was not supported, primarily because of requests from legislators that funding not be based on individually decided local needs but more on specific health outcomes.[14]

In September 1999, the Office of State Planning and Budgeting suggested that the Colorado Department of Public Health and Environment develop a long-term plan to address specific outcomes, which are of a particular concern to the state (e.g., immunization, suicide rates, prenatal care). This plan was to tie outcomes to local health funding and include information on how additional funding helps local agencies to address health issues in their community.[15] There was also a need for a strong partnership between the state and its local governments to ensure that services can be provided, that local needs can be addressed, and that state goals for protecting and promoting health can be met.[13] Despite increases in the counties' contributions to general public health funds, local health agencies have not been able to address the growth in demand for public health services. These recommendations have resulted in the development of the capacity building plan by the Office of Local Liaison, which is currently in the planning phase.

Local health agencies have consistently documented that public health needs have not been adequately met. In a statewide survey conducted by the Colorado Department of Public Health and Environment in the summer of 1996, county health agencies and nursing services identified a wide variety of unmet needs resulting from insufficient funding.[16] This was stated as the primary reason for the inability to meet goals and adequately provide the essential public health services. In 1998, a report was submitted to the Joint Budget Committee that identified the essential public health needs that local health agencies were, at the time, unable to meet along with the associated costs to deliver the services.[17]

In comparison to the state's current financial contribution, local funding per capita is almost 13 times as much as the state's per capita funding of local health. Of the total funding currently being spent on local health needs in Colorado, about 3 percent comes from the Colorado Department of Public Health and Environment's local health services line items.[18] In the future, nontraditional funding sources including partners from the business community and foundations could be a possible new means to generate revenue.

Initiatives That Impact Public Health Capacity in Colorado

Colorado Health Advisory Network for Government Efficiency

In October 1997, the Colorado Health Advisory Network for Government Efficiency (CHANGE) charged state, local, and private-sector leaders with producing a blueprint to help the Colorado Department of Public Health and Environment create a more streamlined and user-friendly agency.[19] An Outcomes/Indicators Task Force was assigned to help the department become one of a small number of state public health agencies in the country to use a defined set of performance measures to rate its quality of service. A tool was designed to evaluate effectiveness by focusing on overall performance rather than processes. Final recommendations of the CHANGE Task Force on building constituencies and advocates for public health were completed in January 1998. The goal of this plan was to raise awareness of how public health policies, services, and activities touch the lives of Coloradans every day. An action plan was developed and suggestions for implementation were made. However, changes at the state level caused both the network and task force to dismantle.[14]

Local Capacity Building Project—Environmental Health (1993–1997)

In late 1993, state and local environmental health officials initiated a critical examination of Colorado's environmental health program. This effort was designed to bolster the partnership between state and local health departments and to gradually increase the credibility and effectiveness of the Colorado environmental health program. Task forces were convened along with a local capacity building steering committee. The steering committee, consisting of state and local environmental health partners, established a framework for completing its work and then identified eight environmental health programs warranting assessments. The local health agencies were the primary lead on the project and program reviews, with minimal involvement by representatives of the state. [20] Three major policy recommendations resulted from the project along with summaries of the findings and recommendations for each program assessment. Three priorities were put forth: (1) begin responding to the major policy recommendations; (2) develop a reliable process for ensuring that implementation plans are actually implemented; and (3) complete implementation plans for all programs that have been assessed.[21] Despite fragmented and incomplete implementation efforts, the model for increasing capacity in environmental health still exists.[20]

Turning Point Steering Committee Recommendations—2000

The Turning Point Steering Committee made recommendations for the topic of prevention in Colorado. As a result of these recommendations, the chapter on prevention evolved into the Public and Environmental Health Capacity chapter for the State Health Improvement Plan.[22] Several of these recommendations are important considerations that future capacity building efforts should recognize:

- Implement the "Principles of Collaboration" between state and local public health officials, which were developed by the National Association of City and County Health Officials.
- Establish mechanisms at the state level to support expanded cross-jurisdictional health promotion/disease prevention efforts; allow flexibility to reach all parts of the state; and allow funding to go to consortia of local health departments.
- Promote regionalization of selected services to enhance capacity in smaller communities; regional health departments should be examined as a vehicle for achieving this goal.
- Work collaboratively (state, local, community partners, etc.) to ensure access to the continuum of strategies to promote preventive health care.
- Continue the state/local collaborative effort to increase general fund appropriations for the public health infrastructure.
- Look for nontraditional funding sources (business community, foundations, etc.) to provide financial assistance.
- Support additional funding for additional personnel to enhance prevention efforts, for example, local health educators and grant writers.[22]

Health Alert Network

The Health Alert Network (HAN), funded by the CDC, allocated money to Colorado to improve the information and communications infrastructure that the state would need during a bioterrorism event. Part of the process for the evaluation of information technology systems included a baseline survey of county health departments' capacity to provide necessary services for communication. One of the goals of HAN is to ensure that public health agencies achieve high levels of organizational capacity.[23] The results of the survey, once available, will be instrumental in evaluating the current capacity levels of health agencies in relation to technical needs.

Health Insurance Portability and Accountability Act

The Health Insurance Portability and Accountability Act (HIPAA) of 1996 could result in decreased public health assessment capacity. The Act states that pharmacists, hospitals, doctors, clearinghouses, health plans, insurers, and people or entities working with them must protect patient information that might allow an individual to be specifically identified. Hospital discharge data, as currently compiled by the Colorado Health and Hospital Association, is an important and essential source of public health information. HIPAA regulations, as they currently exist, would require that before data are collected, they be "de-identified;" that is, that zip code, date of admission, and date of discharge information be stripped away from patient records.[24]

In the past, rules requiring health privacy protection were enacted on a state-by-state basis. By enacting HIPAA, Congress has recognized the importance of a national health privacy policy and framework. Those activities that involve providing direct services—whether administered by the state, any county health department, or any local health agency—require compliance with the provisions of the Act. The Colorado Department of Public Health and Environment, the county health departments, and the public health nursing services will need to review their involvement in direct service programs, as well as examine their existing databases and assess the need for changes in procedures for compliance with HIPAA.

National Perspective on Local Public and Environmental Health Capacity

Objective 8.14 of *Healthy People 2000* called for 90 percent of the population to be served by a local health department that was effectively addressing the core functions of public health. Although selected studies have provided a snapshot of local health departments' effectiveness in carrying out the core functions, systematic monitoring of this objective over time has not been done.[25] By developing public health performance standards to identify and benchmark superior performance, state public health systems will be better equipped to assess and improve delivery of the essential public health services and achieve improved health of the public.[26]

The state health improvement plans developed by Turning Point partners in other states have provided access to groups involved in building local public health infrastructure. The Office of Local Liaison is in the process of conducting a systematic review of capacity building methods utilized throughout the nation, to draw references and learn valuable lessons. Thus far, several states have been identified as leaders for building local public health capacity.

Two states that stand out because of their continued accomplishments are Washington and Illinois. Both states have embarked on major planning processes lasting approximately 10 years. This was a collaborative process among federal, state, local, and community partners, in addition to the state legislatures. This partnership has been described as the key to creating long-term sustainable success. Another valuable asset to their planning has been the commitment of general funds to support public health, not only in their current level of service provision but for improving future capacity. Colorado is utilizing both Washington and Illinois as potential models during the process design stage of building local public health capacity.

Future Steps in Building Public and Environmental Health Capacity in Colorado

The concept of enhancing the capacity of public health providers involves a significant degree of complexity demanding a multifaceted and purposeful approach. Characteristics of such a plan must include a distinct review of past capacity building efforts, a baseline assessment of the current level of service delivery, and a well-developed, thoughtful itinerary of how to achieve the ultimate vision.

A review of past capacity building efforts in Colorado provided earlier in this chapter sets the stage for building an eminent plan. Merging the outcomes of such projects as well as utilizing the lessons learned are dual key philosophies that guide future working efforts. Programs, projects, and people have to be evaluated to combine all past ideas and efforts with the purpose of laying groundwork for the future. Before beginning to build capacity within programs, practitioners need to identify pre-existing skills, structures, partnerships, and resources, and work with and respect these. In addition, programs that are integrated into existing structures, and linked into existing positions and accountability processes are more likely to be sustained.[27] Simultaneously, while the local review is being conducted, a national review of specific capacity building projects must also occur. The data gathered from other states in combination with the local perspectives will provide firsthand expertise in ultimately achieving the vision.

Much more complicated is the second phase of the full capacity building process in which an assessment must be conducted to determine the current level of capacity in Colorado. Many Colorado local and state public health leaders anecdotally maintain that in order to build statewide public health capacity, there is a great need to realize the current level of service provision. Recently, the Colorado Association of Local Public Health Leaders, in addition to the Public Health Directors of Colorado, discussed the high priority of assessing the current level of capacity in relationship to essential public health services. There is agreement within many organizations and associations that the first and most critical step is to know where Colorado is today in its ability to provide quality, effective public health services. Additionally, the opportunity to assess direct service capacity will present itself in the work of complying with HIPAA requirements.

The final characteristic of building public health capacity is to define a simple yet effective process that will maximize talent, abilities, and expertise while minimizing expenditures, systematic pressures, and time. When determining a potential guiding process, several factors were recognized as key elements for success.

- **Utilize lessons learned** from past and national efforts to construct the foundation of the design.
- **Value relationships and create ownership** in the process and outcome by bringing together various partners from a diverse set of interests to ensure a high degree of value. To affect long-term systematic change while concurrently building infrastructure will require an elevated level of collaboration between state and local health departments, county nursing services, health care organizations, universities, state and local boards of health, nonprofit organizations, community-based foundations, state health associations, and others. As stated in the book *Collaborative Leadership*, collaboration is more than simply sharing knowledge and information (communication) and is more than a relationship that helps each party achieve its own goals (cooperation and coordination). The purpose of collaboration is to create a shared vision and joint strategies to address concerns that go beyond the purview of any particular participant.[28]
- **Begin with a sincere level of trust**. Trust in the process between stakeholders and trust in the outcome does not always exist upon commencement. When describing the significance of trust in collaborative procedures, Darrel Ray and Howard Bronstein state that a general lack of trust at all levels leads to greater caution and a stifling of growth and development.[29] Robert Fitzgerald states that the notion of trust is "absolutely imperative to capacity building." He also believes that capacity building is underpinned by trust and respect and that these qualities "sit at the heart" of why so many otherwise good initiatives have failed.[30]

- **Accountability** occurs at all levels and must be integrated early on. The degrees of accountability are: (1) ability to identify the level of realization; (2) commitment to the visions, goals, objectives and processes; (3) obligation to the larger community for ongoing and direct communication and feedback; and (4) assurance from resource holders and leadership in the value of conducting the overall capacity building process. Explained further, the degrees of accountability distinctively affect the long-term goal of improving the public health infrastructure. For the design to lead to a worthwhile and meaningful outcome, all proposed activities should have a time-phased, measurable strategy to identify the level of realization. When goals are not attained, concrete documentation is mandatory to both continue momentum and apply the exact amount of change needed. The second degree of accountability is commitment on behalf of key stakeholders to the visions, goals, objectives, and processes created. It is critical that members of the group believe and carry out the functions that are created. Without this, the process will experience a general sense of weakness and eventually failure. As stewards of public health, the stakeholders must have a responsibility to their community (including organizations where they are employed) to communicate progress, concerns, and issues that affect service provision (past and future); acquire input prior to and after making critical decisions; and ensure a system to receive effective appropriations. Last, accountability is required from resource holders and leadership that funding will be provided for the process to be completed in full. Stakeholders require assurance that the work involved is not for naught. Often, large-scale, capacity building processes such as these get shelved (i.e., Local Colorado Environmental Capacity Building Project—1997) as either funding runs out, leadership objectives change, or the project becomes too unwieldy to support continuance.

Proposed Process Design for Building Public Health Capacity in Colorado

With respect to the principle of creating ownership and demonstrating a truly collaborative process, the process design described below is merely a proposal that will require further exploration and discussion by key stakeholders. Taking into consideration the massive body of works about collaborative decision-making processes as well as the factors mentioned above, the following is recommended (Figure 1):

Preliminary: Planning Process

Phase I

1. Approval and commitment from leadership to engage in process
2. Introduction of process design at community level
3. Organization of initial Guiding Committee
   a. Assess potential key stakeholders
   b. In-depth analysis of process design/outcome/purpose
   c. Define participant assurances/roles/responsibilities
   d. Plan formal launch meeting

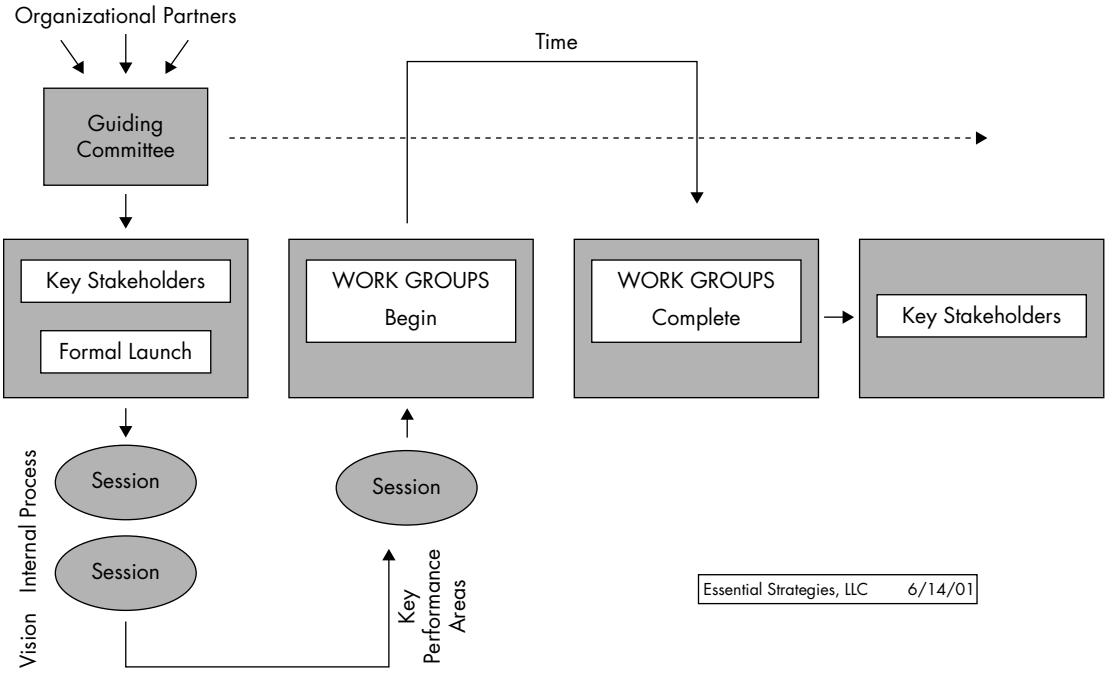
Potential key stakeholders include but are not limited to county nursing services, local health departments, the state health department, administration, public health associations, universities, foundations, nontraditional partners, and health care organizations.

Actual: Shifting from Planning to Implementation

Phase II

1. Formal launch of capacity building process—kick-off
2. Determine internal processes
3. Generate vision of public health infrastructure after capacity is built
4. Identify key performance areas (goals/objectives)
   a. Memorandum of understanding: roles/responsibilities of state health versus local health/county nursing

Figure 1: Capacity Building Process Design



   b. Assessment of current level of services (baseline) in conjunction with essential public health services
   c. Additional areas to be generated by stakeholder group
5. Define key performance areas and workgroups
   a. Identify structure for coordination and accountability
      i. Leadership
      ii. Meeting schedule
      iii. Strategy for developing work plan
      iv. Process evaluation plan
6. Continue ongoing guiding committee meetings to ensure communication, coordination, and collaboration
7. Workgroup plans completed; assemble a full stakeholder meeting to prioritize and determine level of readiness for implementation

Outcome: Building Public Health Capacity

Phase III

The steps associated with this phase will be introduced formally upon completion of the workgroups. As directed by the informal request from members of the Colorado Association of Local Public Health Leaders, it is imperative that the final outcome of the plan to build capacity includes elements of the following:

- Each of the 10 essential public health services are provided more than adequately.
- Funding distribution is sufficient so that health services may be delivered to communities with maximum capacity.
- Detailed knowledge is secured about the current level of service delivery in the state of Colorado, which in turn identifies areas for improvement.
- A clear, concise delineation of roles and responsibilities between state and local health entities is outlined.
- Effective training for the public health workforce is provided so that there is a significant degree of competency among providers.
- Gaps in electronic surveillance, information, and data systems are addressed and solved.[31]

Finally, the outcome—actually *building* local public health capacity in Colorado—must keep in step with national standards as well as the critical local perspective.

Conclusion

Impacting and building the capacity of local public and environmental health service providers is a complex task that requires significant focus. Understanding past and current efforts has provided the foundation of recognizing the level at which Colorado's public health system has been operating. Building upon this through the use of models developed and lessons learned by national partners paves the way for a competent and effective yet uncomplicated process design to guide the future.

Notes

1. Centers for Disease Control and Prevention, *Public Health's Infrastructure: A Status Report*, Atlanta, Ga., 2000.

2. P. Hawe et al., *Indicators to Help with Capacity Building in Health Promotion*, New South Wales Health Department, Sydney, Australia, 2000.

3. Colorado Department of Public Health and Environment, *Efficiency and Effectiveness Analysis,* Denver, May 3, 2001: 3.

4. Jeff Stoll, director, Office of Local Liaison, Colorado Department of Public Health and Environment, Denver, personal communication (pertaining to "Efficiency and Effectiveness Analysis," May, 3, 2001), May 25, 2001.

5. Institute of Medicine, *The Future of Public Health* (Washington, D.C.: National Academy Press, 1988).

6. W. L. Roper et al., *Strengthening the Public Health System*, Public Health Reports 107 (1992): 609–16.

7. Institute of Medicine, *Assuring the Health of the Public in the 21st Century*, National Academy of Sciences, 2001. Online at http://www.iom.edu.IOM/IOMHome.nsf/Pages/assuring+the+Health+of+the+Public+objectives.

8. Public Health Functions Steering Committee, *Public Health in America,* July 1995. Online at http://www.health.gov/phfunctions/public.htm.

9. Colorado Department of Public Health and Environment, *Challenges and Opportunities for a New Century: A Four-Year Strategic Plan, A Twenty-Year Perspective,* Denver, September 1999.

10. Karen O'Brien, director of Public Health Nursing, Office of Local Liaison, Colorado Department of Public Health and Environment, Denver, personal communication, June 8, 2001.

11. *NACCHO News* 16, No. 3 (May/June 2001): 7.

12. Colorado Revised Statutes, Section 25-1-516.

13. Colorado Department of Public Health and Environment, *Efficiency and Effectiveness Analysis,* Change Request: Decision Item 101, Denver, October 12, 1999, Chapter 2: 4.

14. O'Brien, personal communication, June 12, 2001.

15. Colorado Department of Public Health and Environment, *Executive Budget Briefing FY 2000–0001, Recommendations,* Denver: 19.

16. Local Public Health Services, *Executive Report, Decision Item 2 and Footnote 151*, Denver, December 8, 1997: 9.

17. Judy Robinson, public health nursing director, *Report on Cost of Funding Public Health Needs,* Colorado Department of Public Health and Environment, Denver, February 2, 1998.

18. Colorado Department of Public Health and Environment, *Efficiency and Effectiveness Analysis*, October 19, 2000, Chapter 5: 6.

19. CHANGE Outcomes/Indicators Task Force, *Colorado Public Health Outcomes and Indicators*, Colorado Department of Public Health and Environment, Denver, October 1997: 4.

20. Tom Dunlop, director, Pitkin County Environmental Health Department, Aspen, personal communication, June 25, 2001.

21. Kate Fay, *Local Capacity Building Project*, presentation for the Colorado Department of Public Health and Environment and local environmental health directors, November 1997.

22. Colorado Turning Point Initiative, Steering Committee meeting, "Prevention Capacity in Colorado," panel presentation and dialog, Denver, August 2000.

23. Health Alert Network, Centers for Disease Control. Online at www.phppo.cdc.gov/han.

24. Peg O'Keefe, vice president, Public Affairs and Education, CHA, Denver, personal communication, April 2001.

25. U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000. Part B: Focus Areas 23.

26. National Public Health Performance Standards Program, *State Public Health System Performance Assessment Instrument*, May 2000. Online at www.phppo.cdc.gov/dphs/nphpsp/.

27. New South Wales Health, *A Framework for Building Capacity to Improve Health*, State Health Publication No. (HP) 990226, 2d ed., Australia, June 2000. Online at http://www.health.nsw.gov.au.

28. David D. Chrislip and Carl E. Larson, *Collaborative Leadership* (San Francisco: Jossey-Bass, 1994): 5.

29. Darrel Ray and Howard Bronstein, *Teaming Up* (New York: McGraw-Hill, 1995): 135.

30. Robert Fitzgerald, *The New Agenda for Community Services (presentation at Capacity Building: Mastering the Art of the Invisible, Sydney University, March 6, 2000)*. Online at www.health.msw.gov.au/public-health/health-promotion.

31. Survey and interviews conducted at a Colorado Association of Local Public Health Leaders (CALPHL) meeting, Lakewood, CO., May 2001.

Appendix A

Local or District Health Departments*

Boulder County Health Department

Broomfield County Health Department (beginning November 2001)

Delta County Health Department

Denver Department of Environmental Health

El Paso County Department of Health and Environment

Jefferson County Department of Health and Environment

Larimer County Department of Health and Environment

Las Animas–Huerfano Counties District Health Department

Mesa County Health Department

Northeast Colorado Health Department (serving the counties of Logan, Morgan, Phillips, Sedgwick, Washington and Yuma)

Otero County Health Department

Pueblo City–County Health Department

San Juan Basin Health Department

Tri-County Health Department (serving the counties of Adams, Arapahoe and Douglas)

Weld County Department of Public Health and Environment

* (All organized local health departments provide environmental protection services in addition to public health services.)

Appendix B

Public Health Nursing Services

Alamosa Colorado Public Heath Nursing Service

Baca County Public Health Nursing Service

Bent County Public Health Nursing Service

Chaffee County Public Health Nursing Service

Cheyenne County Public Health Nursing Service

Clear Creek County Public Health Nursing Service

Conejos County Public Health Nursing Service

Costilla County Public Health Nursing Service

Crowley County Public Health Nursing Service

Custer County Public Health Nursing Service

Dolores County Public Health Nursing Service

Eagle County Public Health Nursing Service

Elbert County Public Health Nursing Service

Fremont County Public Health Nursing Service

Garfield County Public Health Nursing Service

Gilpin County Public Health Nursing Service

Grand County Public Health Nursing Service

Gunnison County Public Health Nursing Service

Jackson County Public Health Nursing Service

Kiowa County Public Health Nursing Service

Kit Carson County Public Health Nursing Service

Lake County Public Health Nursing Service

Lincoln County Public Health Nursing Service

Mineral County Public Health Nursing Service

Moffat County Public Health Nursing Service

Montezuma County Public Health Nursing Service

Montrose County Public Health Nursing Service

Ouray County Public Health Nursing Service

Park County Public Health Nursing Service

Pitkin County Community Health Service

Prowers County Public Health Nursing Service

Rio Blanco County Public Health Nursing Service

Rio Grande County Public Health Nursing Service

Routt County Public Health Nursing Service

Saguache County Public Health Nursing Service

San Juan County Public Health Nursing Service

San Miguel County Public Health Nursing Service

Summit County Public Health Nursing Service

Teller County Public Health and Environment

Appendix C

Environmental Health Departments

Chaffee County Environmental Health Department
Clear Creek County Environmental Health Department
Eagle County Environmental Health Department
Fremont County Environmental Health Department
Hinsdale County Environmental Health Department
Kit Carson County Environmental Health Department
Lake County Environmental Health Department
Montezuma County Environmental Health Department
Montrose County Health and Human Services
Park County Health Division
Prowers County Environmental Health Department
Pitkin County Environmental Health Department
Rio Blanco County Development Department
Routt County Environmental Health Department
San Miguel County Environmental Health Department
Southeastern Land and Environment (serving the counties of Baca, Bent, Kiowa, and Prowers)
Summit County Environmental Health Department
Teller County Public Health and Environment

CHAPTER 2

KEY STRATEGY:

Increase the Capacity to Conduct Population-Based Health Status Assessment

Executive Summary

Purpose of Chapter

Population-based health status assessment, performed on a national, state, or community level is a process that informs policymakers and public health professionals about what is needed to maintain or improve the health of the public. The Colorado Turning Point Initiative has identified health status assessment capacity as a key issue in eliminating health disparities and improving the health status of Colorado citizens. This chapter takes an in-depth look at the need to increase health status assessment capacity in Colorado.

Problem

As a core public health function, assessment is the function least performed. Despite its importance, federal, state, and local delegation of resources to assessment activities is limited. This trend in underfunding, coupled with underutilization within health departments, has been seen throughout the country. In Colorado, the capacity to collect and analyze data varies between entities. The ability to provide assessments lies in an entity's infrastructure. In local health departments and county nursing service agencies, limited numbers of data specialists are available to perform the function of health assessment, and many of the general public health staff do not have the necessary skills or training. Furthermore, staying up to date with technology such as software and hardware complicates the issue. And last, differing formats in data collection and management prevent the sharing of data, even between the state and local health departments. Different data collection formats result in barriers to sharing data.

Findings

Across the state, several entities collect data. The Colorado Department of Public Health and Environment collects vital statistics data, registries of diseases and other health conditions, behavioral risk-factor surveys, and population-based health assessments including the maternal and child health status and adolescent health status data. Although the capacity for assessments at local public health departments varies by size, geographic location, and the degree to which the health department provides direct services or population-based services, local health departments typically conduct a community assessment every three to five years. When possible, they conduct assessments of specific health issues or with specific populations. Colorado's county nursing service agencies support a community assessment at least once every five years including a written plan identifying priority health issues. The Colorado Health Data Advisory Committee, dedicated to improving the timely collection, analysis, interpretation, dissemination, and appropriate use of health data, recently released an electronic method to make state and local data available to other health agencies and constituencies. The Colorado Health and Hospital Association has maintained a database of all hospital discharges in the state for roughly the past 15 years, which is used often by the public health field. Last, other partners such as foundations, community-based organizations, universities, and research firms frequently provide funds or conduct assessments for public distribution.

Colorado Analysis

The Turning Point Steering Committee has identified health status assessment capacity as a priority issue for Colorado. The committee concluded that Colorado could benefit from increased data and information systems infrastructure, workforce development, and collaboration to assure that population-based health programs and policies are data-driven to achieve the best possible outcomes. Technology, a crucial aspect of health assessment, should continue to be an integral part of assessments as it improves and becomes available to more public health entities. Technology has the potential to allow the public health field to become better equipped to monitor trends in health conditions, link data of various health and social conditions, and present information in a dramatic and easily understandable format.

Recommendations

The first step in increasing health assessment capacity in Colorado is securing resources to increase the infrastructure within local public health agencies. Infrastructure includes hardware, software, and trained specialists in the areas of data collection and statistical analysis. Next, better training in health assessment needs to occur for the entire public health workforce. Because much of the public health workforce does not have formal training in public health, alternative skill development strategies should be examined. Resolving the data sharing issue is critical in looking comprehensively at community health and making data more available. It is also recommended that Colorado Health Data Advisory Committee continue to examine ways to increase the usability of data electronically. Collaboration and technical assistance between large and small public health agencies can increase the capacity to perform health assessment. Finally, health foundations recommend that public health facilitate a coordinated effort to help them examine possible roles in funding health assessments or improving data and information systems infrastructure within the state.

Population-Based Health Status Assessment

Population-based health status assessment performed on a national, state, or community level is a process that informs policymakers and public health professionals about what is needed to maintain or improve the health of the public. The U.S. Public Health Service defines health status assessment as the "regular systematic collection, assembly, analysis, and dissemination of information on the health of the community.[1]

Health status assessment, also known simply as "assessment," allows for the identification of health trends in behaviors, illnesses, injuries, and deaths, and the monitoring of changes over time. It also serves as a disease-surveillance tool to identify and track epidemics, including communicable disease outbreaks.

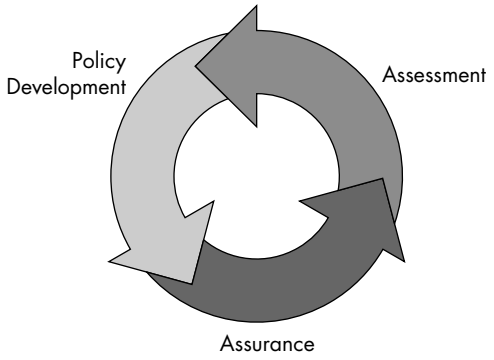
As a planning tool, assessment helps to make comparisons of risk groups in order to prioritize goals, given limited resources. Assessment is also necessary to evaluate policies and programs and to scientifically corroborate anecdotal information.[2]

The Turning Point Steering Committee has identified "health status assessment capacity" as a priority issue for Colorado. The committee concluded that Colorado could benefit from increased infrastructure and collaboration to assure that population-based health programs and policies are "data-driven" to achieve the best possible outcomes.

Assessment as a Core Public Health Function

The necessity of state and local health departments to perform health status assessments is increasing as departments move from a more traditional role of direct service providers to population-based service administrators with three core functions: (1) assessment; (2) policy development; and (3) assurance.[3] The three core public health functions, first identified in 1988 by the Institute of Medicine, have been acknowledged as the essential mandate of public health departments. In fact, one of the U.S. national health objectives for the year 2000 was for "90 percent of the U.S. population to be served by a local health department that is effectively addressing the core functions of public health."[4]

Figure 1: Core Public Health Functions



In theory, the three core public health functions operate in a continuous cycle (see Figure 1). Assessment is the initial function performed, which then guides policy development and assurance. Assessment is then used as an evaluation tool to determine the effectiveness of the other two functions and to guide future policy.[5]

The capacity to conduct population- or community-based health assessments requires specific infrastructure, including staff expertise; information systems (such as computer hardware, software, and networks); information technology specialists (ITS) the capacity to collect and store data; and policies and procedures to assure confidentiality. The purchasing of advanced technological systems in data tracking and reporting is also an important investment for public health. Both nationally and in Colorado, many health agencies do not have the infrastructure required to conduct regular health assessments of the communities they serve.[6]

Within health department settings, the assessment function is often delegated to public health professionals with specific skills such as statisticians, demographers, health planners, and epidemiologists; however, these professionals tend to be limited, especially in smaller health agencies. Public health program managers also conduct assessments, although assessment skills, education, and training vary by manager. Both nationally and in Colorado, health status assessment skills have been identified as a key area for public health workforce development.[7]

Role of Public Health Agencies

In most states, the state health agency, such as the Colorado Department of Public Health and Environment (CDPHE), is responsible for establishing and maintaining disease, injury, death, and behavioral surveillance systems; collecting and assembling health status information; and performing analyses. Expertise is needed at the state level for both comparative analyses and forecasting regional and state health trends. The state health department also needs the capacity to provide technical assistance to local health departments for local forecasting and interpretation of data. The state agency should also provide leadership in communicating about health issues and concerns with the public and in generating public awareness through the news media and state health reports.[8]

Local health departments need the capacity to provide interpretations and forecasts of local health status and other related information and to serve as the repository of such information for the county or counties served. Local health departments provide leadership at the local level in disseminating information to the public on community health status, providing information to the news media and community officials, and publishing easily understood reports. Local health departments also gather information about citizen perceptions of community health status or what people believe to be the most important health issues facing their community. Additionally, for local health departments to assume leadership in defining and acting upon public health needs, departments must have access to community-specific data that define existing levels of health status, emerging health problems, and opportunities for health status improvement.[9]

Health Status Assessment: The Least Performed Core Public Health Function

According to the Institute of Medicine, assessment and surveillance capacity are the foundation for public health activities.[10] Yet a national literature review demonstrated that limited resources have been devoted to the systematic collection, dissemination, and use of health assessment data, especially within local health department environments. In fact, several studies show that local health departments rate their performance in conducting population-based health assessments as the lowest out of the three core function areas.[11] Other studies indicate that among all functional areas, the largest portion of staff resources is devoted to implementing programs while smaller fractions of time are spent analyzing the health needs of the community and on developing plans and policies.[12]

The application of the core public health function areas has also been studied within specific categorical funding areas. One study, for example, considered the efficacy with which the core public health functions had been developed within federal Title V programs for maternal and child health. The 10 programs studied were found to have weaknesses in terms of using data effectively for assessment, as staff tended to conduct planning efforts that were narrowly focused on categorical areas rather than considering population or community needs.[13]

Low National Spending for Assessment Activities

Compared to other core public health function areas, spending for assessment activities seems to be low. For example, in 1993, total U.S. health spending was approximately $3,500 per capita.[14] By comparison, one study estimated that during the same time period, $44 per capita was spent for activities related to core public health functions.

Figure 2: Per Capita Spending for Core Public Health Functions, 1993

AREA	PER CAPITA SPENDING ($)
Environment	13.48
Leadership	6.92
Public information	4.81
Disease control	4.33
Immunization	3.89
Outreach	3.57
Quality assurance	3.57
Laboratory	2.40
Health data	**1.89**
Training	1.07

Source: "Measuring State Expenditures for Core Public Health Functions," *American Journal of Preventive Medicine,* 11 (November/December 1995) (Supplement 6): pp. 58–73.

Although low compared to overall health spending, funding related to the core public health functions did represent 27 percent of the $10.5 billion expended for public health, environmental health, substance abuse, and mental health services in eight states studied. Of the $44 per capita that was being spent, the areas with the highest amount of spending were environmental protections ($13.48 per capita), leadership/administration ($6.92), and public information ($4.81). By comparison, $1.89 per capita was spent on "health related data, surveillance and outcomes monitoring"(Figure 2).[15]

Improvements in public health must be judged relative to the investment of resources committed to the overall goal.[16] So far, this chapter suggests that despite its importance, health status assessment has been underfunded and underutilized within health departments throughout the country. In the next section, summary information is presented on the health assessment resources and capacities within Colorado.

Health Assessment Capacity in Colorado

The state of Colorado has much in its favor in terms of health status assessment capacity for communities and populations. The Colorado Department of Public Health and Environment is a leader in terms of data collection, storage, and dissemination. Local departments of health and environment, in addition to county nursing service agencies, also collect data and conduct health assessments to varying degrees. Colorado has a coalition of health assessment experts called the Colorado Health Data Advisory Committee (CoHDAC) that meets regularly to promote the improvement of data and information systems in Colorado. The capacity of these public health groups, in addition to other partners, will be described later in this section.

A focus group of local and state health department assessment experts revealed that Colorado's capacity to perform health assessment has been increasing over the past several years but that some barriers still exist. In many local health agencies there are not enough specialists to perform the function of health assessment, and many of the general public health staff do not have the necessary skills or training. Furthermore, hardware is an issue, as some departments don't have enough personal computers for their staff, and many computers don't have the capacity to run large software programs. Smaller departments may not have server capacity. This means that there is no centralized network to share work or information between computers, with the exception of smaller peer-to-peer networks available in some departments.

The group also stated that differing formats in data collection and management prevent the sharing of data, even between the state and local health departments. However, with ever-increasing technology and collaboration between agencies, the group is optimistic that data-sharing capacity is evolving.[17] Finally, the group reported that building assessment infrastructure may be less of a public health priority than program implementation; therefore, new resources tend to be directed toward programs.[18]

Data Resources

Colorado Department of Public Health and Environment

The Colorado Department of Public Health and Environment is the statewide leader in the collection of health indicator data for use by state and local health agencies, other health constituencies, policymakers, and community-based organizations that conduct health assessments on populations and communities. Types of data are described below:

Vital Statistics: Vital statistics have been collected in Colorado since 1877, when the state's first vital statistics report was published. Currently, the Colorado Department of Public Health and Environment collects vital statistics data for four events that have been defined as components of the vital records system:

- Live births
- Spontaneous fetal deaths
- Deaths
- Marriages

When one of these events occurs, the law requires that a record be completed and filed with the Colorado Department of Public Health and Environment. The vital records include certain core elements that are defined by national standards

and can also include data elements of interest to state and local officials. Annual publications summarize trends in these vital events, both across Colorado as a whole as well as for individual counties. More broadly, the department provides technical assistance and responds to special data requests from local health department staffs.

Confidentiality of Data

"An important component of public health surveillance is the dissemination of data to appropriate local, state, and federal public health agencies, providers, institutions that have reported cases, and the public. All required disease reports that are made to state and local health departments are strictly confidential as stated on Colorado Revised Statutes 25-1-122(4) (b–d) and 25-4-1404 (1) (b–d). These statutes address the release of personal identifying information as well as surveillance data. For all reportable conditions, information must be released in such a manner that 'no individual person can be identified.'"

Source: Policy on Release of Disease Surveillance Data, Colorado Department of Public Health and Environment, February 1995.

Registries of Diseases and Other Health Conditions: The Colorado Department of Public Health and Environment receives funding to collect recurrent data on specific diseases, disabilities, and health conditions. These registries include: the Colorado Electronic Disease Reporting System (CEDRS), which tracks communicable diseases (see next section for a description); the cancer registry, which collects incidence and death rates of specific cancer sites; the trauma registry, which monitors hospitalizations and deaths due to injury, including motor vehicle accidents; and the registry of congenital anomalies that collects information on major and minor birth defects.

Behavioral Risk-Factor Surveys: The Colorado Department of Public Health and Environment also conducts surveys to determine trends in behaviors that lead to poor health. These surveys include:

- Pregnancy risk (smoking, delaying prenatal care) (Pregnancy Risk Assessment Monitoring System—PRAMS)
- Adult behavioral risk (Behavioral Risk Factor Surveillance System)
- Youth behavioral risk (Youth Risk Behavior Survey)
- Youth tobacco use (Youth Tobacco Survey)

Surveys for adults are conducted through random-digit-dialing phone surveys. For the Behavioral Risk-Factor Surveillance System survey, the data is then sent to the Centers for Disease Control and Prevention (CDC) where it is weighted and processed before being returned to the state. This adult behavioral surveillance system takes place in every state, and results are posted on the CDC Web site (www.CDC.gov). The state health department analyzes the returned data and issues briefs on different topics.

Youth surveys are conducted in schools and then made available though reports. However, recent trends in education have made it difficult to survey school youth on health behaviors. School participation in surveys is determined by school administrators. A certain number of schools must participate in order to collect enough data to generalize conclusions for the whole state. These surveys provide a rich source of information that helps program planners in both the health and educational fields to determine the most critical areas for youth prevention and intervention services. This information also allows for the comparison of behaviors between Colorado youths and youth behaviors nationally, and provides a way to evaluate the impact of long-term programs.

Population-Based Health Assessments from the Colorado Department of Public Health and Environment

Both state and local public health professionals and other health constituencies use the previously mentioned data to conduct health assessment. The state has numerous staff devoted to different areas of health assessment including health planners, epidemiologists, demographers, and statisticians. Two examples of health reports at the state level include the following:

1. **Maternal and Child Health Status:** Within the Colorado Department of Public Health and Environment, maternal and child health has been the focus of a number of assessment

studies that have been published. Topics that have been considered include:

- Repeat fertility and contraceptive implant use among Medicaid recipients
- Cost savings and improvements in birth outcomes among women in the Prenatal Plus program
- Assessment of trends in pregnancy-related deaths in Colorado and prevention strategies
- Assessment of low-weight births in Colorado

2. **Adolescent Health Status.** In cooperation with the Colorado Department of Public Health and Environment, the Advisory Council on Adolescent Health periodically conducts an assessment on adolescent health in Colorado and publishes a report. Topics covered in the most recent report include mental health, unintentional injuries, violence, substances, tobacco, fitness/nutrition, and special populations such as gay and lesbian youth.

Challenges faced by the Colorado Department of Public Health and Environment include:

- Incomplete reporting of diseases by health care providers
- Lack of morbidity data collection (incidence rates of diseases and conditions)
- Lack of resources (funding and staff) to analyze more of the data that is collected
- Difficulty in collecting behavioral risk information from specific groups with small populations due to a limited sample size (i.e., some racial/ethnic groups)
- Difficulty in gaining enough school participation in implementing youth surveys to be able to make statewide generalizations about youth risk behaviors
- Lack of health assessment training and correct data usage within the general public health workforce
- Quality assurance issues such as lack of comparability in data formats and lack of standardization in quality assurance measures
- Incompatible information systems between local and state health agencies

Local Health Departments

The assessment capacity of Colorado's 14 organized local health departments varies by size, geographic location, and the degree to which the health department has shifted from providing direct services to population-based services. Health departments in rural communities are more likely to be the "provider of last resort" where access to health care may be limited. Urban and suburban health departments tend to have more capacity in terms of allocated staff, dollars, and information systems infrastructure to conduct health assessment. To its favor, Colorado recently received a Health Alert Network grant from the CDC to build the information and communication infrastructure of local health departments.[19]

Traditionally, a full community health assessment at the local level has been conducted every three to five years by following a process such as the Assessment Protocol for Excellence in Public Health or the Planned Approach to Community Health. These protocols outline a procedure for conducting a health assessment of the entire community, looking broadly at various health indicators. Because there is frequently a lag time in the provision of data, these assessments will often contain data that span two or three years. By the time the next assessment is completed, the data can be outdated by several years.[20]

To make local health data more accessible and timely, the Boulder County Health Department has developed a Data Monitoring System (DMS) in which key health indicators are published both on the Internet (population level data) and Intranet (case level data) as they become available. The indicators are updated at least annually, wherever possible. The chosen indicators reflect the most pressing and important emerging public health problems in the community. For each indicator, background information on why it is a problem, the history of the problem (including national trends, local and state data, and the *Healthy People 2010* goal), and a section on evidence-based prevention strategies are provided. The DMS enables the local health department to monitor changes in health status, identify emerging issues, and facilitate program planning and evaluation. Additionally, it provides community members, health and

human service organizations, and policymakers with relatively current local data about the health of the community.[21]

Local health departments also conduct assessments of specific health issues or with specific populations. Jefferson County Department of Health and Environment has conducted several assessments that are available to the public on the department's Web site. These include the general health status of Jefferson County using *Healthy People 2000* indicators; immunization rates among children ages 18–30 months by census tract; and a 1996 needs assessment, in cooperation with the University of Colorado's School of Nursing, of communities surrounding the Rocky Flats Environmental Technology Site, a former manufacturing for weapons-grade plutonium.[22]

Boulder County recently completed an assessment on health care access for children living within the county, via a random phone survey of parents. The assessment concluded that health care systems for children overall were quite good except for access to oral health services.[23]

Sometimes health departments increase their assessment capacity through collaboration. The Colorado Association of Local Public Health Leaders (CALPHL)—composed of local health departments and county nursing service agencies—recently conducted an assessment on childhood immunizations and insurance status of clients using public clinics. The study concluded that many clients with private health insurance were using public clinics because the clinics were more convenient and less expensive than the clients' regular doctors.[24]

Challenges faced by local health departments include:

- Difficulty obtaining enough data that are specific enough for community-level analyses
- Lack of adequate funding to support health assessment activities, including the required infrastructure of personnel, hardware, software, and ITS support, especially in smaller public health agencies
- Lack of health assessment training and correct data usage within the local public health workforce
- Incompatible information systems between local and state health agencies
- Difficulty accessing data in small rural health agencies that may not have high-speed data lines
- Cumbersome systems and reporting requirements to federal and state agencies

County Nursing Service Agencies

County nursing service agencies provide public health services in Colorado counties without an organized health department. This includes 39 of the 63 counties in Colorado, which are not part of an "organized health department" structure but statutorily under a public health nursing service. These counties receive state general fund dollars to provide public health within their individual counties, which consist mainly of direct services. The state public health nursing contract supports the standard of a community assessment performed at least once every five years with a written plan identifying priority health issues to be submitted annually to the Office of Local Liaison at Colorado Department of Public Health and Environment. This information is used to compile a statewide summary of local public health services and needs.[25]

Challenges faced by county nursing service agencies:

- A lack of county funding to conduct community health assessments, which are expensive
- Constant stretching of staff resources in terms of getting the community buy-in, conducting the assessment, and analyzing the information
- The large percentage of staff untrained in population-based health assessment including data collection and analysis

Colorado Health Data Advisory Committee

The Colorado Health Data Advisory Committee (CoHDAC) is dedicated to improving the timely collection, analysis, interpretation, dissemination, and appropriate use of health data, for the purposes of monitoring health status, health planning, evaluation, and development of public health policy. CoHDAC, an independent collaboration of many public health and educational agencies, is a leader in the promotion of data access and usage for health

assessment. In a major achievement, this group developed and maintains the Colorado Health Information Dataset (CoHID) Web site, housed at the Colorado Department of Public Health and Environment. This innovative Web site is an electronic method of making state and local data available to other health agencies and constituencies. The address, http://www.cdphe.state.co.us/sascohidweb/cohids.html, provides Colorado vital statistics including birth and death records and population estimates, and statistics from the Colorado Behavioral Risk-Factor Surveillance System. The site will soon provide statistics on sexually transmitted diseases, cancer, and tuberculosis. CoHDAC also serves in an advisory role to regional groups and organizations in using and interpreting health data. The group makes recommendations on data and information systems to the Colorado Health Officers' Association and the Colorado Association of Local Public Health Leaders.[26]

The Health Insurance Portability and Accountability Act

The collection of health data in the future may be impacted by the Health Insurance Portability and Accountability Act. The act states that pharmacists, hospitals, doctors, consultants, lawyers, and data processing firms doing business with health plans and insurers must protect patient information that might allow an individual to be specifically identified.

Colorado Health and Hospital Association

The Colorado Health and Hospital Association (CHA), in partnership with its member hospitals, has maintained a database of all hospital discharges in the state for roughly 15 years. The data are timely—reports are generated at least quarterly—and accurate, as the error rate is less than .05 percent. The data are zip-code specific and based on diagnosis-related groups including up to 15 different diagnoses and 15 outpatient procedure codes. This information is publicly available at the cost of one cent per record. This data set is used frequently by public health agencies in conducting health assessment due to the specificity by zip code and the availability of morbidity data, which may otherwise be untracked.[27]

Challenges faced by the Colorado Health and Hospital Association:

- The collection of CHA data in the future may be impacted by the Health Insurance Portability and Accountability Act (HIPAA) of 1996, which states that pharmacists, hospitals, doctors, clearinghouses, health plans, insurers, and people or entities working with them must protect patient information that might allow an individual to be specifically identified. Hospital discharge data as currently compiled by the CHA is an important and essential source of public health information. HIPAA regulations, as they currently exist, would require that before data are collected, they be "de-identified," namely, that zip code, date of admission, and date of discharge information be stripped away from patient records, making the data, unworkable, some argue. Currently, the records compiled by CHA do have patient-specific, identifying information collected to the extent it is needed to edit the records that are part of their database. These personal identifiers are deleted when the editing process is completed. The CHA has suggested that for their database to be preserved, Colorado Department of Public Health and Environment might be required to declare the hospital discharge data a state database and then contract with CHA to collect and process the data.[28]

Other Partners in Health Assessment

Foundations, community-based organizations, universities, and research firms are frequently partners to public health in terms of health assessment, either by providing funds or conducting assessments for public distribution. For example, the Colorado Trust is a foundation that has funded a number of health assessment activities including the Community Action for Health Promotion Initiative. The Community Action for Health Promotion Initiative (1995–2000) allowed Colorado communities to conduct their own health assessments and identify health problems among their

citizens. The communities then developed local health-promotion activities to prevent those problems.[29] The Latin American Research and Service Agency (LARASA) is a community-based organization that serves the Hispanic community. In 1996 it conducted an extensive health assessment on Hispanic youth risk behaviors in Colorado. In addition to providing a demographic analysis, LARASA examined physical activity and fitness, nutrition, unintentional injuries, alcohol, tobacco, drugs, sexual activity, and oral and environmental health. This document was then distributed to numerous agencies and organizations that serve Latino youth.[30]

Other Resources for Health Assessment Data

Social indicators are often valuable in health assessment, as they help to provide a more comprehensive picture about what is influencing a community's health. Factors such as poverty, crime rates, high school graduation rates, DUI arrests, child abuse, and health insurance status all provide a more complete picture for the public health professional. Sources for these indicators include departments of social services, the state bureau of investigation, law enforcement agencies, coroner offices, the state department of education, and the state demographer. Access to these data by other agencies is limited due to incompatible data systems, and currently there is no way to integrate these data sets. Many health assessment professionals are advocating for the use of "informatics"—a term that relates to the creation of compatible databases that can be shared so data can be cross-referenced and analyzed for correlations between social variables.[31]

Potential Resources for Health Assessment Data: Medicaid and HMO client data; emergency room data; state immunization registry

Medicaid and HMO client data could prove useful in assessing the health conditions for which people are treated, and the types of treatment administered. Querying this type of information can be expensive and difficult because these databases were set up for billing purposes and not for the purposes of tracking health conditions. In addition, there is currently no system in place to share data with public health or other health constituencies. With the growing use of electronic charting, this data may be available in the future.

The tracking of emergency room visits could provide a valuable source of data. Currently, emergency rooms (ERs) are not required to report ER visits, except for trauma. Collection of ER data could facilitate a way to measure the incidence of specific diseases. As mentioned earlier, hospital discharge data is available, but it does not include persons treated and released from the emergency rooms for conditions that do not require hospitalization.[32]

Community-based and state-based immunization registries are computerized information systems that contain population data about the status of children's vaccinations. This registry represents an important tool in increasing and sustaining high vaccination coverage. Colorado currently does not have such a system in place. Immunization registries are confidential. The registries consolidate vaccination records for children from multiple providers, provide a vaccination needs assessment for each child, generate reminder and recall vaccination notices, produce an official vaccination record, and provide practice-specific and community-based vaccination coverage assessments. The Immunization Program at the Colorado Department of Public Health and the Environment continues to take steps toward the development of a statewide immunization registry collaborating with various stakeholders.[33]

Technology and Innovation in Colorado

Technology is a crucial aspect of health assessment; as technology improves, the public health field is better able to monitor trends in health conditions, link data of various health and social conditions, and present information in a dramatic and easily understandable format. The following five information systems are recent advances in technology for population-based health status assessment in Colorado.

Communicable Disease Surveillance

The Colorado Electronic Disease Reporting System or CEDRS, is an interactive, electronic database and registry for tracking communicable diseases in Colorado. Both a library of information and a reporting mechanism, CEDRS utilizes state-of-the-art encryption technology for safeguarding security and confidentiality. Access to the database is restricted, and the reporting of communicable diseases is mandatory. Hospitals, infection control practitioners, local health agencies (which include local health departments and nursing agencies), and school nurses report a variety of different conditions to the Colorado Department of Public Health and Environment with this web-based system. (Laboratories have separate reporting requirements.) These communicable diseases include vaccine-preventable diseases such as hepatitis B and mumps; foodborne and enteric diseases; sexually transmitted diseases; zoonotic diseases (animal bites and anthrax); meningitis, encephalitis, and invasive disease; and environmental, occupational, and chronic conditions. CEDRS is a powerful and sophisticated public health assessment tool.[34]

Database Linkage

The linkage of data between databases is often not possible due to format and systems differences; however, the ability to link data between databases provides a more comprehensive picture of health status and is therefore a goal of public health information systems. The Injury Epidemiology Program at the Colorado Department of Public Health and Environment currently has two grants for this purpose: one from the Centers for Disease Control and Prevention and one from the Colorado Department of Transportation. The purpose of these grants is to link the data in the trauma registry with other data sources including the Fatal Accident Reporting System and data from traffic accident reports. It is expected that the analyses will be completed and the report written by November 2001.[35]

Geographic Information Systems

Geographic Information Systems (GIS) are a suite of powerful geographic analysis tools that can be applied to almost any health discipline. These tools provide a number of mapping options and allow public health professionals to map their data at any level of spatial resolution, such as state, county, census tract, or even according to the location of individual cases. These basic mapping and display functions provide a context for public health outcomes and useful products for visualization and public education/awareness efforts. In recent years, GIS has also started to play a larger role in public health research. This change occurred for two reasons. First, the tools of GIS (software, adequate hardware, spatial data, etc.) have become more widely available and easier to use. Second, better research methods have been developed, and consequently, the results of GIS-based public health research are more useful and meaningful. A more detailed picture of the public health needs of individuals and communities is starting to emerge as a result of advances in the use of GIS technologies. Additionally, more is being learned about the relationships between the public health and environmental conditions. Public health professionals can use this new research to tailor intervention to fit the needs of communities and make a larger difference in these communities.[36]

Tri-County Health Department (TCHD), serving Adams, Arapahoe, and Douglas Counties, conducted an assessment of the adequacy and use of prenatal care services in the region. TCHD used GIS mapping software to examine the issue by census tracts. The assessment revealed that areas with lower levels of prenatal care utilization also had more births to women with less than 12 years of education, who tend to have lower incomes. TCHD also examined a map of health clinics providing prenatal care to low-income families and found that the clinics are placed in the areas with lower prenatal care usage. This raised questions of why prenatal care utilization is so low in these communities. As a result, TCHD is pursuing further study of other potential barriers to prenatal care access in these communities.[37]

Electronic Charting Systems in Managed Care

As a partner in maintaining and improving the public's health, the managed care company Kaiser Permanente has a model system to obtain queriable health assessment information

on its population of patients. Kaiser Permanente has made a four-year investment in improving its information system for tracking patient screenings, diagnosis, immunization and medication histories. By centralizing patient information through its electronic charting system, Kaiser has increased the efficiency of its recordkeeping, as well as improved the access to patient records for physicians, thereby improving service delivery.[38]

This centralized information system was developed by using the standard U.S. Guide to Clinical Preventive Services and is often used to monitor patient compliance with recommended prevention screening protocols. Having access to this comprehensive information allows Kaiser to meet the needs of individual patients while also developing profiles across its entire patient population. This database is currently not available to public health agencies but in the future could serve a valuable function in terms of providing information about who is most likely to receive preventive screenings, the conditions for which patients are most likely to be treated, and types of treatment administered.[39]

Syndromic Surveillance

The Denver Public Health Department, an exemplar site within the CDC-funded Health Alert Network and Training Grant, is currently developing a syndromic surveillance system to detect in near real-time unusual symptom patterns or syndrome incidence. While conceived to detect potential bioterrorist threats, the system builds core public health capacity to perform epidemiologic surveillance for infectious and chronic diseases, foodborne illness and chemical accidents. The system will initially conduct asthma surveillance, as the respiratory symptoms are thought to resemble those that might be seen in a bioterrorism event. The objective of this process is to establish baseline asthma visit incidence, through analysis of Denver Health historical data, which can then be compared with current asthma-related visits. If an excess were detected, appropriate responders would be alerted for further investigation. Another goal is to use Geographic Information Systems (GIS) to track and map these occurrences and to identify potential clusters of events.[40]

Recommendations

Turning Point has obtained information about assessment capacity needs in Colorado from the Colorado Health Data Advisory Committee and the Colorado Turning Point Steering Committee in addition to expert panelists who participated in steering committee meetings. These panelists represented the Colorado Department of Public Health and Environment, the Boulder County Health Department, and Tri-County Health Department.

Secure Resources

- The public health field and its partners should secure long-term, adequate, and stable funding for local health assessment infrastructure and personnel: IT specialists, health planners/statisticians/ epidemiologists, and hardware and software.
- The public health field and its partners should secure resources to analyze more of the state and local data that are collected.
- The public health field and its partners should secure funding to provide local level (e.g., census tract) data on CoHID for use in community health assessment reports.

Develop Infrastructure

- The public health field should develop a plan to provide the infrastructure and staff needed to increase the health assessment capacity at local health departments and county nursing service agencies, depending on the individual needs of each agency. This could include staff expertise, equipment, and integrated technological systems.
- The public health field should assure that each local health department or county nursing service agency has access to a health planner, either through the regionalization of health planners in rural counties; the collaboration between large health agencies and smaller health agencies to share expertise; or technical assistance from the Colorado Department of Public Health and Environment and/or the Colorado Health Data Advisory Committee.
- The public health field should invest in data systems that can be shared and integrated.

Train the Public Health Workforce

- The public health field should conduct training in the core functions of public health including health assessment.
- The public health field should develop a system of training for the general public health workforce in understanding, interpreting, and using health data.
- The public health field should work with higher education programs in public health, environmental health, and public health nursing to promote the teaching of population-based health assessment skills.

Educate Policymakers on the Value of Health Status Assessment

- The public health field should create an educational social marketing campaign aimed at policymakers to educate them on the value of health assessment and data-driven program planning. This is necessary to secure more resources and to promote health agencies in making this a priority for competing resources.

Build Capacity in Communities for Conducting Health Assessments

- The public health field and its partners should provide technical assistance to communities in creating their own health assessment baselines.
- The public health field and its partners should make local indicator analysis more accessible; for example, add it to the CoHID Web site.
- The public health field should strive to increase data collection and reporting by race/ethnicity, especially within small populations such as the Asian and American Indian communities.
- Researchers should acknowledge that broad categories are assigned to racial and ethnic groups. Assessments should be sensitive to the diversity within racial and ethnic communities and, when possible, focus on more specific communities (for instance, the category of "Asian/Pacific Islander" is very broad and includes different places of origin, culture, language, and health beliefs).

Integrate Systems with Local Public Health Partners

- The public health field should work with local partners to assure that health assessments integrate and utilize more social indicators (e.g., public safety, socioeconomic status, 2000 Census).
- Pubic health and its partners should begin to use compatible software and develop integrated systems.
- The public health field should begin to invest in a common infrastructure that can grow (e.g., GIS mapping).
- The public health field and its partners should improve the capacity for data sharing and producing more comprehensive health assessments (e.g., the WIC [Women, Infants, and Children] database, CEDRS, Colorado Health and Hospital Association discharge data, and Medicaid datasets).

Increase Disease Monitoring

- The public health field should increase disease surveillance and morbidity data (e.g., measuring incidence or prevalence of asthma, cardiovascular disease, hepatitis C, chlamydia).

Colorado Health Data Advisory Committee Efforts

The Colorado Health Data Advisory Committee should increase the usability of the Colorado Health Information Dataset (CoHID):

- Add more data to CoHID.
- Work with Colorado public health to market CoHID.
- Create a tutorial on CoHID to help users more easily navigate the system.

Foundation Efforts

- Colorado foundations should meet to coordinate efforts around funding for health assessments or improving data and information systems infrastructure within the state. Foundations suggest the process be facilitated by the public health field.

Notes

1. W. W. Dyal, *Public Health Infrastructure and Organizational Practice Definition,* prepared for the Centers for Disease Control and Prevention Public Health Practice Program Office (Atlanta: GA, 1991).

2. Colorado Turning Point Initiative (panel presentation and dialog), Steering Committee Meetings, "Health Assessment Capacity/Data and Information Systems Capacity in Colorado" panel presentation and dialog, Denver, (September, October 2000).

3. Institute of Medicine, *The Future of Public Health* (Washington, D.C.: National Academy Press, 1988).

4. U.S. Department of Health and Human Services, Public Health Service, *Healthy People 2000, National Health Promotion and Disease Prevention Objectives* (Washington, D.C.: U.S. Government Printing Office, 1991), PHS 91-50212.

5. Washington Department of Health, Core Government Public Health Functions Task Force, *Core Public Health Functions: A Progress Report from the Washington State Core Government Public Health Functions Task Force* (Olympia, January 1993).

6. Colorado Turning Point Initiative, panel presentation and dialog.

7. Focus group survey and interviews conducted at a Colorado Health Data Advisory Committee meeting, Boulder, CO., May 2001.

8. Washington, Core Government Public Health Functions Task Force, *Report,* 2–3.

9. Ibid.

10. Institute of Medicine, *The Future of Public Health,* 113.

11. T. Richards et al., "Evaluating Local Public Health Performance at a Community Level on a Statewide Basis," *Journal of Public Health Management Practice* 1, no. 4 (1995): 70–83.

12. J. Studnicki et al., "Analyzing Organizational Practices in Local Health Departments," *Public Health Reports* 109, no. 4 (1994): 485.

13. Association of Maternal and Child Health Programs, *Toward a Future of Title V: A Report on Site Visits to Ten State Programs,* annual meeting preliminary edition (Washington, D.C.: National Maternal and Child Health Clearinghouse, 1991).

14. S. T. Bruner, D. R. Waldo, and D. R. McKusick, "National Health Expenditures Projections Through 2030," *Health Care Financing Review* 14, no. 1 (1992): 1–29.

15. "Measuring State Expenditures for Core Public Health Functions," *American Journal of Preventive Medicine* 11 (November/December 1995) (supplement 6): 58–73.

16. S. E. Schenck, C. A. Miller, and T. B. Richards, "Public Health Performance Related to Selected Health Status and Risk Measures," *American Journal of Preventive Medicine* 11 (November/December 1995) (supplement 6): 55–57.

17. Focus group, CoHDAC.

18. Ibid.

19. Ibid.

20. Alyson Shupe, health planner, Boulder County Health Department, Boulder, CO, personal communication, February 2001.

21. Ibid.

22. Kathy Bjork, epidemiologist, Jefferson County Department of Health and Environment, Golden, CO, personal communication, February 2001.

23. Shupe, personal communication.

24. *Who Uses Public Childhood Immunization Clinics in Colorado and Why: The Childhood Immunization Clinic Utilization Study,* Colorado Association of Local Public Health Leaders, Northeast Colorado Health Dept., Boulder County Health Dept., October 2000.

25. Karen O'Brien, director of public health nursing, Office of Local Liaison, Colorado Department of Public Health and Environment, Denver, personal communication, April 2001.

26. CoHDAC Fact Sheet, Denver, January 2001.

27. Peg O'Keefe, vice president, Public Affairs and Education, Colorado Health and Hospital Association, Denver, personal communication, April 2001.

28. Colorado Turning Point Initiative, panel presentation and dialog.

29. *Meeting Diverse Needs*, The Colorado Trust, Denver, CO. (May 10, 2000).

30. Latin American Research and Service Agency, *Colorado Hispanic Youth Health Assessment and Report: Growing Up Hispanic* (Denver: Regional LARASA Policy Center, 1996).

31. Colorado Turning Point Initiative, panel presentation and dialog.

32. Ibid.

33. Lane Wake, epidemiologist, Immunization Program, Colorado Department of Public Health and Environment, Denver, personal communication, May 2001.

34. Ken Gershman, program manager, Medical Epidemiology, Colorado Department of Public Health and Environment, Denver, personal communication, March 2001.

35. Holly Hedegaard, program manager, Injury Epidemiology, Colorado Department of Public Health and Environment, Denver, personal communication, April 2001.

36. Mark Egbert, GIS coordinator, Colorado Department of Public Health and Environment, Denver, personal communication, May 2001.

37. Stacy Weinberg, Health Planner, Tri County Health Department, Denver, personal communication, May 2001.

38. Colorado Turning Point Initiative, panel presentation and dialog.

39. Ibid.

40. Melissa McClung, statistical research specialist, Denver Public Health, Denver, personal communication, April 2001.

CHAPTER 3

KEY STRATEGY:

Assure Access to Quality Health Care

Executive Summary

Purpose of Chapter

Access to quality care is one of several issues being examined by the Colorado Turning Point Initiative. The Initiative's overall mission is to clearly define the factors contributing to health disparities and unfavorable health outcomes. This chapter provides insight to the integral factors contributing to access of quality care with the ultimate goal of eliminating health disparities and improving the health status of Colorado residents.

Problem

Even in good economic times, large numbers of Americans experience barriers to health care access. This is true for Colorado residents as well. Access to health care is defined as the ability of individuals to use health services, including preventive care, in a timely manner and on an ongoing basis. A lack of insurance coverage, physician shortages, overflow of the safety net system, cultural barriers and other system barriers contribute to the access problem. This is especially true for increasing numbers of uninsured working families with low/moderate incomes who are either not eligible for government-funded insurance programs or who are eligible but not enrolled. Also, young adults (ages 20–25) are less likely to have health insurance coverage from either employer-based or public-based health insurance programs. Minorities are less likely to have health insurance coverage but also experience cultural barriers to accessing care, including language. Many rural communities in Colorado have been designated Health Professional Shortage Areas and rural residents experience unique barriers to health insurance coverage. Finally, access to oral health services and mental health services is also a problem. A lack of access to health care results in poor health outcomes and higher mortality rates, in addition to the financial burden for society.

Findings

Several factors contribute to the lack of access to quality care. As safety net providers face shrinking resources, a growing number of uninsured individuals seek care. More and more physicians feel they can no longer care for indigent patients due to complexities in the financial administration of services. Many physicians have either limited their indigent care efforts or withdrawn altogether. Poverty, which has been shown to lead to a lack of access to insurance coverage, also contributes to a covered individual's ability to obtain and access services. Alarmingly, new studies show that language barriers and differences in treatment modalities contribute to a disproportionate amount of adverse health outcomes experienced by individuals of racial/ethnic backgrounds as compared to Caucasians. Rural health care is experiencing a lack of physicians, financial strains, and a large number of uninsured residents. Quality of health care can be viewed from many different perspectives, but regardless, the result of providing quality care is positive health outcomes. Once financial, systematic, and personal barriers are eliminated, access to quality care becomes a standard.

Colorado Analysis

Colorado is confronted with factors specific to the state. Insurance availability is low for uninsured or underinsured Coloradans, especially in rural Colorado. The number of specialty providers in rural Colorado is considerably low, and even urban specialists are choosing not to accept Medicaid and Medicare patients. Many providers are simply leaving their practices. And in Colorado, oral and mental health care present unique challenges as they emerge to the forefront of needed services.

Recommendations

Considering all the factors contributing to the access to quality of care, the State Improvement Plan recommends: (1) expanding the state's Medicaid and State Child Health Insurance Plans; (2) promoting innovative physician practice management; (3) implementing physician recruitment

programs; (4) implementing a state tax credit law for medical professionals; 5) assuring culturally competent care; and (6) building community partnerships to help assess and develop solutions to their community health care needs.

If the goal of providing appropriate and effective health care to all Coloradans is to be achieved, the Colorado Turning Point Initiative's Steering Committee sees a need to address the more in-depth intricacies of providing access to quality care. For instance, research needs to be conducted to investigate barriers to enrollment and then the enrollment process should be streamlined. A comprehensive and integrative delivery system should be coordinated, one in which there is smooth transition and communication between private and public programs and includes preventive services and practices. Regulatory reform, balanced with strong accountability standards should be advocated. Action needs to be taken to provide incentives to utilize preventive services. Trainings and technical assistance must be offered in partnership with communities to share best practices.

Access to Quality Health Care

Access to health care is defined as "the timely use of personal health services to achieve the best possible outcomes including preventive care and ongoing care for health problems or emergencies."[1] Strong predictors of access to quality health care include having health insurance, a higher income level, and a regular primary care provider.[2] Achieving quality health care for low-income populations, however, has come to represent a serious and continual problem for the United States.[3]

The access problem directly affects large numbers of uninsured working families with low or moderate incomes, involving both children and adults who are eligible for government-funded insurance programs but are not enrolled. Another segment of the uninsured population that is a concern consists of single adults who are not getting health coverage from either employer-based or public-based health insurance systems. People ages 18 to 24 years are most likely to lack a usual source of primary care as well.

These three segments of the population also face a plethora of noninsurance barriers.[4]

Issues such as inadequate housing, poor nutrition, poverty resulting from joblessness or low wages, poor air quality, and other social determinants also have an adverse effect on the health and well-being of low-income individuals and families.[5]

Even in good economic times, a growing number of Americans lack basic access to care. Between 1993 and 1996, the economy produced 7 million new jobs, but the percentage of Americans without insurance increased from 15.3 to 15.6 percent.[6] Over 44 million people remain uninsured—despite the fact that efforts have been made to expand coverage at both the state and federal level. More than 40 million people do not have an ongoing source of care. They do not have a particular doctor's office, clinic, or health center where they usually go to seek health care or health-related advice.

Yet having health insurance coverage does not guarantee access to quality care. A significant number of privately insured persons lack a usual source of care and report difficulty accessing needed care due to financial constraints or insurance problems. There are many other barriers to accessing quality health care in addition to financial barriers. A host of linguistic, cultural, racial, geographic, and organizational factors present roadblocks that interfere with the health of a large portion of the population.[7]

Issues Affecting Access to Health Care

Access to health care is top a priority in our society today, especially as it influences health disparities. Most Americans say that the health care system needs to fundamentally change; they worry about the uninsured, and more than half believe there should be a system to provide health insurance to those who cannot afford it.[8] Access to primary and basic preventive care is the key to health and wellness for all populations. Largely preventable health problems cause a strain, both financial and social, on the entire health care system. To change the health care system, one must first understand all of the issues. The following factors contribute to the lack of access to quality care.

Safety Net Providers

In the past, the safety net hospitals and clinics provided care to those who needed it. However, today the system is experiencing many difficulties. Part of the problem is pure mathematics; the numbers of uninsured are already high and keep growing at a rate of more than 1 million persons each year. Safety net providers offer a "medical home," or a regular source of comprehensive and coordinated primary care services. According to a Kaiser Family Foundation report, some areas of the country have been feeling a major financial strain on their systems. Managed care has diverted paying patients away from safety net providers, leaving those providers with the higher levels of the uninsured.[9] Indigent care programs and safety net providers are trying to do more with shrinking resources.[10]

The threat of lost Medicaid revenues has encouraged the safety net provider networks to make the needed changes to participate in managed care. Moreover, state and federal policies that promote and/or require Medicaid managed care organizations to include safety net providers in their network have subsequently improved the involvement of the safety nets in managed care.[11]

Physicians

During most of the 1990s, experts predicted there would be an abundance of physicians that would far exceed the demand. These predictions were based on the assumption that managed care would reduce the use of hospitals and physicians. In reality, managed care did reduce the use of hospitals, but physician visits actually increased.[12] In addition to the utilization of physician services, managed care was also thought to place pressures on physicians to be more productive. In essence, that would mean seeing more patients and spending less time with each patient. However, this turned out not to be true either. According to one study that examined the length of office visits with physicians from 1989 to 1998, the time a physician spent with a patient increased by one to two minutes. This upward trend was noted for primary care, specialty care, and for both new and established patients. The number of office visits increased significantly as well over the same period of time.[13]

Physicians have experienced a number of changes in the way they practice medicine over the past decade. A variety of reasons exist, including increased competition, patient satisfaction, and payer and regulatory mandates. Fewer and fewer physicians are willing to volunteer their time to care for the uninsured. As a result, the most vulnerable patients are without care. Some physicians feel it is because of shrinking reimbursements due to federal budget cuts and managed care; others say the reason is they just do not have the time.

There are a growing number of physicians who feel that they can no longer care for indigent patients and that they have either limited their indigent care efforts or withdrawn altogether. Three major causes for not seeing these patients include low payments from Medicaid and the State Children's Health Insurance Plan; administrative hassles; and patient issues such as a high rate of missed appointments. Missed appointments cause both practice management and financial problems for the physician. The likelihood of patients keeping their appointments is improved when a case management system is in place to address logistical, cultural, and behavior barriers.[14]

Poverty and Lack of Insurance

Several public and private initiatives address the rising numbers of uninsured. Two public programs, Medicaid and the State Child Health Insurance Plan, have been reaching out vigorously to the uninsured. Yet the people who need the coverage the most are the ones who are unaware of their eligibility or choose not to enroll. Although Medicaid covers nearly half of all poor people, it is not enough. Moreover, enrollment has actually dropped since welfare reform legislation was passed in 1996. One out of every five children in the United States is eligible to enroll in Medicaid but has not done so.[15]

Concerns about access to quality health care for low-income children covered by Medicaid have long been a concern, even though medical benefits for children are comprehensive and include services for dental care and mental health. Historically, low reimbursement rates, administrative hassles, and lack of neighborhood providers have contributed to the lack of access for Medicaid children.[13] However, one study compared Medicaid children with other low-income children covered by private insurance. The results showed that Medicaid and privately insured low-income children had comparable access to health care but that Medicaid children were more likely to receive routine and preventive care.[16]

There are differing opinions among health care professionals and political leaders as to how to solve the many problems related to accessing quality health care and health care disparities. Studies have shown a strong association between the lack of insurance, the inability to obtain services, and adverse health outcomes, especially for low-income populations. Dennis P. Andrulis, Ph.D., reviewed many of these studies and feels the literature shows that when actions are taken to successfully decrease the financial barriers across socioeconomic groups, a substantial reduction in health disparities results.[17]

One report noted that children who live in poverty, many of whom are uninsured, have a greater likelihood of receiving lower quality care and of dying in infancy.[18] A 1997 study from the Center for Studying Health Systems Change showed a similar trend;[19] families classified as low income were more likely to report a decrease

in access to health care within the past three years. Forty-three percent of the uninsured reported reduced access compared to 21 percent of those with private insurance. In contrast, the elderly with Medicare coverage were the least likely to report reduced access to care.[20] In addition, people living in poverty, with no health insurance, are less likely to have a "medical home"—a regular source of comprehensive and coordinated primary care. As a result, this population has a high rate of costly emergency room visits and preventable hospitalizations.

Racial/Ethnic Differences

There is a growing interest in studying the differences of health outcomes based on race and ethnicity. The findings are very disturbing. One study revealed that black and Hispanic patients with severe pain are less likely to obtain commonly prescribed pain relievers because pharmacies in predominately non-Caucasian communities do not stock these drugs. The pharmacists gave many reasons as to why they do not stock these common drugs. Some cited fear of crime and theft, but 54 percent cited that there was little demand for these drugs. This could indicate that physicians in minority neighborhoods may be under-treating pain in their communities.[21]

In almost every disease category, there is evidence that non-Caucasian patients were treated differently than Caucasian patients. Studies showed that blacks have an overall higher incidence of cancer—and a higher rate of death from cancer than other racial groups. Two studies showed that Hispanics and blacks were substantially under-treated for pain from bone fractures and that postoperative pain was poorly managed. Blacks with chronic renal failure were less likely to be evaluated for a renal transplant or thoroughly evaluated for coronary artery disease.[22]

Children are not immune to such disparities. Black and Hispanic children are less likely to have a usual source of care. Hispanic children are less likely to have a recent physician visit, less likely to use preventive services, more likely to delay seeking care, and more likely to report that they have not received needed care. Consequently, both of these groups are at increased risk for adverse health outcomes.[23]

One study found this was true even after the researchers controlled for insurance status and poverty. However, when the researchers controlled for language, differences between Hispanic and Caucasian children became negligible. Barriers in access to health care were attributable to those whose parents had difficulty communicating about health care in English.[24] Further studies are needed to investigate additional health care system factors that may explain differences in racial and ethnic disparities.

Rural Health Care

The rural health system has changed dramatically in the 1990s due primarily to health care financing, the introduction of new technologies, and the development of health care systems and networks.[19] Rural communities struggle to make sure there are enough providers and services to care for all segments of the population. Many rural communities have a physician shortage. A higher percentage of rural hospitals are under financial stress compared to urban hospitals. Rural America has 20 percent of the population, but less than 11 percent of the all physicians practice in rural communities.[25]

The rural access problems cut across all demographic, racial, and socioeconomic groups, as well as diseases. Rural residents are more often uninsured than urban residents—18.7 versus 16.3 percent, and are more likely to report poor health, having restricted activity, and a lower level of access to a regular primary care provider.[26] However, a study of Medicare beneficiaries did not show a problem with access to care if the rural community had a population of at least 10,000 and was in close proximity to an urban center. The only services that showed a problem for this population were cancer screenings and dental care. Additionally, low-income groups did show a problematic relationship between utilization, self-reported access, and patient satisfaction.[27]

Some rural businesses such as forestry, mining, and agriculture present extraordinary threats to safety and overall health. A recent review of reasons rural residents went to the emergency department found that 12.5 percent of the visits were work-related injuries. In contrast, the national average is only 4.2 percent.[28]

According to another study, children in rural communities have a much higher rate of fatal injuries. Data from this 1992 study showed that rural children ages one to 19 had a 44 percent higher death rate than their urban counterparts. A Colorado study found that rural children had a significantly higher risk of death from motor vehicle crashes and unintentional firearm accidents.[29]

Quality Health Care

Quality health care is important to every community. Measuring quality of care has been shown to be beneficial even if quality is difficult to define.[30] Experts have struggled to formulate a concise definition of quality of health care. In 1984, the American Medical Association (AMA) defined high-quality care as care that "consistently contributes to the improvement or maintenance of quality and/or duration of life." According to the AMA, specific attributes of care should be examined in determining quality, including an emphasis on health promotion and disease prevention, timeliness, the participation of patients, attention to the scientific basis of medicine, and efficient use of resources.[31]

The definition of quality care differs depending on one's perception. Physicians define measures of quality by technical indicators: correct diagnoses and appropriate modalities.[32] In contrast, consumers place an emphasis on convenience as a measure of quality care: access and availability. Health plans tend to place greater emphasis on the health of enrollees and on attributes of care that reflect the functioning of organizational systems.[34] Providers can cut costs and improve quality at the same time by focusing their cost containment efforts on reducing inappropriate use of health services and avoiding adverse effects.[35]

Quality of care also can be defined in financial terms. The type of health plan a person is enrolled in can be a determinant of quality of care. Differences in quality have been attributed to various types of health plan payment and delivery systems such as a traditional indemnity plan, an independent practice association, and a health maintenance organization. One study identified and measured seven core indicators of primary care quality as they related to payment methodology: (1) financial accessibility, (2) organizational accessibility, (3) continuity, (4) comprehensiveness, (5) coordination, (6) interpersonal accountability, and (7) technical accountability. The results showed notable differences in these outcomes measures. Financial accessibility was highest in the prepaid systems. Organizational accessibility (actually obtaining care), continuity, and accountability (both interpersonal and technical accountability) were highest in traditional indemnity plans. Coordination was highest and comprehensiveness lowest in HMOs.[36]

Barriers that Limit Access to Care

Financial, structural, and personal barriers can limit access to care. Financial barriers include the lack of health insurance, inadequate health insurance, or not having the financial capacity to cover nonbenefit services. Structural barriers include the lack of medical providers and health care facilities to meet the needs of the population or those with special needs. Personal barriers may include cultural or spiritual differences, not knowing when to seek care, or concerns about confidentiality or discrimination.[37]

It is important to understand the barriers to accessing quality health care so that strategies can be developed to overcome these obstacles. Numerous studies have identified a strong link between adequate health insurance and poverty with access to care and health outcomes. Insurance coverage, both public and private, does play a major role in whether a person has access to care.

The following reasons have been identified as barriers that impact access to care:

1. Changes in welfare policies have contributed to a decline in Medicaid coverage; many people leaving welfare take jobs without health care coverage and are unaware that Medicaid is still available.
2. Changes in demographics, including an increase in minority and immigrant populations, negatively affect access to care.
3. The design of the health care delivery system imposes a variety of obstacles to timely access to health care services. These include: the lack of transportation or childcare, evening or

weekend hours, inadequate staffing, problems with language and cultural differences, lack of respect, and others. Some employers that do not offer sick time or flexible hours have employees who often delay seeking care, which ultimately leads to a higher cost of care and loss of productivity.

4. Adults without dependent children are ineligible for subsidized health coverage and fall through the cracks between government and employer-sponsored coverage.
5. Critical health care needs include oral care and mental health; these are often neglected due to lack of insurance or inadequate coverage.
6. Many areas around the country are experiencing a shortage of primary care physicians and other medical professionals. There are too few minority professionals to meet the needs of vulnerable populations.[38]

Changes in Welfare Policies

During the 1996 welfare reform legislation, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) allowed families and children leaving cash assistance to remain eligible for Medicaid health benefits. States are required to provide Medicaid coverage to all families that meet the income and family structure guidelines.[39] Although many people remain eligible for Medicaid benefits, they have not enrolled.

As people transition from welfare to work under new program rules, some are losing Medicaid coverage that they are still eligible to receive. As a result of not enrolling eligible children, nearly 6 million remain uninsured.[40] A 1997 National Survey of America's Families found that a majority of women who left welfare were working, though not all had insurance coverage. Only 36 percent reported having Medicaid, 23 percent obtained private or employer-sponsored insurance, and only 4 percent were covered under other forms of public health insurance. Consequently, approximately 40 percent of women who were previously covered under welfare are now uninsured.[41]

Several reasons may be to blame for low enrollment levels in this group:

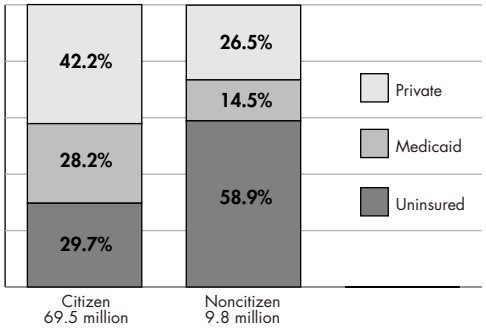
1. The stigma attached to Medicaid could deter some former welfare recipients from applying to Medicaid again.
2. PRWORA has increased the complexity of the Medicaid eligibility rules.
3. State administrative burdens such as complicated application forms and in-person interviews may place an undue hardship on newly working persons.
4. The complexity of new eligibility rules is difficult even for caseworkers to understand, though it is their responsibility to educate eligible families.[42]

Increase in Minority and Immigrant Populations

Immigrants are an integral part of the U.S. economic and social infrastructure, adding to the country's diversity. Despite this important role, immigrants disproportionately lack health coverage and receive fewer services than native-born citizens.[43] Low-income immigrants are twice as likely to be uninsured as low-income citizens. Of the 9.8 million low-income citizens, almost 59 percent had no health insurance in 1999 and only 15 percent received Medicaid.[44]

Figure 1 shows the comparison between citizen and noncitizen health insurance coverage. Approximately 30 percent of low-income citizens were uninsured and about 28 percent had Medicaid.

Figure 1: Health Insurance Coverage of the Low-Income Population, by Citizenship Status, 1999



Source: Urban Institute estimates based on March 2000 CPS data prepared for the Kaiser Commission on Medicaid and the Uninsured.

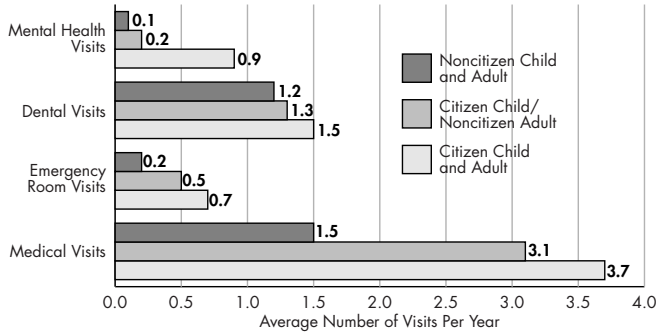
Note: Low-income is less than 200 percent of poverty; low-income population is the nonelderly only.

Furthermore, there are wide variations in insurance coverage among foreign born. While Southeast Asian children have low rates of uninsurance due to their refugee status, Latino immigrant children have very high rates of uninsurance. This is of particular concern because Latinos make up 55 percent of all children in the immigrant population.[45]

Immigrants face other barriers to care in addition to lack of insurance coverage, and they experience poorer access to health care services than do citizens. One way to measure access to care is to determine if a child has a usual source of care. This may be a person or place to which a child usually goes for treatment when sick, for health advice, or for routine medical care. A 1997 study showed only 66 percent of low-income children in noncitizen families had a regular source of care compared to 92 percent of children in low-income citizen families.[46] For low-income adults, 37 percent of noncitizens reported not having a usual source of care compared to 19 percent of citizens. In addition, children of immigrants have fewer mental health, dental, and medical visits than children of citizens, as is shown in Figure 2.[47]

Delay in seeking care may also be a problem for children in immigrant families when compared to children in native-born families. A delay of more than one year since seeing a physician was more likely for noncitizens than for uninsured citizen children, regardless of health status.[48]

Figure 2: Health Care Utilization for Low-Income Children, by Citizenship Status, 1997



Health Care Delivery System

Even when families and children have access to health care coverage, this does not guarantee quality services. There are a number of barriers that affect the quality of care, some of which include:

1. **Language barriers**: These include a lack of interpreters or bilingual staff and insufficient written materials in multiple languages or at appropriate reading levels.
2. **Transportation to primary care services**: There is a lack of neighborhood clinics or clinics along public transportation routes.
3. **Reduction in safety net providers**: Safety net providers cannot remain financially viable in the changing health care market.
4. **Hours of operation**: Clinic and physician offices do not offer extended hours and weekend hours to accommodate working parents who may have difficulty seeing a health care provider during the workday. Also, there may be long delays in getting an appointment and additional delays before seeing the provider once a person arrives for the appointment.
5. **Childcare**: Sick children or siblings face a lack of childcare.
6. **Culturally sensitive care**: There exists a lack of understanding of cultural diversity of population.

These noninsurance barriers are especially problematic for vulnerable populations such as minorities, non-English-speaking immigrants, and those with special health needs.

Eligibility for Subsidized Coverage

Many low-income adults without dependent children are ineligible for Medicaid. This group includes adults with many chronic illnesses or special health problems. It includes people working at low-wage jobs that do not offer health insurance benefits and people who are unemployed. This group cannot afford to purchase health insurance on their own.

Critical Health Needs

Many people are not receiving dental care, mental health care, and other medical services outside of the traditional medical model. Neglecting these services can have an impact on a person's emotional and physical health. Oral diseases restrict activities in school, work, and home and often diminish the quality of life of those who suffer the worst. Poor oral health affects mortality, general health, nutrition, digestion, speech, social mobility, self-image, self-esteem, and overall well-being.

Mental health is another area that is often neglected and has a tremendous effect on individuals, families, and the economy. Major depression is the leading cause of disability. A variety of barriers prevent people from accessing care for mental health services: (1) lack of insurance for 16 percent of the population; (2) underinsurance for mental health; (3) lack of trust and negative past encounters; and (4) stigma associated with mental health disorders.

Paul Melinkovich, M.D., director of the Denver School-Based Health Centers, has stated that these barriers are especially problematic for adolescents. According to Melinkovich, teenagers with and without insurance coverage have difficulty accessing mental health services due to a limited provider network, especially for inpatient substance abuse treatment. For a variety of reasons including lack of trust, lack of resources, or denial, this age group notoriously delays seeking care.[49]

Labor Shortage

Access barriers are augmented by the fact that there is a critical shortage of health care providers in some communities and an overabundance in others. There is a lack of practitioners in inner-city neighborhoods, rural communities, and other underserved areas. In addition, recruiting minorities into professional training programs is inadequate to meet the needs of vulnerable populations.

Access to Care in Colorado

Colorado has some unique characteristics that impact access. Many aspects of access are related to the state's geography, demographics, and political thinking of the state's legislative bodies. Although 31 of its 64 counties are classified as "frontier," only 15 percent of the state's population lives in non-metropolitan areas.[50] Health policy developments in Colorado have emerged from political debates between conservatives and liberals, as well as between urban and rural groups. Colorado's policymakers have been able to balance the competing requests of these different groups, which have led to incremental changes in health policy.

Insurance

Colorado implemented a Medicaid managed care program in 1974 when it contracted with Rocky Mountain HMO to provide health coverage in rural Colorado. By 1993, there were only 10,000 Medicaid recipients enrolled in Rocky Mountain HMO. It was felt that this low enrollment was due mainly to the lack of mandates or incentives to join. In 1995, several safety net providers formed a Medicaid HMO called Colorado Access. The state initiated a rollover strategy, which meant that the Medicaid enrollees who were being cared for by these safety net providers were automatically enrolled in Colorado Access. In early 1996, Colorado Access had 55 percent of the state's Medicaid HMO enrollees—more than twice as many as the next leader, Rocky Mountain HMO.[51]

Most rural communities do not have a wide range of health insurance options to choose from; most are lucky to have any. Whether it be private, employer-based, or a managed care plan, most carriers have found it difficult to penetrate rural Colorado. In fact, several plans have recently withdrawn coverage from rural areas for three main reasons: (1) the lack of an adequate provider network, (2) high costs/poor reimbursements, and (3) the lack of acceptance of managed care by residents and physicians.[52]

According to Florine Raitano, D.V.M., the executive director of the Colorado Rural Development Council, health insurance coverage is a big

problem in rural Colorado and is getting worse. Insurance carriers are leaving the marketplace despite an increase in population.

State Commissioner of Insurance William Kirven III confirmed that in the past 18 months, 13 companies have withdrawn from the small group market in rural Colorado. The small group market insurance products provide health coverage to businesses with one to 50 employees. In 1998 there were 536,367 individuals covered by small group plans in rural Colorado compared to 478,344 in 1999.

The problem is exacerbated by the fact that, in many cases, there was only one carrier bidding on the contract, and premiums were too expensive for the small business owners and their employees to afford. As a result, the number of small businesses offering health coverage drops as insurance carriers leave the marketplace. Once a carrier leaves a market, state law requires a five-year waiting period before the carrier may return to that market. Current state law does not allow insurance premiums to be based on the health status of the employee. Therefore, a healthy "group of one" can obtain insurance less expensively by switching to the individual market, and a high risk "group of one" basically gets a discounted premium by leaving the individual market. Consequently, Colorado's small group market experiences adverse selection and must leave the market or raise premiums for everyone.

Provider Network

Another major problem facing some communities in Colorado is the lack of providers. Although access to an adequate provider network has improved in rural Colorado over the past 25 years, it still does not meet the needs of many communities. In some rural communities such as Trinidad, there are no specialty physicians providing obstetrical care; no physicians are capable of performing a Cesarean section. Pregnant women must travel 90 miles north to Pueblo or 22 miles south to Raton, New Mexico. However, this is not just a rural issue. In some urban areas there may be enough practitioners, but some specialists are not accepting managed care insurance plans, especially Medicaid and Medicare. Enrollees in these plans may have an added hardship of traveling to another community to access care.

Some practitioners are leaving clinical practice altogether due to changing practice environments. Doctors have cited the difficulties of forming partnerships with their patients as one reason for leaving medicine. Plans and networks change often, which results in a lack of continuity for doctors and their patients. When experienced providers leave private practice, patients are left to find another doctor. When plans change networks, patients often have no other choice but to change doctors.

Health Problems

Access to quality health care remains a big concern for populations with certain health problems. Access to oral health care is one particular issue. Low-income children and adults throughout Colorado suffer from tooth decay and dental disease because they face significant barriers to obtaining dental care. The Colorado Commission on Children's Dental Health was charged with studying key policy issues related to improving children's oral health and to provide recommendations on how to improve the current delivery system. The commission began studying the problem in May 2000 and identified five broad themes:

1. Low-income and at-risk children have severe and urgent oral health care needs.
2. Many children lack access to oral health care services.
3. There are important differences between pediatric and adult dental services.
4. There is a dental workforce shortage in Colorado.
5. Parents, guardians, and other adults play a critical role in the oral health of children insofar as they recognize the importance of oral health, value prevention, and appreciate the provider's time.[53]

Mental health care, especially mental health services for adolescents, is another area of concern in Colorado. This group may experience inadequate health insurance coverage and have difficulty paying for needed services out-of-pocket. School-based health centers have implemented mental health programs to care for this group to try and address its unmet needs.

The financing of mental health services has changed. Medicaid has moved to a capitated payment model to control costs. A fixed amount of money is paid per member per month to a provider regardless of the treatment the member receives. Proponents of mental-health managed care argue that capitation should motivate professionals to pursue secondary and tertiary prevention, which allows for early detection and treatment of mental illness.[32] In a Colorado study, researchers found the cost of service was significantly reduced in counties with capitated services as compared to counties with the more traditional method of paying for care—fee for service. Findings also suggested that the financial incentives might also lead to secondary and tertiary prevention.[54]

Recommendations

Many strategies have been noted in the literature for improving access to care. Some of these reflect the need to increase insurance coverage to the uninsured, but other strategies focus on noninsurance strategies. The following recommendations come from the literature, interviews with key professionals in Colorado, and the Turning Point Steering Committee.

Insurance Strategies

Uninsured Coloradans experience decreased access to care and barriers to preventive care leading to poor health outcomes, and reduced quality of life. This is a significant public health issue. Extending insurance coverage to these citizens is an integral component of a multidimensional strategy to improve access to quality health services. The Colorado Turning Point Initiative Steering Committee believes action needs to be taken immediately to ensure that all Colorado residents have the opportunity to get insurance coverage and maintain their health.

Medicaid and State Child Health Insurance Plan Expansion

One study showed that of the 9.7 million uninsured parents in the United States in 1997, as many as 3.5 million living below the federal poverty level could readily be made eligible for Medicaid under current federal law, but to-date only a few states have expanded coverage to meet federal guidelines.[55] Forty-three percent of these uninsured parents already had a child covered by Medicaid in 1997, which could facilitate the eligibility process.

Some states are expanding eligibility requirements of their State Child Health Insurance Plan (SCHIP) as well as aggressively seeking and implementing new and innovative ways to identify and enroll uninsured children in SCHIP and Medicaid. Some examples include a joint Medicaid and SCHIP application, guaranteed eligibility for 12 months, simple mail-in applications, presumptive eligibility for children that need immediate access to health care, and automatic notification of families when it is time to re-enroll.[56]

Physician Practice Management

One way to improve access to medical care is to reduce delays in appointment scheduling at primary care and specialist practices. Some innovative management techniques include same-day scheduling, provider teams to manage workload collaboratively, use of e-mails to communicate with patients, and group patient care visits.[57]

Programs to Recruit Physicians to Rural and Underserved Areas

The shortage of physicians in rural areas has been a longstanding problem and has serious implications for access to care. The National Health Service Corp (NHSC) is a program of the Federal Health Resources and Services Administration's Bureau of Primary Health Care, which is the focal point for providing primary health care to underserved and vulnerable populations. Its mission is to increase access to primary care services in health professional shortage areas. NHSC assists communities in recruiting and retaining community-responsive, culturally competent primary care clinicians. NHSC has several programs:

a. Loan Repayment—Several categories of health professionals including primary care physicians, nurse practitioners, physician assistants, nurse-midwives, dentists, dental hygienists,

and mental health professionals are eligible for educational loan repayment programs.

b. Scholarships—Payment of tuition, books, supplies, and a monthly stipend is available for those eligible health professionals willing to work in designated areas that need various health care workers.

According to Richard Krugman, M.D., Dean of the School of Medicine at the University of Colorado, both of these programs offer some relief to communities in need; however, the programs can be made more financially attractive. A recently graduated physician accrues approximately $83,000 in debt and Dr. Krugman believes new physicians would work with uninsured and underserved populations if state and federal assistance helped them with ways to repay their loans.[58]

Colorado Tax Credit Law for Health Professionals

The Colorado Legislature amended the tax credit law in 2001, for health care professionals practicing in rural health care professional shortage areas. This amendment makes a tax credit available for health care professionals to use during the time of their loan repayment period. The amendment provides a financial incentive to encourage health care professionals to locate in medically underserved areas of the state of Colorado.

The Physician Shortage Area Program of Jefferson Medical College in Pennsylvania is another program that has successfully placed family medicine physicians in rural and underserved areas since 1974. This program recruits and admits medical school applicants who have grown up in rural areas and intend to practice family medicine in rural and underserved areas upon graduation. This program has a very high rate of retention—twice that reported by the National Health Service Corps.[59]

Community Partnerships

Both urban and rural communities face enormous challenges in improving access to quality health care. In a recent article in the *Journal of Public Health*, Dr. Dennis P. Andrulis suggested that health care improvement efforts focus on three priorities:[60]

1. Structural changes in the health care system must acknowledge new population dynamics such as cultural diversity, growing numbers of the elderly, those in the welfare-to-workplace transition, and those unable to negotiate the increasingly complex health system.
2. Communities and governments must assess the consequences of health professional shortages, safety net provider closures and conversions, and new marketplace pressures on access to care.
3. Governments at all levels should use their influence through accreditation, standards, tobacco settlements, and other financing streams to educate and guide providers in the directions that respond to their communities' health care needs.

Streamline Documentation Procedures

Enrollment procedures need to be streamlined so that enrolling does not become its own entry barrier. When standards for eligibility are met, a family's needs should be determined through one simplified process. Applications need to be processed in a timely fashion; determinations on eligibility need to be made expeditiously.

Coordinate the Delivery System

Public health and its partners should define and coordinate a rational delivery system that may include both private health systems and a substantial role for the "safety net system." The partnerships among provider systems should be strengthened in order to provide effective and efficient care. Health education about preventive services should be offered at the first point of contact in order to increase use of preventive services and practices.

Advocate for Regulatory Reform

Regulatory reform/relief is needed regarding mandated benefits, documentation and the reporting requirements to government agencies. These requirements need to be better balanced with accountability. A system enabling automatic enrollment in Medicaid and SCHIPs based on tax filings would be more efficient than the present system.

Too many resources are spent on monthly eligibility checks. While the objective is to prevent fraud, the current system discourages physicians from taking Medicaid clients for fear they might be deemed ineligible during the month. A system where eligibility is valid for 12 months should be researched.

Provide Incentives

Insurers should provide incentives for those who utilize preventive services. These incentives could include elimination or reduction of co-pays—or discounts on other products and services.

Utilize Research

Research can be used in a variety of capacities. Studies can determine what kinds of outreach and enrollment procedures are effective among certain populations. Research can also help determine what motivates individuals and families to seek improved access to care through insurance programs, and conversely, what barriers exist that prevent individuals from discovering this relevant information and hinders their enrolling.

Offer Training and Technical Assistance

When effective outreach and enrollment strategies are identified, a training and technical assistance program can help other communities replicate the best practices.

Promote the Provision of Culturally Competent Services

Culture is not simply defined by ethnicity and language. In today's society, assuring quality health care for all persons requires that physicians understand how each patient's sociocultural background affects their health beliefs and behaviors. Access to language interpretation and translation services are also an important aspect of cultural competency.

Notes

1. M. L. Millman, ed., *Access to Health Care in America* (Washington, D.C.: National Academy Press, 1993).

2. U.S. Department of Health and Human Services, *Healthy People 2010: Understanding and Improving Health,* 2d ed. (Washington, D.C.: U.S. Government Printing Office, November 2000).

3. D. P. Andrulis, "Access to Care Is the Centerpiece in the Elimination of Socioeconomic Disparities in Health," *Annals of Internal Medicine* 129 (September 1998): 412–416.

4. J. A. Meyer and S. Silow-Carroll, "Increasing Access: Building Working Solutions," *Featuring Examples from the Kellogg Foundation's Community Voices Initiative* (Washington, D.C.: Economic and Social Research Institute, June 2000). Prepared for the W. K. Kellogg Foundation.

5. Ibid.

6. H. B. Shapiro, "ACP's New Approach to Boosting Access to Health Care," *ACP Observer* (March 1998).

7. J. A. Meyer and S. Silow-Carroll (June 2000).

8. "Seven Million Children Uninsured Despite Being Eligible for Government Programs," *Public Agenda Online,* August 10, 2000. Available at http://www.publicagenda.org/headlines/headline081000.htm.

9. Kaiser Family Foundation Fact Sheet, KFF Publications, 2000.

10. P. Maguire, "As the Uninsured Population Grows, the Health Care Safety Net Unravels," *ACP-ASIM Observer* (1999).

11. D. R. West, "Medicaid Managed Care: Linking Success to Safety-Net Provider Recruitment and Retention," *Ambulatory Care Manage* 22, no. 4 (1999): 28–32.

12. N. A. Tilden, "The Coming Shortage of Physicians in the United States," Recruiting News Online from the Publishers of the *New England Journal of Medicine*. Available at http://www.nejm.org/careerlinks/short.asp.

13. D. Mechanic, D. D. McAlpine, and M. Rosenthal, "Are Patients' Office Visits with Physicians Getting Shorter?" *New England Journal of Medicine* 344, no. 3 (January 18, 2001): 198–204.

14. P. Maguire (1999).

15. "Covering Kids: Medicaid and Beyond," Prologue, *Health Affairs* 20, no. 1 (2001).

16. L. Dubay and G. Kenney, "Health Care Access And Use Among Low-Income Children: Who Fares Best?" *Health Affairs*, 20, no. 1 (2001).

17. D. P. Andrulis (September 1998).

18. National Academy on Aging, "One in Four: Child Poverty in America," *The Public Policy and Aging Report* (1997): 8.

19. Center for Studying Health Systems Change Data Bulletin (1997), 1.

20. D. P. Andrulis (September 1998).

21. R. S. Morrison et al., "We Don't Carry That—Failure of Pharmacies in Predominantly Nonwhite Neighborhoods to Stock Opioid Analgesics," *New England Journal of Medicine*, 342 (2000).

22. Ibid.

23. M. L. Schriver, "No Health Insurance? It's Enough to Make You Sick: Latino Community at Great Risk" (white paper of the American College of Physicians—American Society of Internal Medicine, March 2000).

24. R. M. Weinrick and N. A. Krauss, "Racial/Ethnic Differences in Children's Access to Care," *American Journal of Public Health* 90, no. 11 (2000): 1771.

25. T. C. Ricketts, "The Changing Nature of Rural Health Care." *Annual Review of Public Health* 21 (2000): 639–657.

26. Ibid.

27. S. C. Stearns, R. T. Slifkin, and H. M. Edin. "Access to Care for Rural Medicare Beneficiaries," *Journal of Rural Health* 16, no. 1 (winter 2000): 31–42.

28. T. C. Ricketts (2000).

29. Ibid.

30. M. R. Chassin, "Improving the Quality of Care—Part Three of Six," *New England Journal of Medicine* 335, no. 14 (October 1996): 1060–1063.

31. D. Blumenthal, "Quality of Care—What is It?—Part One of Six," *New England Journal of Medicine* 335, no. 12 (September 1996): 891–894.

32. M. R. Chassin (October 1996).

33. D. Blumenthal and A. M. Epstein, "The Role of Physicians in the Future of Quality Management—Part Six of Six," *New England Journal of Medicine* 335, no. 17 (October 1996): 1328–1332.

34. Ibid.

35. M. R. Chassin (October 1996).

36. D. G. Safran, "Primary Care Performance in Fee-for-Service and Prepaid Health Care Systems: Results from the Medical Outcomes Study," *Journal of the American Medical Association* 27, no. 20 (May 1994): 1579–1586.

37. U.S. Department of Health and Human Services, *Healthy People 2000,* (November 2000).

38. J.A. Meyer and S. Silow-Carroll (June 2000).

39. B. Garrett and J. Holahan, "Health Insurance Coverage After Welfare," *Health Affairs* (January/February 2000).

40. H.B. Shapiro (March 1998).

41. B. Garret and J. Holihan (January/February 2000).

42. Ibid.

43. "Immigrants' Health Care Coverage and Access," *Kaiser Commission on Key Facts* (March 2001).

44. Ibid.

45. S. Guendelman, H. Halpin Schauffler, and M. Pearl, "Unfriendly Shores: How Immigrant Children Fare in the U.S. Health System," *Health Affairs* (January/February 2001).

46. Ibid.

47. Kaiser Commission on Key Facts (March 2001).

48. S. Guendelman, H. Halpin Schauffler and M. Pearl (January/February 2000).

49. P. Melinkovich, director, Denver School-Based Health Centers, Denver, CO., personal communication, June 6, 2001.

50. M. Moon et al. "Health Policy for Low-Income People in Colorado," *Assessing the New Federalism—An Urban Institute Program to Assess Changing Social Policies* (Washington, D.C.: Urban Institute), July 1998.

51. Ibid

52. P. A. James et al., "Readiness for Medicaid Managed Care Reform Initiatives: A Profile of Rural Family Physicians," *Rural Health Research* (summer 1999).

53. Colorado Commission on Children's Dental Health, "Addressing the Crisis of Oral Health Access for Colorado's Children" (November 2000).

54. R. Catalano et al., "The Effect of Capitated Financing on Mental Health Services for Children and Youth: The Colorado Experience," *American Journal of Public Health* 90, no. 12 (December 2000): 1861–1863.

55. L. Dubay, G. Kenney, and S. Zuckerman, "Extending Medicaid to Parents: An Incremental Strategy for Reducing the Number of Uninsured." *New Federalism National Survey of America's Families Assessing the New Federalism*. Series B, no. B-20 (June 2000).

56. The State Children's Health Insurance Program: Preliminary Highlights of Implementation and Expansion.

57. W. Hoffman, "How One Project Is Helping Doctors Improve Patient Scheduling, More. *ACP-ASIM Observer* (April 2001).

58. R.D. Krugman, Dean School of Medicine, University of Colorado, Denver, Colorado, personal Communication, June 8, 2001.

59. H.K. Rabinowitz, et al, "A Program to Increase the Number of Family Physicians in Rural and Underserved Areas—Impact After 22 Years." *JAMA*, 281, (1999): 255–60.

60. D.P. Andrulis, "Community, Service and Policy Strategies to Improve Health Care Access in the Changing Urban Environment." *American Journal of Public Health*, 90, no. 6 (June 2000): 858–62.

KEY STRATEGY:

CHAPTER 4

Assure Access to Health Insurance Coverage

Executive Summary

Purpose of Chapter

The Colorado Turning Point Initiative identified access to health insurance coverage as one strategy for reducing health disparities and improving the health status of Coloradans. Action needs to be taken sooner rather than later to close the gap between the uninsured and the insured citizens of Colorado. This chapter documents the underinsured and uninsured experience of decreased access to care, poorer health outcomes, and a reduced quality of life. Increasing insurance coverage to those in need is a key component of a multidimensional strategy to improve access to quality health services.

Problem

Although 1997 data reports that close to 85 percent of all Coloradans were insured, the number and public health effects of the underinsured and uninsured is devastating. Approximately 20 percent of Americans with insurance coverage fall into an underinsured category; in Colorado it is approximately 12 percent,[1] and more people than ever don't have any insurance at all. The relationship between health insurance and access to quality health care and medical outcomes has been studied often in the past decade. Evidence from these studies shows that health insurance does influence the amount and kind of health care people receive. A lack of health insurance has been scientifically linked to poorer health outcomes, including a higher mortality rate.

Findings

A large majority of the insured has subsidized coverage either through employer-based health insurance or one of several government programs such as Medicaid, Medicare or the Child Health Insurance Plan Plus (CHP+). However a segment of this population does not have adequate health insurance coverage. This population may lack protection against catastrophic illness or injury, dental care, behavioral health services, and pharmacy benefits or they may experience fluctuation in coverage due to a change in or lack of employment, delay in eligibility periods, or fluctuations in income/assets that determine eligibility in a public health plan. The numbers of uninsured, those without any insurance coverage, varies depending on who is collecting data and if there are any adjustments for underreporting, but according to U.S. data, the proportion of the population younger than age 65 with no usual source of health insurance increased from 25.6 percent in 1977 to 38 percent in 1996. Certain subgroups of this population, such as Hispanic Americans, young adults (age 18–24), people with lower levels of education, those who work part-time, and the foreign born, have had an even more dramatic increase.

Colorado Analysis

Colorado participates in many public health, public/private partnerships and community-based efforts to eliminate the gap between the insured and uninsured populations of the state. However, the challenge continues. A 1998 survey of Colorado households reported almost one in four or 22 percent of households lacked health insurance coverage at some point in the previous year.[2] According to the 1998 report *Meeting the Needs of the Medically Underserved: A Plan for Colorado*, by the Colorado Coalition for the Medically Underserved (CCMU), characteristics of the uninsured population in Colorado include the working poor with no employer-sponsored health coverage; employed individuals unable to afford employer-sponsored insurance benefits; unemployed poor who are ineligible for Medicaid or CHP+; children without dependent coverage; young adults not covered by their parent's coverage nor an employer-sponsored plan; people who are "uninsurable" due to high risk health problem; immigrants; migrant farm workers; and homeless individuals. Although safety net providers including hospitals, public health departments, and community health centers continue to provide care to the uninsured, low-income population, health care needs of many individuals is still

going unmet due to barriers to obtaining adequate insurance coverage. These barriers include expensive or nonexistent employer-sponsored insurance coverage; complicated enrollment and eligibility processes, especially in government programs; and escalating costs of health care coverage.

Recommendations

The Colorado Turning Point Initiative Steering Committee recommends that the public health field and its partners take a strong leadership role and involve key decision-makers and policy-makers, to make systemic and comprehensive changes in the administration of current insurance systems. Additionally, ways to improve efficiencies and reduce duplication through examination of the public health safety net system should be identified. Expansion of benefit coverage to be comprehensive and include clinical preventive services can impact overall health status. In terms of government insurance programs, the enhancement of effective outreach and enrollment procedures, the elimination of the Medicaid asset test, expanded eligibility, and a streamlined enrollment process for Medicaid and Child Health Plan will also expand coverage.

Access to Health Insurance Coverage

Quality health services are those that are appropriate and responsive to an individual's needs, obtainable for preventive care, and easily accessible. This kind of access is usually available only to consumers who have health care insurance. The lack of health insurance, therefore, partially explains the reduced access to health care, and the resulting reduction in the quality of services contributes to poorer health status.[1] Uninsured Americans are more likely than the privately insured to experience adverse outcomes.[2]

In a white paper produced for the American College of Physicians—American Society of Internal Medicine, the society's president, Whitney W. Addington, M.D., wrote, "A lack of insurance is not simply an inconvenience. It is a real barrier to access and definitely contributes to poorer health."[3] Logic follows that if the uninsured population were to be insured, access to health care would improve.

The Colorado Turning Point Initiative Steering Committee has identified expanding access to health insurance as one strategy for reducing health disparities and improving the health status of Coloradans.

The committee believes that action needs to be taken to close the gap between the uninsured and insured residents of Colorado by increasing insurance coverage. This is a public health issue. The uninsured segment experiences decreased access to care, poorer health outcomes, and a reduced quality of life. Increasing insurance coverage to those in need is a key component of a multidimensional strategy to improve access to quality health services.

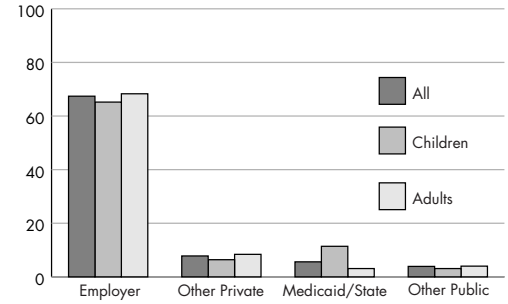
Overview of the Insured Population

There are a variety of systems in place that provide health care insurance coverage to the population in Colorado. According to 1997 data, close to 85 percent of all Coloradans are insured. A large majority of the insured has subsidized coverage either through their employer or the government. In Colorado, health care insurance expenditures by payer type show that "government funds account for 39 percent of health care spending, private insurance accounts for 36 percent, and individual out-of-pocket expenditures for 25 percent."[4]

Types of Insurance

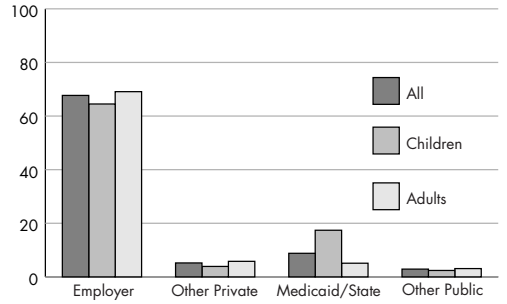
Employer-Based Health Insurance: In Colorado, about 65 to 67 percent of the insured population is covered by an employer-sponsored health plan. While the percentage of Coloradans covered by employer-sponsored insurance has stayed the same or has slightly increased, employers are passing on more of the costs of health insurance to employees. Many employees are unable to afford these costs and as a result become uninsured. Fifty-six percent of Colorado employers offer health insurance. Yet these numbers change drastically depending on the size of the employer. Only 42 percent of employers with less than 10 employees offer a benefit, whereas 96 percent of the firms with greater than 1,000 employees offer health benefits. The following two graphs (see Figures 1 & 2) show that the majority of the insured population is covered with an employer-sponsored health plan both at the state and national levels.[5]

Figure 1: Type of Health Insurance Coverage by Age—Colorado



	Employer	Other Private	Medicaid/State	Other Public
All	67.4	7.8	5.6	3.9
Children	65.2	6.4	11.4	3.1
Adults	68.3	8.4	3.1	4.0

Figure 2: Type of Health Insurance Coverage by Age—United States



	Employer	Other Private	Medicaid/State	Other Public
All	67.7	5.2	8.8	2.9
Children	64.5	3.9	17.4	2.4
Adults	69.1	5.8	5.1	3.1

Source: The Urban Institute, *Health Insurance, Access, and Use: Colorado Tabulations from the 1997 National Survey of America's Families,* Assessing the New Federalism: An Urban Institute Program to Assess Changing Social Policies, Washington, D.C., July 2000.

Government Programs: In the 1960s, government programs such as Medicaid and Medicare were developed and implemented to assist people without access to employer-based insurance coverage. In the late 1990s, Congress authorized the creation of the State Child Health Insurance Program to provide coverage to children not eligible for Medicaid with family incomes under 200 percent of the federal poverty level (FPL).[6] These programs are described below.

Medicaid: Medicaid is a joint federal–state program. Medicaid in Colorado covers approximately 270,000 people: families with children, pregnant women, people with disabilities, and under certain circumstances, the elderly. Sixty-seven percent of Medicaid-enrolled children come from two-parent households; 75 percent of families work; and only 5 percent receive welfare benefits. Many Medicaid-enrolled children come from two-parent, working families. Non-U.S. citizens are only covered for emergency care. About two-thirds of Medicaid enrollees are adults and children, and one-third are elderly or people with disabilities. This latter group accounts for more than 70 percent of Medicaid expenditures.[7]

Medicare: Medicare is a federal program that covers people over age 65 or those with a disability. Ninety-eight percent of the elderly are insured in Colorado, primarily through Medicare. The Medicare program will not be addressed in this chapter.

Child Health Plan Plus (CHP+): CHP+ is a joint federal–state program. Congress enacted the Child Health Insurance Plan in 1997, to broaden the coverage to low-income uninsured children as part of the Balanced Budget Act.[8] Colorado's CHP+ program began in April 1998. This program offers full coverage and will add routine dental services in the future. The state CHP+ program was developed to cover non-Medicaid-eligible children between birth and 18 years of age with family incomes equal to or less than 185 percent of the FPL. Before the CHP+ program was implemented, there was no other health plan available to low-income families if their income levels were too high to be eligible for Medicaid. CHP+ was designed as a separate stand-alone program and not as a Medicaid expansion program. According to the CHP+ program, there are approximately 25,000 children enrolled in CHP+ as of July 2000. Many more children are eligible; some estimate that number to be as high as 83,000.[9]

Overview of the Underinsured Population

There is a segment of the insured population that does not have adequate health insurance coverage. This group is referred to as the underinsured. The underinsured may lack protection against catastrophic illness or injury, dental care, behavioral health services, and pharmacy benefits. This lack of coverage may cause an insured family to sustain major medical expenses. The underinsured must sometimes pay an additional 10 percent of their annual income for needed health care services.[10]

Another reason families and individuals may be considered underinsured is that they may also experience fluctuation in coverage—part of the time they are covered but not consistently over time. There are a variety of reasons for these gaps in coverage to occur including:

- Change in or lack of employment;
- Delay in eligibility periods; and
- Fluctuations in income/assets that determine eligibility in a public health plan.

This group is vulnerable and can become uninsured very quickly. Approximately 20 percent of Americans with insurance coverage fall into this underinsured category, and in Colorado it is approximately 12 percent.[11]

Overview of the Uninsured Population

More people than ever are uninsured. The numbers vary depending on who is collecting data and if there are any adjustments for underreporting. According to U.S. data, the proportion of the population younger than age 65 with no usual source of health insurance increased from 25.6 percent in 1977 to 38 percent in 1996.

The U.S. Census Bureau has estimated that 44.3 million people in the United States are uninsured.[12] The numbers are expected to grow to 54 million

over the next 10 years, even in this environment of economic growth. If the economy weakens, the number is estimated to reach 60 million.[13]

Statistics on the uninsured reveal some interesting facts. The following highlights were abstracted from the 1996 Medical Expenditure Panel Survey (MEPS).

- In the United States, more than 33 percent of Hispanics and 23 percent of blacks were uninsured throughout the first half of 1996. Less than 14 percent of other race/ethnicity groups (including Caucasians) were uninsured.
- Nearly 25 percent of all uninsured Americans were under 18 years of age. Nearly 11 million children—more than 15 percent of the nation's noninstitutionalized children—were uninsured throughout the first half of 1996.
- Among U.S. children most likely to be uninsured throughout the first half of 1996 were Hispanics and children living in families with adults who had less than a high school education.[14]

Certain subgroups of this population have had an even more dramatic increase. The proportion of Hispanic Americans lacking health insurance coverage rose from 17.6 percent in 1977 to 34.9 percent in 1996.[15] About 28 percent of Hispanic children under 18 were uninsured in 1996 compared to 18 percent of black children and 12 percent of children of other race/ethnic groups (including Caucasians). Hispanic children represented approximately 15 percent of the nation's children but 26 percent of the nation's uninsured children.[16]

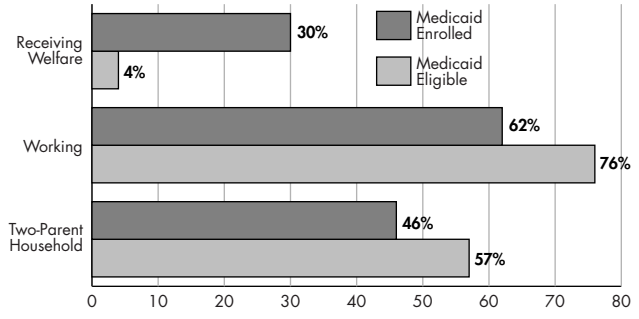
Other subgroups that experienced a large increase in the percent of uninsured during this same period were young adults (18–24 years of age), people with lower levels of education, those who work part-time, and the foreign born. The percent of uninsured young adults rose from 19.6 percent to 35.7 percent.[17] However by 1998, the Census Bureau estimated that the number of uninsured Americans increased by 1 million in just one year.[18] The trends of the uninsured continued to be similar to those reported in the 1996 MEPS, though some changes were noted:

1. Children 12 to 17 years were more likely to be uninsured than children under 12 years.
2. The working poor were not offered employer-sponsored health insurance or it was too expensive to acquire.
3. A higher proportion of the foreign-born population was without health insurance compared with native born.

The segment of the population that is uninsured is often in the workforce or is a dependent of someone who is working. Nationally, 72 percent of the uninsured are in households where one or more adults is working full-time. The largest group of the uninsured is Caucasian, 56 percent are males, and the age category that is affected most is 18- to 34-year-olds.[19]

A report profiling low-income parents looked at family and work status for both Medicaid eligible and Medicaid enrolled.[20] The results, presented in Figure 3, show that for both groups a large percentage of children live in two-parent homes, parents are working, and a much smaller than expected percentage receives welfare benefits.

Figure 3: Family and Work Status



Source: M. Perry et al., *Medicaid and Children Overcoming Barriers to Enrollment: Findings from a National Survey,* The Kaiser Commission on Medicaid and the Uninsured, 2000.

The Uninsured Have Poor Medical Outcomes

The uninsured often have difficulty accessing needed health care services. The relationship between health insurance and access to quality health care and medical outcomes has been studied often in the past decade. Evidence from these studies shows that health insurance does influence the amount and kind of health care people receive. A lack of health insurance has been scientifically linked to poorer health outcomes, including a higher mortality rate among the uninsured. The uninsured population is less likely to have a regular source of care, often delaying treatment and seeking care in hospital emergency departments. This care is more expensive and not as efficient as when the care is provided in a more appropriate outpatient setting. Children are at risk, as they do not obtain childhood immunizations and routine well-child care in a timely manner. These delays in service can lead to other problems such as poor performance in school.[21]

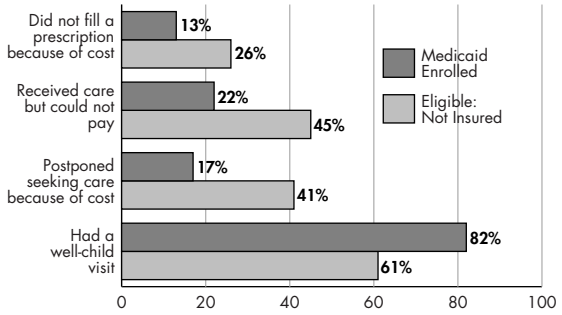
This following chart (see Figure 4) from the Urban Institute shows the types of services in which children experience an unmet need based upon insurance coverage. It also shows that the uninsured are less confident in being able to access care when needed and less satisfied with the care received. Colorado specific data illustrates these trends as well.

Figure 4: Percentage of Children's Access to Health Care

	PRIVATE	PUBLIC	UN-INSURED	ALL CHILDREN
Unmet Need				
Medical/Surgical	1.9	3.4	9.3	3.1
Dental	4.9	6.1	14.4	6.2
Mental	0.8	0.9	0.7	0.8
Prescription drug	0.9	2.6	3.6	1.5
Any	7.3	11.1	21.1	9.7
Not confident in access to care	4.0	11.6	28.0	8.3
Not satisfied with quality of care	7.3	11.4	17.1	9.2

Source: The Urban Institute, *Health Insurance, Access, and Use: Colorado Tabulations from the 1997 National Survey of America's Families*, Assessing the New Federalism: An Urban Institute Program to Assess Changing Social Policies, Washington, D.C., July 2000.

Figure 5: Access to Care



Source: M. Perry et al. *Medicaid and Children Overcoming Barriers to Enrollment: Findings from a National Survey,* The Kaiser Commission on Medicaid and the Uninsured, 2000).

Perry also documented the problem of the uninsured postponing treatment.[22] The results of that survey, presented in Figure 5, show that Medicaid-eligible, but not enrolled, children have less access to services than Medicaid-enrolled children.

The report *The Future U.S. Health Care System: Who Will Care for the Poor and Uninsured?* developed by the Council on the Economic Impact of Health System Change, reviewed two studies that examined the relationship between health insurance and health outcomes. One study surveyed 3,993 adults and found that the uninsured were four times more likely than the insured to report an episode of needing and not getting health care services and three times more likely to report problems with paying for medical bills. The second study found that low-income patients discharged from 15 U.S. urban hospitals experienced higher rates of preventable hospitalizations than patients with higher incomes.[23]

Another report revealed that the uninsured experienced a higher mortality rate, specifically a higher in-patient mortality rate. An adjusted risk of deaths was 25 percent higher for uninsured patients than for privately insured patients.[24]

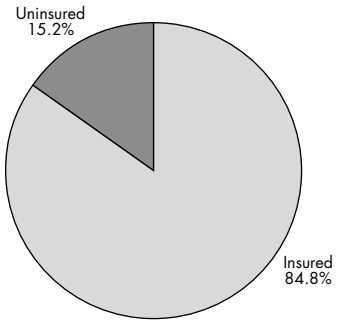
The lack of health insurance not only affects an individual's health and financial status, it also adds significant stress to the U.S. economy. As a result of not receiving care in a timely manner, the uninsured add costs to the health care system and reduce its efficiency. Medical treatments are often more expensive due to delays in care and places of service. These higher costs are absorbed by

providers as free care, passed on to the insured via cost shifting and higher health insurance premiums, or paid by taxpayers through higher taxes to finance public hospitals and public insurance programs.[25]

Colorado's Uninsured Population

Data from the *1997 Colorado Health Source Book: Insurance, Access, and Expenditures* shows that almost 580,000 people are uninsured, or 15 percent of the population (see Figure 6).[26] (More recent data indicate that the percentage may be closer to 16.8 percent of the citizens, or some 710,000 people.)[27] According to a 1998 survey of Colorado households, almost one in four households, or 22 percent, reported lacking health insurance coverage at some point in the previous year.[28]

Figure 6: Colorado Residents by Insurance Status, 1995–1997 Average



	Number of Coloradans	Percent of Coloradans
Insured	3,243,400	84.8
Uninsured	579,276	15.2
TOTAL	3,822,676	100.0

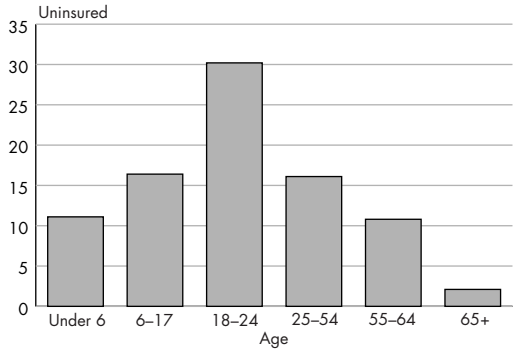
Source: P. Abel, ***1997 Colorado Health Source Book, Insurance, Access, and Expenditures*** (Denver: Colorado Coalition for the Medically Underserved, 1998), p. 8.

According to the 1998 report *Meeting the Needs of the Medically Underserved: A Plan for Colorado* by the Colorado Coalition for the Medically Underserved (CCMU), some characteristics of the uninsured population in Colorado are:

- Working poor with no employer-sponsored health coverage
- Employed individuals unable to afford employer-sponsored insurance benefits
- Unemployed poor who are ineligible for Medicaid or CHP+
- Children without dependent coverage
- Young adults not covered by their parent's coverage nor an employer-sponsored plan
- People who are "uninsurable" due to high-risk health problems
- Immigrants
- Migrant farm workers
- Homeless individuals[28]

Colorado's uninsured population exhibits similar trends when compared to the national data (see Figure 7). Young adults are at a higher risk to be uninsured than any other age group. As stated in the 1998 CCMU report, most uninsured adults are employed full-time or part-time.[29]

Figure 7: Coloradans' Insurance Status by Age, 1995–1997 Average



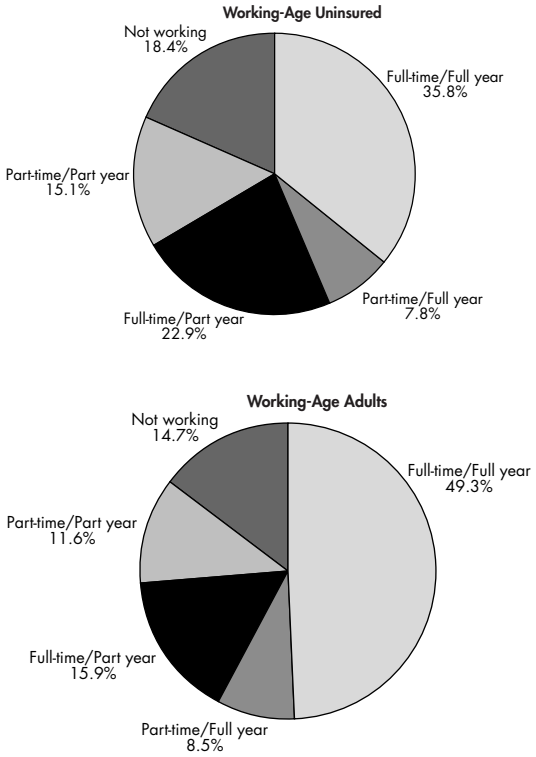
Age	Number Uninsured	Number Insured	Percent Uninsured
Under 6	39,395	315,233	11.1
6–17	118,994	609,436	16.4
18–24	103,852	240,526	30.2
25–54	278,641	1,457,626	16.1
55–64	30,610	252,982	10.8
65+	7,784	367,597	2.1
	Total Uninsured	**Total Insured**	**Total Percent Uninsured**
	579,276	3,243,400	15.2

Source: P. Abel, *1997 Colorado Health Source Book, Insurance, Access, and Expenditure* (Denver: Colorado Coalition for the Medically Underserved, 1998), p. 8.

The majority of uninsured adults in Colorado are working adults. Of these uninsured working adults, 80 percent are employed full-time or part-time. The proportion of employers that pays the full-time employee's health insurance premium declined from 66 percent to 36 percent between 1985 and 1997.[29]

In 2000, the Colorado Department of Regulatory Affairs, Division of Insurance, released its annual survey of small group carriers, which showed a decrease of 5,178 employer-sponsored groups from December 1998 to December 1999, which affected 58,023 covered lives (see Figure 8).[30]

Figure 8: Distribution of the Uninsured and Total Population of Colorado Working-Age Adults by Employment Status, 1995–1997 Average



	Percentage of Total Uninsured Working-Age Adults	Percentage of Total Working-Age Adults
Employ ed	81.6	85.3
Full-time/Full year	35.8	49.3
Part-time/Full year	7.8	8.5
Full-time/Part year	22.9	15.9
Part-time/Part year	15.1	11.6
Not working	18.4	14.7

Source: P. Abel, *1997 Colorado Health Source Book, Insurance, Access, and Expenditure,* (Denver: Colorado Coalition for the Medically Underserved, 1998), p. 8.

Note: Working-age adults include those between the ages of 18 and 64. Full-time includes those who work 35 hours or more per week. Full year includes those who work 52 weeks per year. Those not working include the unemployed as well as those who do not participate in the labor force.

Safety Net Providers for the Uninsured

Safety net providers including hospitals, public health departments, and community health centers continue to provide care to the uninsured, low-income population. These safety net providers play an important role in the current system and often are the only avenue open to the uninsured. These providers do not restrict access to care based on the financial ability of the customer to pay for care and, sometimes, as is frequently the case with hospitals, are not compensated for their care.

Barriers to Health Insurance Coverage

It is important to understand the reasons why families and children are uninsured so that solutions can be tailored to meet their needs. Barriers do exist in the health care system and will affect how people access health care services or health insurance coverage. The barriers identified in this report are directly related to accessing health care insurance and are considered major obstacles.

Employer-Sponsored Insurance Coverage is Not Available or Too Expensive

Many people obtain their health insurance coverage through an employer-sponsored health plan. Nationally, more than three-quarters of all working adults receive health coverage in this manner. Figure 9 below depicts how working adults obtain their health insurance coverage. These national statistics are similar to the Colorado experience described earlier—the larger the employer, the more likely insurance coverage will be offered.[31]

Figure 9: Percentage of Insured Nonelderly Working Population

	Employer	Other Private	Medicaid/ State	Other Public
All working adults	79.1	3.0	1.8	1.0
0–99 employees	71.5	4.2	2.5	1.3
100–999 employees	87.8	1.5	1.2	0.7
1,000 employees or more	93.5	0.8	0.4	0.2

Source: The Urban Institute, *Health Insurance, Access, and Use: Colorado Tabulations from the 1997 National Survey of America's Families*, Assessing the New Federalism: An Urban Institute Program to Assess Changing Social Policies, Washington D.C., July 2000.

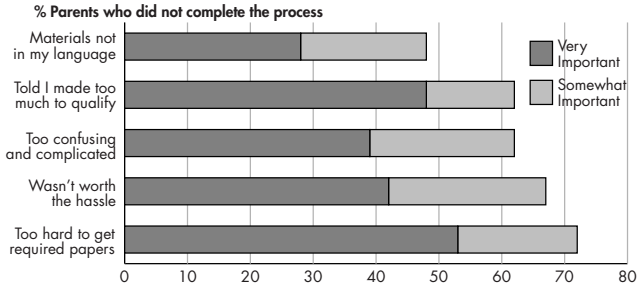
The Kellogg Foundation's Community Voices Initiative also documented a number of contributing factors related to the structure of the voluntary employment-based health insurance system and the changing nature of the labor force:

1. Small firms are unable to offer health insurance benefits primarily due to costs.
2. Nontraditional employment schedules such as part-time, seasonal, temporary, and contract-based have gained popularity.
3. Low-income wage earners cannot afford to pay their employee portion of premiums even when employer-sponsored benefits are offered.
4. Many workers find it difficult to retain coverage when faced with either a job change or loss of a job. This is especially true for those with chronic diseases.
5. Individuals buying health insurance face higher costs, fewer protections, and do not receive the tax benefits that people with work-based coverage receive.[32]

Complicated Enrollment and Eligibility Process

When low-income parents were asked about their attitudes regarding the Medicaid enrollment process, the Kaiser Commission on Medicaid and the Uninsured learned that a vast majority thought having health insurance was very important. Parents who enrolled their children in Medicaid valued the program because it provided access to health services. Parents of uninsured children who never tried to enroll their children in Medicaid were surveyed, and they identified several barriers to enrollment (Figure 10):

Figure 10: Important Reasons for Not Completing the Enrollment Process



Source: National Survey on Barriers to Medicaid Enrollment, Kaiser Commission on Medicaid and the Uninsured, 1999.*Source:* M. Perry et al., *Medicaid and Children Overcoming Barriers to Enrollment: Findings from a National Survey,* The Kaiser Commission on Medicaid and the Uninsured, 2000.

- A complex and burdensome enrollment process
- Lack of knowledge of Medicaid eligibility requirements
- Confusion about the eligibility
- Medicaid's negative public image from being associated with welfare [33]

The reasons for not applying to the CHP+ program are very similar to those given by Medicaid-eligible parents. Contributing factors are related to:

1. Complicated enrollment process
2. Unaware of program, eligibility requirements, and application process
3. Difficulty in gathering required documentation
4. Premiums or other fees[34]

High Costs of Health Care Coverage

Many low-income people cannot afford to pay for health insurance. According to health economist Judith Glazner, households with incomes below 185 percent of the Federal Poverty Level (FPL) have no money to spend on health insurance after meeting basic needs for food, shelter, clothing, and transportation. Households with income levels between 185 and 250 percent of the FPL have little or no income available to purchase health care coverage. Families find it difficult to allocate money for insurance premiums in these situations. Many strategies are being debated and which could eventually impact public policy.[35]

Role of the Public Health Field in Assuring Access to Insurance Coverage

The goal of public health is to secure health and promote wellness, for individuals and communities, by addressing the societal, environmental, and individual determinants of health. Core functions of public health include Assessment, Policy Development and Assurance. The core function related to improving access to health care insurance is that of Assurance. Public health is particularly concerned with the number of uninsured in Colorado because uninsured individuals are more likely to experience poor health status and be hospitalized for conditions that could have been treated in an outpatient setting. There are two main components of this

function: (1) Assist families and individuals to obtain access to health care, and (2) provide direct health care services.[36]

Insurance coverage is a primary strategy in improving access to care. Public health has an important role to play in the development and implementation of programs such as the CHP+ and Medicaid. For example, the public health field can assure that these health insurance programs reflect the multifaceted and complex needs of enrollees.[37]

As a direct care provider, many public health programs have contracted with managed care organizations to become a participating provider. This has been an important strategy because it allows the public health providers, especially in many rural counties, to continue to provide care to those in need. In addition to providing direct service, public health provides information about the enrollment and eligibility process for Medicaid and CHP+ programs. Colorado's public health role as a safety net provider is changing due to the availability of health insurance for children. This reduces the need for direct clinical services in public health agencies. However, public health does maintain its responsibility to ensure access to care for the citizens of Colorado.[38]

Other activities in which public health engages to meet its goals and objectives include:

- Assisting families in applying for Medicaid and CHP+
- Serving Satellite Eligibility Determination sites by working toward higher enrollments in health insurance programs
- Participating in quality improvement and evaluation efforts to develop standards of care
- Providing coordination and "wrap-around" services to children enrolled in health insurance programs
- Working in collaboration with other community-based agencies to carry out these core functions
- Serving as the direct service provider of last resort
- Offering prevention education and services

Other public health functions such as policy development may also play a role in ensuring access to health care services. Public health officials understand the importance of developing partnerships when trying to change or influence policy decisions. The public health field collaborates with governmental agencies, community-based organizations, managed care organizations, and the business community. The focus of these partnerships has been to extend the traditional work of public health agencies to better serve the communities in which they operate.[39]

Colorado Efforts to Improve Health Insurance Coverage

Public Health Efforts: Two public health efforts to increase insurance coverage include the statewide Covering Kids Initiative and the Denver-based Community Voices Program. In 1999, the Covering Kids Initiative was awarded a three-year grant of approximately $1 million by the Robert Wood Johnson Foundation to coordinate and facilitate the development and implementation of model outreach and enrollment activities for CHP+. The Colorado Department of Public Health and Environment is the lead state site for the grant, and Denver, Adams, and Prowers counties received funds to carry out community-based efforts in collaboration with the state. Community Voices is part of a five-year national initiative to improve health care access and quality in the Denver community. It is funded by the W. K. Kellogg Foundation and The Colorado Trust. The goals of Community Voices are to improve the health of Denver's medically underserved through innovation in outreach, enrollment in publicly funded health insurance, enrollment in small employment health plans, intensive community-based case management, and changing public policy at the state and federal level for health program funding.[40]

Public/Private Partnerships and Community-Based Efforts: Many private and community-based organizations are also concerned about the rising numbers of the uninsured and underinsured and are actively pursuing solutions to the problem. The Colorado Coalition for the Medically Underserved (CCMU) is united in the vision that by 2007 all Coloradans will have unimpeded access to affordable, quality health care and preventive programs. This coalition of more than 200 individuals and organizations representing health professionals and provider organizations, consumers, hospitals, clinics, safety net providers, business groups, the state legislature, state agencies, foundations insurers, the faith community, and

others maintains that health insurance coverage should be available to all Coloradans. After researching the magnitude of the problem and analyzing how much the uninsured can realistically be expected to contribute to the cost of coverage, the CCMU developed five basic approaches to achieving health insurance coverage for all Coloradans.[40]

Between August 2000 and January 2001, the coalition presented these ideas to community members during 20 town hall meetings around the state. Coalition representatives also presented information to key civic, provider, business, and consumer organizations; local and statewide media; and other elected officials. Over 1,000 Coloradans from diverse backgrounds were surveyed during these meetings regarding what they liked best and what they liked least about each of the options. Analysis of these data shows that in general, Coloradans want people to have access to affordable and high-quality basic health care. Major features of any plan should include choice of providers and plans, portability, preventive services, and individual responsibility. Final analysis notes that Coloradans want a system that is cost effective, contains administrative costs, and provides for fair and timely reimbursement. In the fall of 2001 the CCMU will embark on a series of 10 regional meetings to gather feedback on a policy framework to ensure coverage for all Coloradans based upon the preferences and priorities expressed during the previous round of town hall meetings.[41]

The Health Resources Services Administration of the Department of Health and Human Services recently awarded Colorado a $1.3 million grant to develop a plan to provide health insurance to all Coloradans. Colorado's Governor's Office is acting as the lead agency for this project. The project offers the opportunity to build upon past and current efforts to conduct a comprehensive analysis of issues related to uninsurance. The grant will also build awareness and publicly investigate the political and economic feasibility of the multiple options for health care coverage for all Coloradans. [42]

Recommendations

The following recommendations were derived from the Colorado Turning Point Initiative Steering Committee and expert panelists representing the Colorado Medical Society's Coalition for the Medically Underserved, Colorado Department of Health Care Policy and Financing, Colorado Community Health Network, Denver Public Health, American Academy of Pediatrics, Pacificare, Colorado Department of Public Health and Environment, and Colorado Access. [43]

General Recommendations

To ensure universal access to insurance coverage, public health and its partners should take a strong leadership role and involve key decision makers and policymakers in making systemic and comprehensive changes in the administration of current public insurance programs.

Additionally, public health and its partners should identify ways to improve efficiencies and reduce duplication through examination of the public health infrastructure. A communication strategy should be developed to increase public awareness of available programs and help the currently uninsured realize the positive health benefits of having insurance.

Provide Access to Insurance for Everyone

All Coloradans, regardless of means, should be assured access to the care they need when they need it. Innovative outreach strategies should be developed and duplicated in order to reach eligible populations and find ways to enroll them in available insurance programs.

The Medicaid asset test should be eliminated. Eligibility standards should be expanded to include a greater low-income population. Requirements should be streamlined for both Medicaid and Child Health Plan.

Expand Benefit Coverage

Health plan benefits should be comprehensive, including clinical preventive services. Efforts should focus on creating a synergy between prevention programs provided by both public and personal health systems. Prevention activities not usually part of an insurance plan should also be included, such as suicide prevention, obesity, and smoking cessation.

Enhance Effective Outreach and Enrollment Procedures

Public health and its partners should actively participate in outreach and enrollment activities

designed to educate all Coloradans, especially the uninsured, on the value of insurance coverage—and the availability of programs. An additional objective should be to foster interagency collaboration and expand the network of enrollment sites. The application process should be simplified and streamlined. These changes should result in a greater number of people seeking enrollment and a larger percentage staying enrolled.

Provide Quality Assurance

Public health and its partners should initiate review processes to ensure quality in all levels of the enrollment and delivery systems.

Notes

1. S. H. Zuvekas and R. M. Weinick, *Changes in Access to Care, 1977–1996: The Role of Health Insurance* (Health Services Research: 1999), 34: 271–279.

2. American College of Physicians—American Society of Internal Medicine, *No Health Insurance? It's Enough to Make You Sick—Scientific Research Linking the Lack of Health Coverage to Poor Health*, white paper, Philadelphia, Penn., 2000. Online at http://www.acponline.org/uninsured/lack-fore.htm.

3. Ibid.

4. B. Yondorf, *Five Approaches to Achieving Health Insurance Coverage for All Coloradans,* Colorado Coalition for the Medically Underserved, Denver, July 2000.

5. The Urban Institute, *Health Insurance, Access, and Use: Colorado Tabulations from the 1997 National Survey of America's Families,* Assessing the New Federalism: An Urban Institute Program to Assess Changing Social Policies, Washington, D.C., July 2000.

6. Colorado Coalition for the Medically Underserved, *A Plan for Colorado: Meeting the Needs of the Medically Underserved* (Denver: Colorado Medical Society, 1998).

7. M. Perry et al., *Medicaid and Children Overcoming Barriers to Enrollment: Findings from a National Survey,* The Kaiser Commission on Medicaid and the Uninsured, 2000.

8. Ibid.

9. Colorado Coalition for the Medically Underserved, *A Plan for Colorado.*

10. Ibid.

11. Ibid.

12. American College of Physicians—American Society of Internal Medicine, *No Health Insurance*.

13. J. A. Meyer and S. Silow-Carroll, *Increasing Access: Building Working Solutions: Featuring Examples from the Kellogg Foundation's Community Voices Initiative,* Economic and Social Research Institute, prepared for W. K. Kellogg Foundation, Washington, D.C., June 2000.

14. K. M. Beauregard, S. K. Drilea, and J. P. Vistnes, *The Uninsured in America: 1996—Health Insurance Status of the U.S. Civilian Non-institutionalized Population*, Agency for Health Care Policy and Research and the National Center for Health Statistics; 1997 MEPS Highlight No. 1 AHCPR pub. No. 97-0025, Rockville, Md., 1999. Online at www.meps.ahrq.gov/highlit/mephigh1.htm.

15. Zuvekas and Weinick, *Changes in Access to Care.*

16. Beauregard, Drilea, and Vistnes, *The Uninsured in America.*

17. Zuvekas and Weinick, *Changes in Access to Care.*

18. American College of Physicians—American Society of Internal Medicine, *No Health Insurance*.

19. P. L. Barton, *Understanding the U.S. Health Services System* (Chicago: Health Administration Press, 1999).

20. M. Perry et al., *Medicaid and Children Overcoming Barriers to Enrollment.*

21. American College of Physicians—American Society of Internal Medicine, *No Health Insurance*.

22. M. Perry et al., *Medicaid and Children Overcoming Barriers to Enrollment.*

23. S. H. Altman, U. E. Reinhardt, and A. E. Shields, *The Future U.S. Healthcare System: Who Will Care for the Poor and Uninsured?* Developed under the auspices of the Council on the Economic Impact of Health System Change, a program supported by the Robert Wood Johnson Foundation, 1998.

24. Ibid.

25. American College of Physicians—American Society of Internal Medicine, *No Health Insurance*.

26. P. Abel, *1997 Colorado Health Source Book, Insurance, Access, and Expenditures* (Denver: Colorado Coalition for the Medically Underserved, 1998): 8.

27. (27). Health One Managed Care Corporation, *Health Care Issues Update*, Denver, Winter 2001.

28. Colorado Coalition for the Medically Underserved, *A Plan for Colorado.*

29. P. Abel, *1997 Colorado Health Source Book.*

30. Colorado Coalition for the Medically Underserved, *A Plan for Colorado.*

31. The Urban Institute, *Health Insurance, Access, and Use.*

32. Colorado Coalition for the Medically Underserved, *A Plan for Colorado.*

33. Meyer and Silow-Carroll, *Increasing Access*.

34. Perry, et al., *Medicaid and Children Overcoming Barriers to Enrollment.*

35. J. Glazner, "Prices and Affordability of Health Insurance for Colorado's Uninsured Population," briefing note and commentary, Colorado Coalition for the Medically Underserved, Denver, July 2000.

36. C. Thomas, "Health Insurance Coverage and the Public Health Role," prepared for the Turning Point Panel, Colorado Department of Public Health and Environment, Child, Adolescent, and School Health Section, Denver, 2001.

37. Ibid.

38. Ibid.

39. Ibid.

40. Liz Whitley, director, Community Voices Program, "Denver Health Community Voices Fact Sheet," Denver, fall 2000.

41. B. Yondorf, *Five Approaches to Achieving Health Insurance Coverage for All Coloradans:* 6.

42. Chet Seward, director public policy, Colorado Medical Society, Denver, personal communication, June 2001.

43. Ibid.

44. Colorado Turning Point obtained recommendations for increasing insurance coverage in Colorado from expert panelists who attended the Turning Point Steering Committee meeting on May 18, 2000.

CHAPTER 5

KEY STRATEGY:

Eliminate Health Disparities

Executive Summary

Purpose of Chapter

The Colorado Turning Point Steering Committee considers working toward the elimination of health disparities as one of the highest priorities for Colorado. Along with its strategic planning process, the Colorado Turning Point Initiative conducted an assessment of health disparities in Colorado by examining health indicators by race and ethnicity, rural residence, gender, and sexual orientation. This chapter documents the results of this assessment. The committee recognizes that this goal will need a multifaceted approach with many partners and that root causes such as poverty, discrimination, educational opportunities, and access to health care will need to be addressed.

Problem

While Colorado as a whole is a healthy state, this is not true for all of its residents. There are specific population groups in Colorado that are disproportionately affected by disease, injury, disability, and death. The differences in health status between specific groups and the general population are known as health disparities. Groups with health disparities in Colorado include communities of color; the gay, lesbian, bisexual, and transgendered (GLBT) community; and rural communities. Minority communities in general experience higher rates of some chronic diseases, infant mortality, teen fertility, intentional and unintentional injuries, HIV, gonorrhea, and tuberculosis. Minorities are also less likely to have health insurance and access to preventive services. The GLBT community experiences higher rates than heterosexuals of HIV/AIDS, substance abuse, and suicide. They also report that a lack of access to health care and mental health services are major issues. People living in rural areas are less likely to use preventive screening services, exercise regularly, wear seat belts, or be insured. Also, they are also more likely to live in poverty, a risk factor for poor health. Access to health care is a major issue for rural Coloradans due to health professional shortage areas.

Findings

Groups with health disparities in Colorado are similar to those nationally, including minority communities, the GLBT community, and rural communities. The reasons for health disparities are complex. Numerous influences determine the health of an individual and of a community. The literature suggests that in order to achieve the goal of eliminating health disparities, a commitment is required to identify and address the underlying causes. New insights are needed to understand the determinants of disparities. Strategies to eliminate health disparities must then be developed by considering the social, cultural, political, and historical context in which health disparities continue to exist. Leadership from affected communities or organizations that represent those communities is critical in advocating for the social changes needed to impact health disparities.

Colorado Analysis

When considering health disparities by race and ethnicity in Colorado, blacks have the highest overall death rate and the shortest life expectancy. Blacks also have the highest rates of death from heart disease, stroke, Alzheimer's disease, HIV, infant mortality, homicide, nephritis, septicemia, and many cancers. American Indians have the highest death rates of motor vehicle accidents and chronic liver disease. They also have statistically higher rates of HIV and other sexually transmitted diseases, homicide, and diabetes than Caucasians. Hispanics have the highest rates of diabetes, teen pregnancy, cervical cancer, and unintentional injuries. Hispanics also have statistically higher death rates from motor vehicle accidents, chronic liver disease, nephritis, septicemia, homicide, and HIV than Caucasians. Asian/Pacific Islanders in Colorado have generally lower death rates than other racial and ethnic groups, especially for chronic disease. However, some communicable disease rates are higher for this population, including hepatitis B and tuberculosis. Several factors contribute to these disparities and include inequalities in income and education, living environment, access to health care, and racial discrimination.

The GLBT population in Colorado also experiences health disparities. This population is less likely to have access to health care and insurance coverage than heterosexuals and more likely to suffer from depression, drug and alcohol use, AIDS, and possibly other diseases that are preventable through early screening, diagnosis, and treatment. This community also reports that a lack of access to health care and mental health services are major issues due to a lack of health insurance, the fear of provider attitudes toward same-sex orientation, and a lack of health information specific to their community. Also, issues surrounding personal, family, and social acceptance of sexual orientation places a significant burden on mental health and personal safety.

Rural communities experience unique health disparities. There is great disparity in the number of motor vehicle deaths between rural and urban residents of Colorado. Rural and frontier counties tend to have the highest death rates for diabetes and less access to diabetes management services. Rural communities also support a large undocumented or migrant workforce, with specific health needs and cultural differences. Probably the most critical issue for Colorado rural residents is lack of access to health care, as many Colorado counties have been designated federally as Health Professional Shortage Areas.

Recommendations

General recommendations include supporting culturally appropriate leadership entities in building the capacity to take on long-term, statewide advocacy for the elimination of health disparities. Also critical is the investigation of root social causes of health disparities and the development of a comprehensive, systemic approach to the elimination of health disparities.

Recommendations for the public health field and its partners include providing outreach and direct services targeted to populations of health disparities and developing a more diverse workforce. Outreach and service delivery strategies should use nontraditional means to reach the affected population. Also, services should be provided in a culturally competent manner, enhanced with translation and interpretation services by a culturally competent workforce.

Recommendations specific to environmental health include working in partnership with the public health field, especially to link environmental indicator data to health outcomes. These partnerships are especially relevant when investigating cumulative impacts (air, water, hazardous waste, etc.) to identify communities that may be experiencing a disproportionate impact of pollutants.

Finally, it is recommended that affected communities be recruited as active participants in the practice of public health. Public health and its partners should ensure collaboration and diverse participation from rural, minority, and GLBT communities on boards and commissions, as well as promote leadership development for minority health professionals, rural health professionals, and health professionals within the gay, lesbian, bisexual, and transgendered community.

Health Disparities

Over the past century, advances in medical science have led to substantial improvements in the nation's health. However, not everyone is benefiting. There are still disparities in health status among different segments of the population. Nationally, the elimination of health disparities is one of two *Healthy People 2010* goals. The *Healthy People 2010* document is a set of national health objectives to be achieved over the first decade of the twenty-first century. The objectives were developed by a consortium of partners, led by the U.S Department of Health and Human Services. According to *Healthy People 2010*, health differences occur by gender, race or ethnicity, education or income, disability, rural residence, and/or sexual orientation.

Along with its strategic planning process, the Colorado Turning Point Initiative conducted an assessment of health disparities in Colorado by examining health indicators by race and ethnicity, rural residence, and sexual orientation. The results of this assessment are described here. The Initiative recognizes that working toward the elimination of health disparities will be a long-term endeavor that will require a multifaceted approach with many partners. Root causes such as access to health care, poverty, discrimination, and educational opportunities will need to be addressed. The Colorado Turning Point Steering Committee considers working toward the elimination of health disparities as the highest priority for the Colorado Turning Point Initiative. To this end, the Initiative was recently awarded a Robert Wood Johnson grant to build capacity and leadership in working toward this goal over the next four years.

Data Issues

This chapter explores health disparities using Colorado data, by comparing health outcomes of different groups. In addition, when available, *Healthy People 2010* objectives or Colorado 2010 goals will be provided. (The availability of Colorado 2010 goals varies by state program.) These goals and objectives are targets for the entire population, either national or state, as opposed to specific racial/ethnic or gender groups and, therefore, should be interpreted accordingly. Data availability varies by year depending on the data source. In most cases, 1999 is the latest data available.

Unless otherwise noted, all data have been age adjusted to the year 2000 population standard. To analyze small groups by race and ethnicity or to examine less common diseases, multiple years of data have been combined for a five-year annual average rate. In some cases, data for American Indians or Asian/Pacific Islanders are not available.

Labels of racial and ethnic groups are used throughout this chapter. The terms *Caucasian* and *white* refer to the standard data collection category of white/non-Hispanic. The term *Hispanic* refers to the standard data collection category of white/Hispanic. Terminology around sexual orientation is provided under the section "Health Disparities Among the Gay, Lesbian, Bisexual, and Transgendered Community."

Colorado Turning Point recognizes the difficult issue of using labels when discussing race and ethnicity. It is hard to gain consensus on the preference of categories such as "people of color/ minority," "American Indian /Native American," "African American/black," "Hispanic/Latino(a)," and "Caucasian/white." We acknowledge that not everyone identifies himself or herself with these categories, and we very much respect the importance of cultural differences in how communities prefer to be defined.

In this chapter, many health indicators will be categorized by race and ethnicity. In accordance with health disparities reports from the Centers for Disease Control and Prevention, Colorado Turning Point also recognizes that race and ethnicity are social constructs representing distinct histories and cultures of groups within the United States; they are not valid biological or genetic categories.

Colorado's Health Status

Colorado, by any number of measures, is a healthy state. The rapidly growing population, currently at 4.3 million, is generally young, well educated, and has a median income above the national average.[1,2] From a public health perspective, Colorado has much in its favor. In 1998, the state was declared the third healthiest in the nation. When considering *Healthy People 2000*

national health objectives, Colorado exceeded or was close to meeting objectives on such preventive indicators as mammograms and Pap smears for women over age 50, cholesterol screenings, reducing a number of infectious diseases such as HIV and gonorrhea, reducing births among teens, and reducing infant deaths. [3,4] In 1999, Colorado's age-adjusted death rate for all causes was 801.2 per 100,000 persons, well below the national rate of 881.9.[5] Colorado's death rate has remained lower than the U.S. rate for the past 16 years.[6] The fact that this rate has been adjusted for age indicates that the difference between Colorado and U.S. death rates is not due to Colorado's relatively younger population.

Although Colorado as a whole is a healthy state, this is not true for all of its residents. There are specific population groups in Colorado that are disproportionately affected by disease, injury, disability, and death. The difference in health status between groups is known as health disparities. Groups with health disparities in Colorado that are examined here include communities of color; the gay, lesbian, and bisexual community; and rural communities.

Health Disparities in Minority Communities

Nationally, blacks, Hispanics, American Indians, and, to a lesser degree, Asians, have higher rates of disease, disability, and death compared to Caucasians.[7] According to *Healthy People 2010*, in the United States, race and ethnicity are risk markers that correlate with other determinants of health such as poverty, less education, a lack of access to quality health care services, and living in environments with greater risk of exposure to biological and environmental agents of disease.[8] In addition, many researchers now hypothesize that race-associated differences in health outcomes are due in part to the effects of racism, discrimination, and systemic biases that have resulted in multiple barriers to optimal health.[9] Health disparities are evident in Colorado's minority populations and in many cases mirror the disparities nationally.

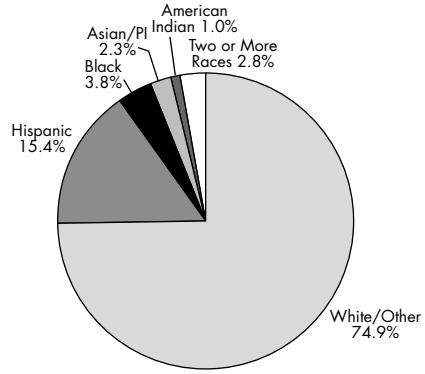
Colorado's Population by Race/Ethnicity

In terms of racial and ethnic composition, minority groups account for 25.3 percent of Colorado's general population, and the number is increasing. The percentage of minorities in Colorado has increased over the past decade, mostly due to a nearly 33 percent increase in the number of Hispanics between 1990 and 2000. Population figures are provided in Figure 1 (percentages do not add to 100 due to rounding).[10]

Colorado's racial and ethnic composition differs from the national composition as follows: The number of Hispanics in Colorado is higher, the number of Asian/Pacific Islanders is lower, and the number of blacks is significantly lower than national numbers. The number of American Indians in Colorado is proportionately similar to the rest of the nation.[11]

Colorado has two other notable population characteristics: Indian reservations and a migrant workforce. The Ute Mountain and Southern Ute Indian Reservations are located in the southwest corner of the state in the counties of Montezuma, La Plata, and Archuleta.[12] Colorado's migrant workforce is mostly of Hispanic origin, working mainly in resort and agricultural areas of the state.[13]

Figure 1: Colorado's Population by Race/Ethnicity, 2000



Source: Colorado Division of Local Government, "Table 3A: Census 2000 Counts of Colorado County Population by Race/Ethnicity and Hispanic Origin," *U.S. Census Bureau: Census 2000 Counts of Colorado Population,* Denver, April 13, 2001.

Health Indicators by Race and Ethnicity

Blacks

When comparing health outcomes by race and ethnicity in Colorado, blacks have the highest overall death rate and the shortest life expectancy.[14] Blacks also consistently experience higher morbidity and mortality rates of disease and disability than Caucasians and other racial and ethnic groups. According to Colorado data, blacks have the highest rates of death from heart disease, stroke, Alzheimer's disease, HIV, infant mortality, homicide, nephritis (inflammation of the kidneys), septicemia (infection of the blood), and cancer (overall), plus cancers of the lung, breast, and prostate.[15] Nationally, blacks have disproportionately high rates of asthma, which has been linked to living in urban settings (asthma rates are not available for Colorado).[16] It should be noted that in Colorado, blacks do have the lowest rate of death from automobile accidents, and there has been a substantial decline in the teen fertility rate during the 1990s.[17,18]

American Indians

In Colorado, American Indians have the highest death rates from motor vehicle accidents and chronic liver disease. They also have statistically higher rates of HIV and other sexually transmitted diseases, homicide, and diabetes than Caucasians. American Indians do have the lowest death rate of stroke, compared to other racial and ethnic groups, and comparatively low rates of other chronic diseases such as heart disease and cancer.[19] National data show that violent crime against American Indians is high and increasing, while crime against other groups has decreased.[20]

Hispanics

Hispanics, when compared to other racial and ethnic groups in Colorado, have the highest rates of diabetes, teen pregnancy, cervical cancer, and unintentional injuries. Hispanics also have statistically higher death rates from motor vehicle accidents, chronic liver disease, nephritis, septicemia, homicide, and HIV than Caucasians. However, Hispanics tend to have comparatively low death rates from many chronic diseases including cerebral vascular disease (which leads to stroke), heart disease, and cancer.[21] This is especially true for recent immigrants of Hispanic origin before they become acculturated to the U.S. diet and sedentary lifestyle.[22]

Asian/Pacific Islanders

Asian/Pacific Islanders in Colorado have generally lower death rates than other racial and ethnic groups, including Caucasians. For example, they have the lowest death rates from heart disease, chronic obstructive pulmonary disease, suicide, chronic liver disease, pneumonia, and influenza.[23] However, some communicable disease rates are higher for this population than other racial and ethnic groups, including hepatitis B and tuberculosis, especially for recent immigrants.[24] Also, social factors exist that can prevent optimal health for Asian/Pacific Islanders, such as the increasing number of non-English-speaking immigrants who have a difficult time accessing health care; the cultural fear of Western medicine institutions and procedures, resulting in the avoidance of prevention and screening services; and the increase in chronic disease for Asian immigrants as they become acculturated to a less healthy diet and sedentary lifestyle. [25,26]

Caucasians

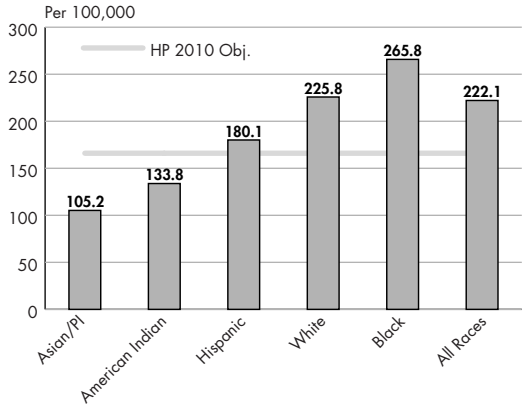
Caucasians tend to die from chronic diseases that are associated with aging. Death rates of cancer, heart disease, and cerebrovascular disease are statistically higher than in Hispanics, American Indians, and Asian/Pacific Islanders. However, Caucasians have a comparatively low incidence and/or death rates of unintentional injuries including automobile accidents, HIV, and other sexually transmitted diseases, tuberculosis, homicide, teen pregnancy, chronic liver disease, and septicemia. Caucasians have the longest life expectancy when compared to Hispanics and blacks (data for other groups are not available). It should be noted there is a disparity for Caucasians in the suicide rate, which is statistically higher than any other racial or ethnic group.[27]

Chronic Disease Indicators

Heart Disease

Both nationally and in Colorado, heart disease is the leading cause of death among all racial and ethnic groups. In Colorado, the death rate from heart disease is statistically highest for blacks, at 2.5 times the rate of Asian/Pacific Islanders, who have the lowest rate (see Figure 2).[28] Caucasians have the second highest rate. The *Healthy People 2010* target for heart disease is 166 deaths per 100,000 persons.

Figure 2: HEART DISEASE: Age-Adjusted Death Rate by Race/Ethnicity, Colorado Annual Average, 1995–1999

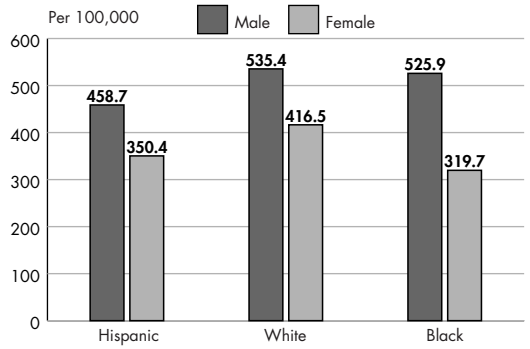


Source: Colorado Department of Public Health and Environment, Health Statistics Section, Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999*, prepared for the Colorado Turning Point Initiative, Denver, May 2001.

Cancer

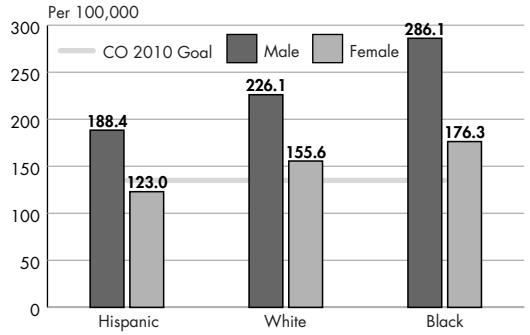
Both nationally and in Colorado, cancer is the second leading cause of death among all racial and ethnic groups. Minority populations have lower survival rates than Caucasians for most cancers, and although incidence rates of cancer overall tend to be highest for Caucasians, death rates are statistically highest for blacks (see Figures 3 & 4).[29,30] In examining a five-year average during the late 1990s, blacks had the lowest percentage of early detection for cancer, at 48.8 percent compared to Hispanics at 50.8 percent and Caucasians at 57.6 percent.[31] The Colorado Cancer Prevention Coalition has developed 2010 goals for cancer deaths based on Colorado data and the *Healthy People 2010* objectives. The Colorado 2010 goal for overall cancer deaths is 135 per 100,000 persons.[32]

Figure 3: CANCER: Age-Adjusted Incidence Rates by Race/Ethnicity and Gender, Colorado Annual Average, 1995–1999



Source: Colorado Department of Public Health and Environment, Colorado Central Cancer Registry, Data Set, *Age-Adjusted Incidence and Mortality Rates for Selected Causes of Cancer Death by Gender and Race/Ethnicity, Annual Average 1995–1999, by Race and Ethnicity*, prepared for the Colorado Turning Point Initiative, Denver, June 14, 2001.

Figure 4: CANCER: Age-Adjusted Death Rates by Race/Ethnicity and Gender, Colorado Annual Average, 1995–1999



Source: Colorado Department of Public Health and Environment, Health Statistics Section, Data Set: *Deaths, Crude Death Rates and Age-Adjusted Death Rate for Selected Causes of Cancer Death by Gender and Race/Ethnicity, Colorado Residents, 1995–1999 Combined*, prepared for the Colorado Turning Point Initiative, Denver, June 2001.

Specific Cancer Sites

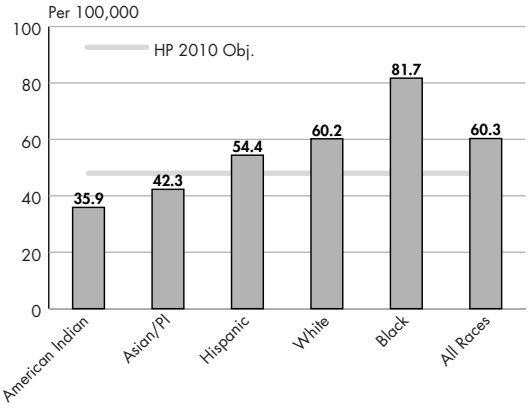
- **Lung cancer**: Black males have the highest death rate from lung cancer, with a rate that is twice as high as Hispanic males and 1.3 times higher than Caucasian males.[33]
- **Prostate cancer**: Blacks have the highest incidence of prostate cancer and the highest death rate, which is 2.6 times higher than Hispanics and 2.0 times higher than Caucasians.[34,35]

- **Breast cancer:** Caucasian women have the highest incidence rate of breast cancer; however, black women have the highest death rate, approximately 1.5 times higher than Caucasian women and 2.0 times higher than Hispanic women.[36,37] Breast cancer tends to be diagnosed at later stages in black women.[38]
- **Cervical cancer:** Hispanic women in Colorado have the highest incidence rate of cervical cancer, at 2.2 times higher than Caucasians and 2.0 times higher than blacks. Hispanic women also have the highest death rate at 1.8 times higher than Caucasians and 1.3 times higher than blacks.[39,40] Considerable evidence suggests that screening can significantly reduce the number of cervical cancer deaths. According to *Healthy People 2010*, minority women have traditionally been less likely to get screened.[41]
- **Colorectal cancer:** African Americans have the highest death rate of colon cancer, which is 30 percent higher than Hispanics and 20 percent higher than Caucasians. Access to health care is critical in order to detect and treat this disease in its earliest stage.

Cerebrovascular Disease

Cerebrovascular disease (leading to strokes) is the fourth-leading cause of death in Colorado. The death rate of stroke is statistically highest in black Coloradans, at 2.3 times the rate of American Indians who have the lowest rate, and approximately 1.4 times higher than Caucasians (see Figure 5).[42] The *Healthy People 2010* target is 48 stroke deaths per 100,000 persons.

Figure 5: STROKE: Age-Adjusted Death Rates by Race/Ethnicity, Colorado Annual Average, 1995–1999



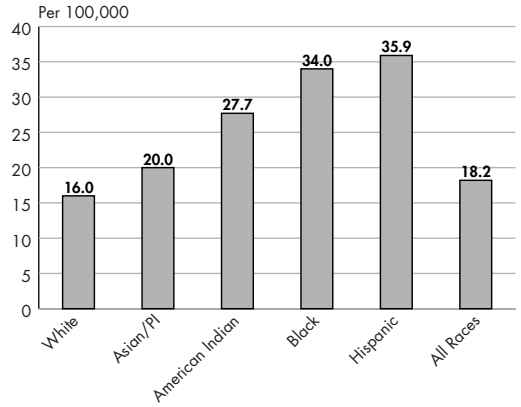
Source: Colorado Department of Public Health and Environment, Health Statistics Section, Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999*, prepared for the Colorado Turning Point Initiative, Denver, May 2001.

Diabetes Mellitus

Hispanics, blacks and American Indians have a genetic predisposition to diabetes. These groups are also less likely than Caucasians to have access to health care, including diabetes management services. This contributes to an increased risk of minority populations experiencing complications from diabetes, including visual impairment, lower extremity amputations, and kidney failure.[43,44] The Colorado death rate for diabetes is highest in Hispanics, at 2.5 times the rate of Caucasians. The rate of diabetes deaths in blacks is more than twice as high as the rate of Caucasians, and the rate for American Indians is 1.7 times the rate of Caucasians (see Figure 6).[45]

According to *Healthy People 2010*, the reasons for disparities in diabetes are complex. Genetic susceptibility, a greater prevalence of risk factors, lower socioeconomic status, and less access to health care services may potentially explain some of these differences.[46]

Figure 6: DIABETES: Age-Adjusted Death Rates by Race/Ethnicity, Colorado Annual Average, 1995–1999



Source: Colorado Department of Public Health and Environment, Health Statistics Section, Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999*, prepared for the Colorado Turning Point Initiative, Denver, May 2001.

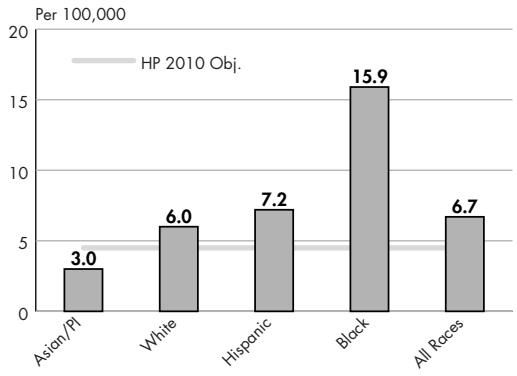
Maternal and Child Health Indicators

Infant Mortality

Infant mortality is defined as death before age one. The leading causes of infant mortality are congenital anomalies (birth defects), short gestation (premature birth), and sudden infant death syndrome (SIDS).[47] Colorado ranks below the national average, with a 1999 rate of 6.7 infant deaths per 1,000 live births, compared to the national rate of 7.2.[48]

In both Colorado and the United States, the greatest disparity in infant mortality exists for black infants. In Colorado, the black infant death rate is 5.3 times higher than the Asian/Pacific Islander rate and 2.7 times higher than the Caucasian rate. Hispanics have the next highest rate, almost 2.5 times higher than the Asian/Pacific Islander rate (see Figure 7).[49] Five-year data are not available for American Indians. The *Healthy People 2010* target for infant deaths is 4.5 per 1,000 live births.

Figure 7: INFANT MORTALITY RATES: by Race/Ethnicity, Colorado Annual Average, 1995–1999



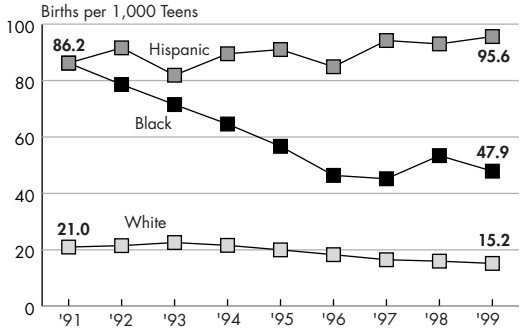
Source: Colorado Department of Public Health and Environment, Health Statistics Section, Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999,* prepared for the Colorado Turning Point Initiative, Denver, May 2001.

It is difficult to determine exact causes of racial and ethnic disparities in infant mortality. Some research suggests that the high rates of infant mortality among black women are not attributable to poverty because black women have problematic birth outcomes regardless of their socioeconomic position, faring worse than Caucasian women at every economic level. This disparity persists even among the most highly educated black women. In addition, Hispanic women at comparable socioeconomic levels have better pregnancy outcomes than black women, including lower rates both of infant mortality and low birth-weight babies.[50]

Teen Fertility

The overall teen fertility rate (ratio of live births per 1,000 population) in Colorado has been declining since 1992. The decline has been most dramatic among black teens, decreasing 45 percent between 1991 and 1999. The fertility rate for Hispanic teens increased by 11 percent during the same time period. Hispanic teens ages 15 to 17 have had the highest teen fertility rate since 1992, when the rate for black teens began a dramatic decrease. In 1999, the fertility rate for Hispanic teens was more than six times higher than Caucasian teens and twice the rate of black teens (see Figure 8).[51,52,53,54]

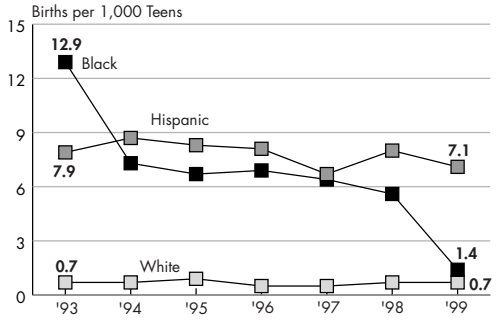
Figure 8: TEEN FERTILITY RATES: Ages 15–17, Colorado, 1991–1999



Source: Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1993, 1995, 1998, 1999*, Denver, published in 1994, 1997, 2000, and 2001.

Colorado's very young teens, ages 13 to 14, experienced similar trends during the 1990s. The fertility rate of 13- to 14-year-old black teens decreased eightfold between 1993 and 1999. The rate for very young, Hispanic and Caucasian teens remained stable.[55,56,57] The 1999 fertility rate of 13- to 14-year-old Hispanic teens was 10 times higher than the rate of Caucasian teens, and 5 times higher than the rate of black teens (see Figure 9).

Figure 9: TEEN FERTILITY RATES: Ages 13–14, Colorado, 1993–1999



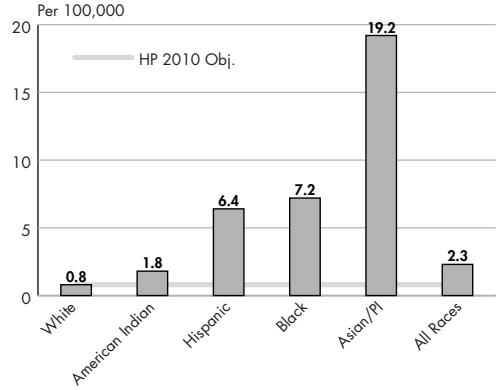
Source: Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1995, 1998. 1999*, Denver, published in 1997, 2000, and 2001.

Communicable Disease Indicators

Tuberculosis

Tuberculosis (TB) is the leading cause of death from contagious disease in the world and therefore subject to intense surveillance. Although not a very common disease in Colorado, TB incidence is monitored for indications of outbreaks among various populations in the state. Many TB cases are seen in recent immigrants, especially thoses from Mexico and Vietnam.[58] The Asian/Pacific Islander population has the highest rate, which is 24 times higher than Caucasians. Blacks have the second highest rate, which is nine times higher than Caucasians, and Hispanics have the third highest rate, which is eight times higher than Caucasians (see Figure 10).[59]

Figure 10: TUBERCULOSIS: Incidence Rates by Race/Ethnicity, Colorado Annual Average, 1996–2000

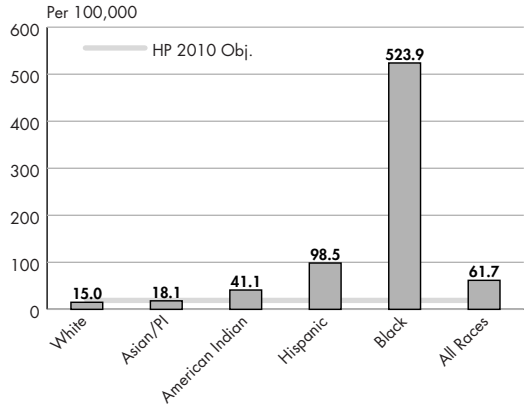


Source : Colorado Department of Public Health and Environment, Division of Disease Control and Epidemiology, Tuberculosis and Refugee Health Programs, Data Set: *Average Annual TB Case Rates, 1996–2000, per 100,000,* prepared for the Colorado Turning Point Initiative, Denver, June 2001.

Gonorrhea

The gonorrhea rate, both nationally and in Colorado, has been declining in all racial and ethnic groups; however, great disparities still exist. In 1999, the gonorrhea rate for blacks was 35 times higher than the rate of Caucasians. The rate among Hispanics was 6.5 times higher than Caucasians, and the rate among American Indians was 2.9 times higher than Caucasians (see Figure 11).[60,61] Of particular interest is the magnitude of the disparity for the black community. Blacks have a higher *number* of cases than Caucasians, even though they account for less than 5 percent of Colorado's population.[62]

Figure 11: GONORRHEA: Case Rates by Race/Ethnicity, Colorado, 1999



Source: Colorado Department of Public Health and Environment, Division of Disease Control and Environmental Epidemiology, *Sexually Transmitted Diseases in Colorado, Surveillance Report: 1999,* Denver, 2000.

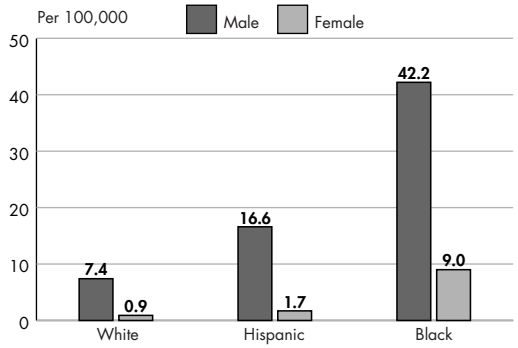
The Healthy People 2000 objective for gonorrhea was to reduce the incidence to 225 new cases per 100,000 persons. Nationally, there has been such a dramatic decrease in the incidence of gonorrhea that the *Healthy People 2010* target has been set at 19 new cases per 100,000 persons.

HIV/AIDS

Of the HIV cases *diagnosed* in Colorado during 1998–1999, black males had the highest rate of HIV, in fact six times higher than Caucasian males. The HIV rate for Hispanic males was twice as high as Caucasian males. The same disparity exists among females. The rate for black females was eight times higher than Caucasian females, and the

rate for Hispanic females was almost twice as high (see Figure 12).[63] Because HIV may not produce symptoms for many years, these HIV case data only represent people who have tested positive for HIV as opposed to the actual number infected.

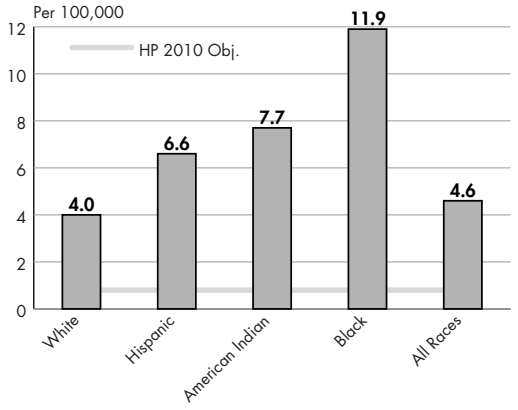
Figure 12: HIV: Average Annual Case Rates by Gender and Race/Ethnicity, Colorado, 1998–1999



Source: Colorado Department of Public Health and Environment, Division of Disease Control and Environmental Epidemiology, *HIV and AIDS in Colorado, Monitoring the Epidemic (through December 31, 1999)*, Denver, 2000.

The AIDS death rate of blacks is three times higher than Caucasians; the AIDS death rate of American Indians is nearly twice as high as Caucasians; and the death rate for Hispanics is more than 1.5 times higher than Caucasians (see Figure 13).[64] The *Healthy People 2010* target for AIDS deaths is 0.8 deaths per 100,000 persons.

Figure 13: AIDS: Age-Adjusted Death Rates by Race/Ethnicity, Colorado Annual Average, 1995–1999



Source: Colorado Department of Public Health and Environment, Health Statistics Section. Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999,* prepared for the Colorado Turning Point Initiative, Denver, May 2001.

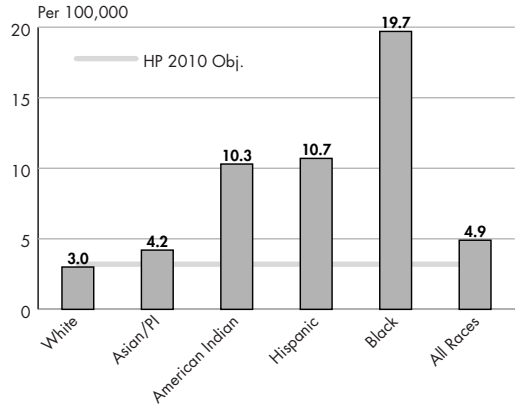
Healthy People 2010 explains the disparity in sexually transmitted disease (STD) rates by stating that "while certain sexual behaviors may increase a person's risk for an STD, it is important to remember that for STDs, race and ethnicity in the United States are risk markers that correlate with poverty, a lack of access to quality health care services, illicit drug use and living in communities with a high number of STD cases."[65] Also, according to the Institute of Medicine, "Access to high-quality health care is essential to preventing the spread of STDs, but often the groups with the highest STD rates are the same groups in which access to services is most limited, including adolescents and minority populations."[66]

Intentional and Unintentional Injuries

Homicide

Disparities in homicide rates vary greatly by race/ethnicity. The rates for blacks, American Indians, and Hispanics are significantly higher than the rate for Caucasians. According to Colorado data, the homicide rate among blacks is more than 6.5 times higher than Caucasians; the rate among Hispanics and American Indians is approximately 3.5 times higher than Caucasians; and the rate among Asians is nearly 1.5 times higher than Caucasians (see Figure 14).[67] The *Healthy People 2010* target for homicide is 3.2 deaths per 100,000 persons.

Figure 14: HOMICIDE: Age-Adjusted Death Rates by Race/Ethnicity, Colorado Annual Average, 1995–1999

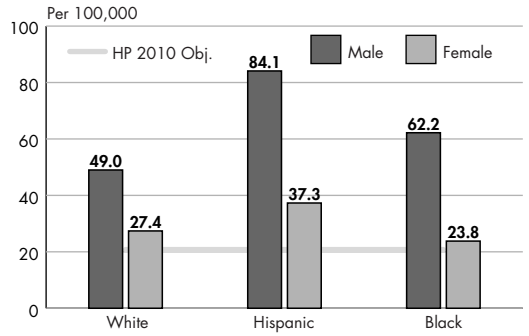


Source [Figure 14]: Colorado Department of Public Health and Environment, Health Statistics Section, Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999,* prepared for the Colorado Turning Point Initiative, Denver, May 2001.

Unintentional Injuries

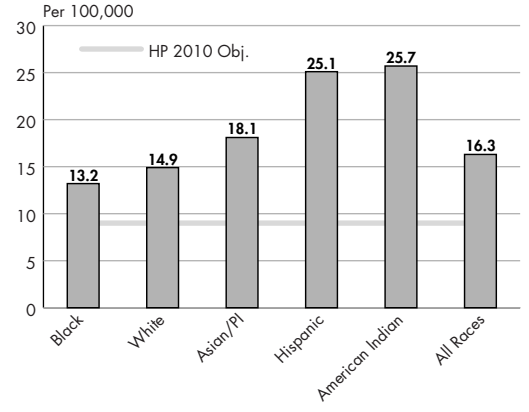
Hispanics consistently have the highest death rate from unintentional injuries when compared to blacks and Caucasians. There is also a disparity by gender. In 1999, the rate for Hispanic males was 1.7 times higher than Caucasian males and 1.3 times higher than black males. In 1999 the rate for Hispanic females was 1.6 times higher than black females and approximately 1.4 times higher than Caucasian females (see Figure 15).[68] The *Healthy People 2010* target for unintentional injuries is 20.8 deaths per 100,000 persons.

Figure 15: UNINTENTIONAL INJURIES: Age-Adjusted Death Rates by Race/Ethnicity and Gender, Colorado, 1999



Source: Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1999*, Denver, June 2001.

Figure 16: MOTOR VEHICLE DEATHS: Age-Adjusted Death Rates by Race/Ethnicity, Colorado Annual Average, 1995–1999



Source: Colorado Department of Public Health and Environment, Health Statistics Section, Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999*, prepared for the Colorado Turning Point Initiative, Denver, May 2001.

Automobile Accidents

Automobile accidents account for the greatest number of unintentional injuries. There is a disparity by race/ethnicity in the rate of deaths from automobile accidents. American Indians and Hispanics statistically have the highest death rates, nearly twice as high as blacks and approximately 1.7 times higher than Caucasians. Asian/ Pacific Islanders also have statistically higher rate than blacks and Caucasians (see Figure 16).[69] The *Healthy People 2010* target for motor vehicle deaths is 9.0 deaths per 100,000 persons.

Motor vehicle deaths are recorded by a person's county of residence and not the county in which the accident occurred.

Factors That Contribute to Health Disparities Among Communities of Color

Income and Education

Inequalities in income and education underlie many health disparities in the United States. Income and education are intrinsically related and often serve as proxy measures for each other. In general, population groups that suffer the worst health status are also those that have the highest poverty rate and the least education. [70]

Living Environment

The quality of residential living is a factor in a person's health. Inner cities and reservations may lack basic neighborhood amenities and services, and many have deteriorating physical environments. The concentration of poverty is higher, the crime rate is higher, and well-paying, skilled jobs are scarce. Minorities are more likely than Caucasians to live in these types of environments.[71] According to the U.S. Environmental Protection Agency, health disparities may also result from increased exposure to environmental hazards such as landfills, increased auto traffic, industrial facilities, toxics and other organic pollutants that are in close proximity to many low-income and minority neighborhoods.[72]

Access to Health Care

Minorities also face disadvantages in gaining access to health care. Health insurance coverage is less common among minorities; minorities are more likely than Caucasians to perceive discrimination in the delivery of their health services; and research shows that people receive differential treatment based on race.[73,74,75] For example, two studies showed that Hispanics and blacks were substantially under-treated for pain from bone fractures and that postoperative pain was poorly managed. In other studies, blacks with chronic renal failure were less likely to be evaluated for a renal transplant and less likely to be thoroughly evaluated for coronary artery disease. This outcome was true even when controlling for income.[76,77]

Racial Discrimination

Racial discrimination is a social factor that influences personal health on many levels and appears to be a leading cause in the development of health conditions that can lead to illness. Stress experienced by minorities related to a lifetime of discrimination can adversely affect physical and mental health. Also, historical injustices such as the U.S. Public Health Service's Tuskegee Syphilis Experiment (1932–1972) have created distrust of government systems and may discourage some minority populations from seeking care or taking part in government health programs. In the Tuskegee experiment, black men were unknowingly withheld treatment for syphilis so the disease's progression could be studied.[78] According to the Grant Makers in Health report, *Strategies for Reducing Racial and Ethnic Disparities in Health*, the history of slavery and segregation are at the root of the substandard neighborhoods, housing, employment opportunities and education opportunities and health care services that many minorities face and that influence health.

The factors that contribute to health disparities among minority communities are complex. There is an array of critical influences that determine the health of an individual and of communities. The literature suggests that in order to achieve the goal of eliminating health disparities, a commitment to identifying and addressing the underlying causes is required. New insights are needed to understand the determinants of racial and ethnic disparities. Strategies to eliminate health disparities must then be developed by considering the social, cultural, political, and historical context in which health disparities continue to exist.

Health Disparities Among the Gay, Lesbian, Bisexual, and Transgendered (GLBT) Community

The gay, lesbian, bisexual, and transgendered population is a priority population of the Colorado Turning Point Initiative and Healthy People 2010. This is a population that is less likely to have access to health care and insurance coverage than heterosexuals and more likely to suffer from depression, drug and alcohol use, AIDS, and possibly other diseases that are preventable through early screening, diagnosis, and treatment. Healthy People also states that the issues surrounding personal, family, and social acceptance of sexual orientation places a significant burden on mental health and personal safety.

Terminology Used to Describe Sexual Orientation

Terminology is important in understanding diverse cultures. According to Kaiser Permanente's Provider Guide on Cultural Competence, the following terms are generally used to describe sexual orientation:

- **GLBT community:** Many times the gay, lesbian, bisexual, and transgendered community is referred to as the GLBT community.
- **Gay:** A gay man is an individual whose primary emotional and sexual attraction is to men. A self-identified gay man doesn't necessarily limit sexual behavior to men. Occasionally, gay men may engage in sex with a woman. The term *gay* is sometimes used to refer to the larger GLBT population or an individual of any gender.
- **Lesbian:** A lesbian is a woman who has primary emotional and sexual attraction to other women. Sometimes lesbian women engage in sexual behavior with men, although they self-identify as lesbian.
- **Bisexual:** Bisexual men and women have sexual and emotional attraction to both genders. This group is often shunned by both heterosexuals and homosexuals for complex reasons:

Bisexuality may be viewed as a nonentity—a transitional stage from heterosexuality to homosexuality or vice versa, or a denial of one's homosexuality. There seems to be more of a stigma for bisexual men than women due to rigid expectations of male sex roles in society.

- **Heterosexual:** A heterosexual is an individual who has a primary emotional and sexual attraction to the opposite sex. Self-identified heterosexuals may occasionally engage in sexual contact with the same sex but do not identify as being homosexual or bisexual.
- **MSM (Men who have Sex with Men):** This is a term used in the scientific literature, especially with regard to HIV prevention, to describe a particular behavior without labeling the individual. As stated before, men may engage in sex with other men without identifying themselves as gay or bisexual.
- **Gender identity:** At birth, babies are assigned a "socially defined" gender based on reproductive anatomy. Gender identity refers to a person's innate perception of their gender, which may or may not be consistent with their anatomical sex. Gender identity is distinct from sexual orientation. For example, a person whose gender identity is male and who may date women exclusively may identify as heterosexual, even though his assigned birth gender was female.
- **Transgendered:** Transgendered individuals have a strong sense of incongruity between their biological sex and gender identity. The transgendered person may receive hormonal treatment without a plan for sex reassignment surgery or they may actively seek surgery to become genitally congruent with their gender identity. Transgendered individuals may also identify as being heterosexual, homosexual, or bisexual and may experience discrimination based on their sexual orientation as well as gender identity. [79]

Overview of the Problem

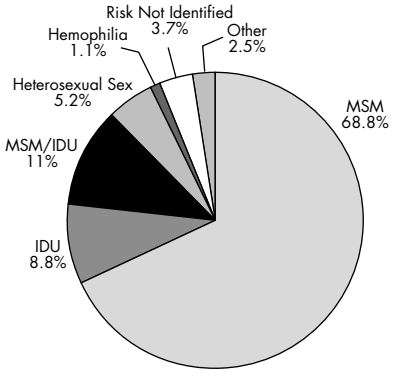
Examining health issues within the GLBT community can be difficult, as many times available data on this population is limited. Traditionally, research constraints have existed including nonstandard definition of sexual orientation; the use of small nonprobability sampling methods based on convenience samples; a lack of culturally diverse samples; a lack of controlled studies with comparison to other samples, such as heterosexuals; and a lack of longitudinal studies. It wasn't until the AIDS epidemic in the early 1980s that the research community was forced to examine sexual orientation and associated behaviors of gay men. Recently, the National Institutes of Health increased attention to the needs of lesbian and bisexual women and racial and ethnic minorities within the GLBT community. However, many pressing questions remain unanswered regarding violence, psychosocial issues, morbidity, mortality, and hormonal therapies.[80]

Gay Men

According to *Healthy People 2010*, major health issues for gay men include HIV infection, AIDS, and other sexually transmitted diseases, substance abuse, depression, and suicide. Gay male adolescents are two to three times more likely than their heterosexual peers to commit suicide.[81]

HIV is a major health issue for men who have sex with men. In assessing disparities by risk exposure category, HIV is most prevalent in this group. Surveillance by exposure category is important for program planning and targeting HIV prevention and intervention. In Colorado, MSM are disproportionately affected by HIV, accounting for 79.8 percent of cases (eleven percent of these men also have the risk factor of intravenous drug use, or IDU). All other modes of acquisition are significantly lower than this group (see Figure 17).[82,83]

Figure 17: AIDS by Risk Category, Cases Reported Through 3/31/01, Colorado



Source: Colorado Department of Public Health and Environment, Division of Disease Control and Environmental Epidemiology, HIV/STD Surveillance Program, *HIV and AIDS in Colorado: Monitoring the Epidemic Through March 30, 2001,* Denver, August 2000.

The group "Other" includes HIV exposure from hemophilia, mother with risk for HIV infection, of transfusion recipient

According to Coloradans Working Together to Prevent HIV/AIDS, the pervasive social prejudice against gay men has made HIV prevention efforts challenging, especially primary prevention efforts that focus on behavior change. Because discrimination and social isolation is virtually endemic to the experience of being gay in the United States, some men who engage in sex with other men do not identify with being gay or with being at risk for HIV. Other gay men may not seek health care, including preventive services and/or HIV testing, for fear of having to disclose their sexual orientation. Finally, the shame and isolation that many gay men experience is many times internalized as fatalism and hopelessness, possibly resulting in the belief that "all gay men get HIV eventually."[84]

In a 2000 client survey of Colorado men who have sex with men, respondents overwhelmingly listed gay-friendly providers as of major importance for them in seeking HIV prevention services. They also listed free or low cost service availability as another important factor.[85]

Lesbians

Healthy People 2010 states that there is some evidence to suggest that lesbians have higher rates of smoking, obesity, alcohol abuse, and stress than heterosexual women. According to the literature, a common health issue for lesbians is a lack of culturally competent health care and preventive services. Lesbians are less likely than heterosexual women to see a health care provider for regular mammograms and screening for cervical cancer.[86,87] Due to the secrecy with which many lesbians feel they must live, fear of revealing their sexual orientation to their provider may keep them from seeking these services. Some lesbians report that they have experienced negative provider attitudes toward same-sex orientation. Others have expressed discomfort at provider assumptions that they are heterosexual, and they describe being offered services inappropriately such as birth control. Also, because lesbians are less likely than heterosexual women to visit a doctor for reproductive health services, there is less opportunity for a provider to encourage screening.[88,89]

The literature also raises questions about whether lesbians are at increased risk of developing breast cancer than heterosexual women. Some evidence suggests that lesbians may have more risk factors than heterosexual women such as delayed childbearing, nonchildbearing, and higher alcohol consumption rates. Additionally, lesbians who are estranged from their families because of their sexual orientation may not have access to accurate information about breast cancer history in their family.[90,91]

The Gay, Lesbian, Bisexual and Transgendered Community

In 1999, the Gay, Lesbian, Bisexual and Transgendered Community Center of Colorado conducted focus groups to gain better insight into the health needs of Colorado's GLBT community. The data collected revealed that the most common barriers to people in the GLBT community being able to take care of themselves were related to a lack of health insurance, a lack of money to pay for health care services, and a lack of health-related information specific to the gay community.[92]

Mental health services were identified as a need for this community, yet most individuals reported not being able to "afford the luxury of seeing a therapist." Mental health services are many times viewed as a "last resort" after one has tried to solve their own problems. Focus group participants identified depression and substance use and abuse as major mental health issues, describing the stigmatization of being gay, bisexual, or transgendered as a "mental burden." They also talked about suicide as a problem, especially among teens.[93]

The environment of clubs and bars was another problem identified. These were listed as the most frequent places available to socialize for the GLBT community. This environment leads to increased alcohol consumption, increased potential for unsafe sex, and being exposed to unusual amounts of second hand smoke.[94]

The GLBT community in general is less likely to have health insurance coverage than heterosexuals. Systemic heterosexual bias affects the health care coverage of many GLBT individuals in committed relationships. The majority of employers and insurance companies deny health care coverage to GLBT committed partners.[95]

Some providers are now evaluating their service delivery models and how to modify services to this population's needs, especially with regard to outreach and screening. For example, Kaiser Permanente has created guidelines of culturally competent health care for GBLT clients.[96] In focus groups conducted by the Gay, Lesbian, Bisexual, and Transgendered Community Center of Colorado, the GLBT community reported that while they do not necessarily favor being served by a doctor who is gay, most believe it is critical to access a medical doctor who is "gay friendly," that is, aware of the different health issues that the GBLT community faces without prejudice toward the community or their lifestyle. [97]

Health Disparities by Rural Residence

Geographically, Colorado is a large state with 80 percent of its residents living in 10 metropolitan counties on the east side of the Rocky Mountains. This region is known as the Front Range. The remaining 20 percent of residents are scattered throughout the mountains, the Eastern Plains, and the Western Slope. Of Colorado's 63 counties, 29 are considered rural and 23 are considered frontier (with less than 6 people per square mile).[98,99]

According to nationwide *Healthy People 2010*, people living in rural areas are less likely to use preventive screening services, exercise regularly, wear seat belts, or have health insurance. In addition, residents of rural counties are more likely to live in poverty—a risk factor for poor health—than those living in metropolitan areas.[100] Surveys of rural areas within Colorado indicate similar health issues.

Colorado Data

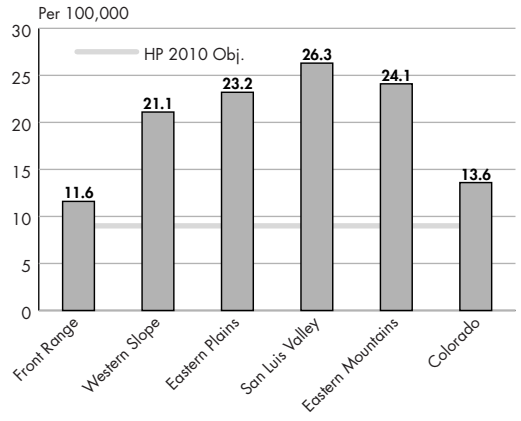
Specific health disparities vary by region and data representing specific regions are limited. Periodically, the Health Statistics Section at the Colorado Department of Public Health and Environment conducts targeted surveys in specific areas of the state to better determine the prevalence of health behaviors related to specific demographics such as rural counties or regions.

A 1995 survey and report of Colorado's Eastern Plains region (18 counties) indicated that the teen fertility rate and age-adjusted death rates of chronic obstructive pulmonary disease, motor vehicle deaths, and diabetes were statistically higher when compared to the rest of the state, as were the proportion of overweight persons and proportion of people who do not wear a sealtbelt.[101 102] A 1997 survey of the San Luis Valley (six counties in the south central area of the state) revealed that this region had statistically higher mortality rates for cardiovascular disease, unintentional injuries, motor vehicle injuries, pneumonia/influenza, diabetes, chronic liver disease/cirrhosis, and homicide.[103] A 1997 report on behavioral risk factors and mortality rates of Delta County, a rural county in the Western Slope region, revealed that statistically, this county's residents had less health insurance, were less likely to have had their blood cholesterol checked, were less likely to wear a seat belt, or to have seen a dentist in the past year, as compared to the rest of the state. [104]

Motor Vehicle Deaths

In general, there is great disparity in the number of motor vehicle deaths between rural and metropolitan residents of Colorado as indicated in Figure 18. Of the regions listed in the graph, the Eastern Plains, San Luis Valley, and Eastern Mountains are rural, in addition to many areas within the Western Slope region. Colorado Behavioral Risk Factor Surveillance data indicate that rural residents are less likely to wear their seat belts than those living in suburban or urban areas of the state.[105]

Figure 18: Motor Vehicle Accidents, Age-Adjusted Death Rates by Colorado Region, 1999



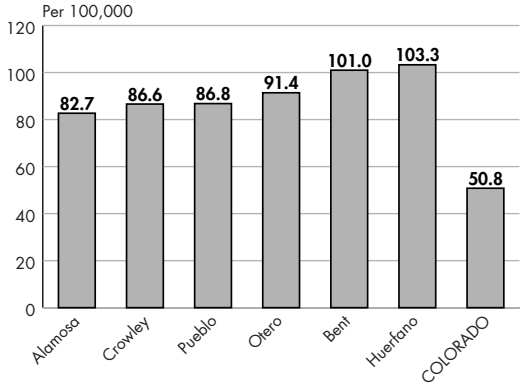
Source: Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1999*, Denver CO, June 2001.

Note: Motor vehicle deaths are recorded by a person's county of residence and not the county in which the accident occurred.

Diabetes

Colorado counties with the highest death rates for diabetes tend to be rural or frontier such as Huerfano, Bent, Otero, Alamosa, and Crowley (see Figure 19). [106] Lack of access to health care services is a major challenge to diabetes management in Colorado. For example, self-management of diabetes is a recognized strategy for preventing complications; however, 81 percent of certified diabetes educators are located in areas along the Front Range. [107]

Figure 19: Diabetes-Related, Age-Adjusted Death Rates by County, 1994–1998 Average



Source: Colorado Department of Public Health and Environment, Chronic Disease Section/Health Statistics Section, *Diabetes Mortality in Colorado Residents as Assessed from Death Certificate Data, 1994–1998.* Denver, CO, 2000.

Note: This data was age-adjusted to the 1940 population standard.

The Federal Bureau of Primary Health Care has designated many of Colorado's rural and frontier areas as Health Professional Shortage Areas (HPSAs). This designation means that there is less than one primary care physician for every 3,500 people in the county or area. Twenty-two of Colorado's 53 rural and frontier counties are designated as Health Professional Shortage Areas in their entirety, and 17 rural counties have been partially designated.[108] In addition to a lack of primary care, timely access to emergency services and the availability of specialty care effect the health status of rural and frontier populations.[109]

Many rural counties in Colorado also have an undocumented or migrant workforce, with specific health needs and cultural differences. Language barriers are an issue, especially with more Hispanic, Chinese, and Russian families moving to the less expensive, rural areas to carry out service jobs. Finally, elevated lead levels are an issue for rural residents due to the contributing factors of poverty, older rental units, and people using private water systems.[110]

Recommendations

The following recommendations were derived from the literature, the Turning Point Steering Committee, the Colorado Department of Health and Environment Health Disparities Work Group, the Colorado Association of Local Public Health Leaders, and the Colorado Minority Health Forum.

Public Health and its Partners

- Support a culturally competent leadership entity in taking on long-term, statewide advocacy for the elimination of health disparities.
- Investigate root social causes of health disparities and take a comprehensive, systemic approach to the elimination of health disparities.
- Convene many diverse and nontraditional partners to eliminate of health disparities, including not only affected communities but also foundations, business, and civic planning agencies.

Public Health and Health Care Delivery Systems

- Work to increase access and use of health care services by underserved populations including minority communities, the GLBT community, and rural communities. Efforts should focus on culturally competent care, increasing health insurance coverage, and reducing health professional shortage areas.
- Focus on and target services to populations with health disparities, assuring that services are provided in a culturally competent manner.
- Work to increase the cultural competence of the public health, environmental health, and health care workforces through training and the development of policies that support cultural competency.

- Create recommendations or standards for implementing translation and interpretation services for limited English-speaking clients.
- Develop and use innovative outreach and service delivery models to reach the medically underserved communities (for example, mobile health care vans, school-based health centers, and store fronts).
- Consider health disparities and access to care issues with regard to mental health and oral health services.
- Advocate for physician incentives to practice in health professional shortage areas.

Environmental Health Agencies

- Work with public health agencies as partners toward the elimination of health disparities.
- Investigate cumulative impacts of air pollution, water pollution, and hazardous waste, even where no standards, laws, and regulations are being broken, to determine communities that may be experiencing a disproportionate impact of pollutants.
- Involve affected communities in all stages of environmental protection.
- Work toward improving the interface between environmental health and public health, especially with regard to data linkage of environmental indicators to health outcomes (e.g., asthma incidence in urban settings, exacerbated by air pollution).
- Enhance community outreach, especially to gain input into local environmental projects (e.g., supplemental environmental projects as a result of environmental penalties).
- Reach out to disenfranchised communities (those not engaged in political or governmental processes) to educate them about government systems and how to contact the appropriate agency with environmental concerns.
- Continue to take a leadership role in bringing together communities and industry to negotiate solutions outside of regulation.

Research Entities

- Enhance data collection and health assessment with a focus on groups most affected by health disparities.
- Investigate the basis of observed race-associated differences in health outcomes.
- Investigate the determinants of disparities in the GLBT community.
- Investigate behavioral aspects of health in rural communities and then target communities in a culturally relevant manner, especially with regard to seat belt use, preventive health services, diet, and exercise.
- Improve data collection by race and ethnicity; report health indicators in as many racial and ethnic groups as possible. (This may require combining multiple years of data to determine issues in small populations such as blacks, American Indians, and Asian/Pacific Islanders).
- Interpret race-related findings instead of controlling for race or trying to explain it as a confounding variable, and then conduct follow up research if findings from initial research are unclear.
- Acknowledge diversity within racial and ethnic groups and measure culture when possible.

Foundations

- Foundations should examine their role in funding initiatives that are working toward the elimination of health disparities.

Recommendations for Participation of Affected Communities in the Practice of Public Health

- Public health and environmental health agencies and the health care field should develop strategies to increase the diversity of their workforces to better serve communities with health disparities. This may involve partnering with universities and developing mentoring programs or internships. Developing recruitment and retention strategies is also important.
- The public health field should assure diverse participation from rural, minority, and GLBT communities on boards and commissions by inviting and accommodating the needs of these communities to meet after-hours or to be compensated for travel.
- The public health field and its partners should promote leadership development for minority health professionals, rural health professionals,

and health professionals within the gay, lesbian, and bisexual community.

- The public health field and its partners should collaborate with affected communities and support leadership development within those communities by offering opportunities and compensation for participation, plus facilitating involvement in leadership development programs.

Notes

1. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *Colorado 2000 State Health Profile,* Atlanta, Ga., (2000).

2. Colorado Division of Local Government, "Table 3A: Census 2000 Counts of Colorado County Population by Race/Ethnicity and Hispanic Origin," *U.S. Census Bureau: Censes 2000 Counts of Colorado Population,* Denver, April 13, 2001.

3. U.S Department of Health and Human Services, *Colorado 2000 State Health Profile*.

4. U.S. Department of Health and Human Services, Public Health Service, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* (Washington, D.C.: U.S Government Printing Office, 1991), No. PHS 91-50212.

5. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1999,* Denver, June 2001.

6. Colorado Department of Health And Environment, Health Statistics Section, *Colorado Vital Statistics 1998,* Denver, March 1999.

7. U.S. Department of Health and Human Services, *Healthy People 2010,* conference ed., 2 Vols. (Washington, D.C.: U.S Government Printing Office, January 2000).

8. Ibid.

9. C. P. Jones, "Levels of Racism: A Theoretic Framework and a Gardener's Tale," *American Journal of Public Health* 90, no. 8 (August 2000): 1212–1215.

10. Colorado Division of Local Government, "Table 3A."

11. U.S Department of Health and Human Services, *Colorado 2000 State Health Profile.*

12. Health Care Financing Administration, Region VIII, *The Denver Regional Profile,* Denver, September 1999: 7.

13. Colorado Department of Health and Environment, Division of Disease Control and Environmental Epidemiology, *Epidemiologic Profile of HIV and AIDS in Colorado through June 2000,* Denver, August 2000.

14. Colorado Department of Health and Environment, Health Statistics Section, Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999,* prepared for the Colorado Turning Point Initiative, Denver, May 2001.

15. The Association of American Colleges and Universities, the National Association of City and County Health Officials, Georgetown University, *Race, Class and Health in America,* a PBS Adult Learning Series, satellite downlink and videotaped forum, January 2000.

16. Asthma and Allergy Foundation of American, *Trends in the Cost of Illness for Asthma in the United States, 1984–1994,* Washington, D.C., September 2000. Online at www.aafa.org/highcosts.

17. Colorado Department of Public Health and Environment, *Leading Causes of Death and Death Rates by Race/Ethnicity*.

18. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics 1991–1999,* Denver.

19. Colorado Department of Public Health and Environment, *Leading Causes of Death and Death Rates by Race/Ethnicity.*

20. Ibid.

21. Ibid.

22. U.S. Department of Health and Human Services, *Healthy People 2010.*

23. Colorado Department of Health and Environment, *Leading Causes of Death and Death Rates by Race/Ethnicity*.

24. Colorado Department of Health and Environment, Disease Control and Environmental Epidemiology Division, "Hepatitis and Tuberculosis in the Asian/Pacific Islander Community" (presentation at the Asian Leader and Asian Physician Summit, Westminster, Colo., May 19, 2001).

25. U.S. Department of Health and Human Services, *Healthy People 2010.*

26. Katy Meng, data base analyst, Injury Prevention Program, Colorado Department of Health and Environment, personal communication, Denver, May 2001.

27. Colorado Department of Public Health and Environment, *Leading Causes of Death and Death Rates by Race/Ethnicity*.

28. Ibid.

29. U.S. Department of Health and Human Services, *Healthy People 2010.*

30. Colorado Department of Public Health and Environment, Health Statistics Section, Data Set, *Deaths, Crude Death Rates and Age-Adjusted Death Rate for Selected Causes of Cancer Death by Gender and Race/Ethnicity, Colorado Residents, 1995–1999 Combined*, prepared for the Colorado Turning Point Initiative Denver, June 2001.

31. Colorado Department of Public Health and Environment, Colorado Central Cancer Registry, Data Set, *Age-Adjusted Incidence and Mortality Rates for Selected Causes of Cancer Death by Gender and Race/Ethnicity, Annual Average 1995–1999, by Race and Ethnicity*, prepared for the Colorado Turning Point Initiative, Denver, June 14, 2001.

32. Colorado Cancer Coalition of Colorado, *Cancer Goals for the Year 2010,* Denver, April 5, 2001.

33. Colorado Department of Public Health and Environment, *Deaths, Crude Death Rates, and Age-Adjusted Death Rate for Selected Causes of Cancer Death by Gender and Race/Ethnicity, Colorado Residents, 1995–1999 Combined.*

34. Ibid.

35. Colorado Department of Public Health and Environment, *Age-Adjusted Incidence and Mortality Rates for Selected Causes of*

Cancer Death by Gender and Race/Ethnicity, Annual Average 1995–1999, by Race and Ethnicity.

36. Ibid.

37. Colorado Department of Public Health and Environment *Deaths, Crude Death Rates, and Age-Adjusted Death Rate for Selected Causes of Cancer Death by Gender and Race/Ethnicity, Colorado Residents, 1995–1999 Combined.*

38. U.S. Department of Health and Human Services. *Healthy People 2010*.

39. Colorado Department of Public Health and Environment, *Age-Adjusted Incidence and Mortality Rates for Selected Causes of Cancer Death by Gender and Race/Ethnicity, Annual Average 1995–1999, by Race and Ethnicity*.

40. Colorado Department of Public Health and Environment, *Deaths, Crude Death Rates, and Age-Adjusted Death Rate for Selected Causes of Cancer Death by Gender and Race/Ethnicity, Colorado Residents, 1995–1999*.

41. U.S. Department of Health and Human Services, *Healthy People 2010*.

42. Ibid.

43. National Institutes of Health, U.S. Department of Health and Human Services, "Diabetes in Blacks," NIH Publication No. 97-3266, March 1997. Available online: www.niddk.nih.gov.

44. National Institutes of Health, U.S. Department of Health and Human Services, "Diabetes in Hispanic Americans," NIH Publication No. 97-3266, April 1997. Available online: www.niddk.nih.gov.

45. Colorado Department of Public Health and Environment, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999*.

46. U.S. Department of Health and Human Services, *Healthy People 2010*.

47. Ibid.

48. Colorado Department of Public Health and Environment, *Colorado Vital Statistics 1999*.

49. Colorado Department of Public Health and Environment, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999*.

50. N. Krieger et al., *Racism, Sexism, and Social Class: Implications for Studies of Health, Disease, and Well-Being* (Atlanta, Ga.: Centers for Disease Control, 2000).

51. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics. 1992,* Denver, July 1994.

52. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics. 1995,* Denver, April 1997.

53. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1998*.

54. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1999*.

55. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1995*.

56. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1998*.

57. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital* Statistics. *1999*.

58. Colorado Department of Public Health and Environment, Division of Disease Control and Epidemiology, Tuberculosis and Refugee Health Programs Web site: www.CDPHE.state.co.us/dc/TB/Tbhome.asp.

59. Colorado Department of Public Health and Environment, Division of Disease Control and Epidemiology, Tuberculosis and Refugee Health Programs, Data Set, *Average Annual TB Case Rates, 1996–2000, per 100,000,* prepared for the Colorado Turning Point Initiative, Denver, June 2001.

60. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Division of STD Prevention, *Sexually Transmitted Disease Surveillance 1998,* Atlanta, Ga., September 2000.

61. Colorado Department of Public Health and Environment, Division of Disease Control and Environmental Epidemiology, *Sexually Transmitted Diseases in Colorado, Surveillance Report: 1999.* Denver, 2000.

62. Ibid.

63. Colorado Department of Public Health and Environment, Division of Disease Control and Environmental Epidemiology, *HIV and AIDS in Colorado, Monitoring the Epidemic (through December 31, 1999),* Denver, 2000.

64. Colorado Department of Public Health and Environment, Health Statistics Section, Colorado Vital Statistics, Data Set, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999*.

65. U.S. Department of Health and Human Services, *Healthy People 2010*.

66. Institute of Medicine, Committee on Prevention and Control of Sexually Transmitted Diseases, *The Hidden Epidemic: Confronting Sexually Transmitted Diseases* (Washington D.C.: National Academy Press, 1997): 18.

67. Colorado Department of Public Health and Environment, *Leading Causes of Death and Death Rates by Race/Ethnicity: Colorado Residents, Annual Average, 1995–1999*.

68. Ibid.

69. Ibid.

70. U.S. Department of Health and Human Services, *Healthy People 2010*.

71. C. Easley Allen, "Elimination of Health Disparities: Possibilities for Turning Point" (Turning Point State Grantees and Collaborative Meeting, Portland, Ore., April 12, 2000).

72. U.S. Environmental Protection Agency Newsletter, *Open Doors,* Washington, D.C.: 2000.

73. C. Easley Allen, "Elimination of Health Disparities."

74. Grant Makers in Health, *Strategies for Reducing Racial and Ethnic Disparities in Health,* Issue Brief No. 5., Washington, DC, 2000.

75. J.E. South-Paul, "Racism in the Examination Room: Myths, Realities, and Consequences," *Journal of Family Medicine,* Vol. 33, No.6, (2001): 473–475.

76. R.S. Morrison, et.al. We don't Carry That—Failure of Pharmacies in Predominantly Nonwhite Neighborhoods Stock Opioid Analgesics. New England Journal of Medicine, 342 (2000).

77. K. A. Schulmann, J. A. Berlin, and W. Harless, "The Effect of Race and Sex on Physicians' Recommendations for Cardiac Catheterization," *New England Journal of Medicine*, Vol. 340 (February 25, 1999): 618–626.

78. The Association of American Colleges and Universities, the National Association of City and County Health Officials, Georgetown University, *Race, Class, and Health in America.*

79. Kaiser Permanente *A Provider's Handbook on Culturally Competent Care,* Kaiser Permanente National Diversity Council, 2000.

80. Ibid.

81. U.S. Department of Health and Human Services. *Healthy People 2010*.

82. Colorado Department of Public Health and Environment, Division of Disease Control and Environmental Epidemiology, HIV/STD Surveillance Program, *HIV and AIDS in Colorado: Monitoring the Epidemic Through March30, 2001,* Denver, August 2000.

83. Coloradans Working Together to Prevent HIV/AIDS, *Barriers and Suitability Issues for MSM,* Denver 2000. Available online: www.home.earthlink.net/bongiob/chapt3.htm.

84. Ibid.

85. E. J. Rankow, "Breast and Cervical Cancer Among Lesbians," *The Jacobs Institute of Women's Health* 5, no. 3 (fall 1995).

86. C. C. Keipke, L. Vaias, A., Elliot, "The Importance of taking a Sensitive Sexual History," Journal of the American Medial Association, Vol. 217, No. 9, May 2, 1994.

87. B. Polena, B. Gillispie, D. Ledersman, T. O'Hara, The Lavender Project, *Lesbian Health Care Survey: Prepared for Presbyterian/St. Luke's Medial Center*, Denver Colorado, 1994.

88. Kaiser Permanente, *A Providers Handbook on Culturally Competent Care*, Kaiser Permanente National Diversity Council, 2000.

89. C. C. Keipke, et al. "The Importance of Taking a Sensitive Sexual History."

90. E. J. Rankow, "Breast and Cervical Cancer Among Lesbians."

91. S.A. Roberts, S.L Dibble, J.L. Scanlon, S.M. Paul, H. Davids, "Difference in Risk Factors for Breast Cancer: Lesbian and Heterosexual Women," Journal of the Gay and Lesbian Medical Association, Vol. 2, No. 3, 1998.

92. W. Wolff, *Health & Wellness Focus Group Series, October 1999,* prepared for the Gay, Lesbian, Bisexual and Transgendered Community Center of Colorado, Denver, October 1999.

93. Ibid.

94. Ibid.

95. Kaiser Permanente, *A Provider's Handbook on Culturally Competent Care*.

96. Ibid.

97. W. Wolff, *Health & Wellness Focus Group Series, October 1999,* prepared for the Gay, Lesbian, Bisexual Community Services Center of Colorado, Denver, October 1999.

98. Colorado Rural Health Center, *Colorado Rural Health Plan: Submitted for Colorado's Participation in the Medicare Rural Hospital Flexibility Program,* Denver, January 1999.

99. Colorado Rural Health Center, *Colorado Rural, Frontier and Urban counties, 2000 Census,* Denver, 2001.

100. U.S. Department of Health and Human Services, *Healthy People 2010.*

101. Colorado Department of Public Health and Environment, Health Statistics Section, *Health-Related Behaviors in the Eastern Plains,* Brief No. 25 Denver, July 1998.

102. Colorado Department of Public Health and Environment, Health Statistics Section, *Vital Statistics, Colorado Eastern Plains Residents, 1995.* Denver, July 1998.

103. Colorado Department of Public Health and Environment, Health Statistics Section, *Health Risk Behaviors and Mortality Rates in the San Luis Valley: Results from the Behavioral Risk Factor Surveillance System and Vital Statistics Data, 1997,* Brief No. 24, Denver, July 1998.

104. Colorado Department of Public Health and Environment, Health Statistics Section, *Health Risk Behaviors and Mortality Rates in Delta County: Results from the Behavioral Risk Factor Surveillance System and Vital Statistics Data, 1997,* Brief No. 37, Denver, August 2000.

105. Colorado Department of Public Health and Environment, Health Statistics Section, *Colorado Vital Statistics, 1999*, Denver CO, June 2001

106. Colorado Department of Public Hath and Environment, Chronic Disease Section/Health Statistics Section, *Diabetes Mortality in Colorado Residents as Assessed from Death Certificate Data, 1994–1998*, Denver, 2000.

107. Colorado Department of Public Hath and Environment, Chronic Disease Section, Diabetes Control Program, *Year 2000 Federal Grant Application*, Denver 1999.

108. Colorado Rural Health Center, *Colorado Rural Health Plan.*

109. U.S Department of Health and Human Services, *Healthy People 2010.*

110. Denise Hase, health officer, Northeast Colorado Health Department, Sterling, CO, personal communication, January 2001.

CHAPTER 6

KEY STRATEGY:

Promote Leadership Development for the Public Health Field and Community Partners

Executive Summary

Purpose of Chapter

The public health field is at a crossroads in terms of defining its role as it moves from direct service provider to population-based services. This, coupled with emerging public health challenges that have never before been seen, has created an urgent need for leadership in the public health field. However, it has become clear that public health professionals cannot do it alone. As we learned from the AIDS epidemic, leadership within communities is also needed to solve the complex problems that exist today while preparing for the challenges of tomorrow. The Colorado Turning Point Initiative has identified leadership development as a key strategy for eliminating health disparities, improving the health status of Coloradans, and ensuring health in the future.

Problem

Almost 14 years after the publication of the breakthrough report *The Future of Public Health* by the Institute of Medicine (IOM), some would contend that the U.S. public health system today is not much closer to realizing the goals of the IOM study than it was in 1988. While there have been public health achievements since then, new and more complex challenges have presented themselves. Among these new challenges are an increasingly diverse political constituency, the resurgence and spread of drug-resistant strains of disease-causing microbes, global transmission of new and emerging diseases, the threat of bioterrorism, decreased funding for public health programs and infrastructure, reduced health insurance coverage, and health disparities. All of these issues present overwhelming challenges to safeguarding the future health of the public.

Findings

Now, perhaps more than ever, there is a need for courageous, creative, impassioned leadership in the public health field, in addition to community partners. This is especially important in marginalized communities that have historically been disenfranchised. To this end, a full range of leadership skills need to be developed in diverse persons. Public health professionals must be participants in political processes and policy development in order to assure that the public health infrastructure is strengthened. They also need to be able to create a vision of what a healthy community looks like and then act to realize the vision in collaboration with community partners.

The leaders of tomorrow must not be left to chance but should instead be identified and cultivated through training and mentorship. This need becomes even more evident considering the new challenges facing public health and communities. Due to the complexity of these challenges, problem solving will require collaborative leadership skills—that is, the ability to facilitate many constituents or stakeholders to define the problem and then create and implement solutions.

Colorado Analysis

In addition to enhancing the leadership skills and approaches of current leaders, it is clear that there is a critical requirement to develop new leaders, thereby increasing the number of people who can engage others in resolving problems and in focusing the necessary commitment. There are several formal leadership training programs in Colorado. The Colorado Regional Institute for Health and Environmental Leadership is a yearlong program that targets the public, environmental, and health care fields. The Lundy Foundation's Leadership Challenge provides formal training to the gay and lesbian community. Leadership Denver is a formal program operated through the Denver Civic League. A strong influence on some of Colorado's leadership development programs has been the model developed by nontraditional community-based lay leadership. For example, the nationally recognized group Act Up mobilized the gay community and then influenced U.S. policymakers and the health care system to acknowledge the AIDS crisis and to target resources. The organization fundamentally changed U.S. public health practices.

Many experts also agree that formal training is not always necessary. Professionals in the field of collaborative leadership believe that mentoring and providing opportunities of authority for potential leaders facilitates the development of new leaders. There may be opportunities for Colorado to create more formal mentoring networks.

Recommendations

The Colorado Turning Point Initiative outlines several recommendations to enhance leadership development within Colorado's public health field. First, the committee recognizes the value of recognized leaders identifying and cultivating emerging leaders. This need can be met informally or by the support of formal training for the emerging leader. Also, formal mentoring programs could be developed that utilize established leaders and Regional Leadership Institute graduates. Leadership development should be included in all workforce development plans and incorporated into individual employees' professional development plans.

The Initiative also advocates recognizing collaborative leadership as a vital public health strategy. To this end, the public health field should facilitate the development of pubic health advocates in diverse communities, either through the support of formal training, creating leadership opportunities, or establishing mentor relationships. The Initiative also recognizes the difficulty in making leadership development available to rural communities and rural public health agencies. Technical assistance should be offered or training made available at statewide meetings and conferences.

Additionally, it is strongly recommended that public health leaders become a more integral part of the political process, such as running for public office. This creates advocates for public health policies and increased infrastructure firsthand. And last, to enhance all the leadership development recommendations mentioned thus far, Colorado Turning Point recommends that public health in Colorado adopt the National Association of City and County Health Officials' *Principles of Collaboration*.

Leadership Development

Almost 14 years after the publication of the Institute of Medicine's (IOM) breakthrough treatise, "The Future of Public Health," many would contend that the U.S. public health system now is not much closer to realizing the goals of the IOM study than it was in 1988. While numerous public health achievements have taken place since then—the increased surveillance of communicable diseases, for example—new and more complex challenges have presented themselves. An increasingly diverse political constituency, hybrid strains of antibiotic-resistant infections thought to have been eradicated a generation ago, global transmission of new and emerging diseases, bioterrorism, and decreased funding for public health programs, seem to present overwhelming challenges to safeguarding the health of the public. Reduced access to health insurance and health care services along with health disparities magnifies the challenge.[1] Now, perhaps more than ever, there is a need for courageous, creative, impassioned leadership in public health.

During the past 20 years, society has transitioned from industrial types of organizations to information-based organizations. The emergence of technology and knowledge are now very important commodities. As society has evolved, so has the public health field, which is in the midst of a transition from provider of last resort, to provider of essential services and core public health functions. The field of public health is at a crossroads and seeking to redefine its mission and role in society; to restore vitality to some of its institutions; and to invigorate its professional workforce.[2]

These challenges will require leadership within the public health and environmental fields in order to manage these changes and provide for the needed infrastructure. To this end, a full range of leadership skills will need to be developed. Public health and environmental health professionals will need to be participants in political and policy development. They must create a vision of what a healthy community looks like and then to act in order to realize this vision. They will need to share leadership roles with community partners, as collaboratives form to address complex community health issues.[3]

The Colorado Turning Point Steering Committee has identified leadership development within the public health field, and its community partners, as a key strategy for enhancing and assuring the future health of the citizens of Colorado.

The Changing Role of Public Health

From the 1840s to the 1940s, public health had six basic functions: the collection of vital statistics, sanitation, communicable disease control, the provision of maternal and child health programs, health education, and the provision of laboratory services. Between 1940 and 1980, several other functions were added, including the development and provision of personal health services.[4] The 1988 Institute of Medicine Report, *The Future of Public Health*, called for a paradigm shift, describing essential services and the core public health functions of Assessment, Policy Development, and Assurance.[5]

According to the book *Public Health Leadership* by Louis Rowitz, public health infrastructure may be strengthened by utilizing the core functions of public health and its essential services as a guide to changes that should occur. The future of public health will be determined by the way in which core functions are carried out and essential services provided. Public health leaders must evaluate the health status of the population, evaluate the capacity of the community to address its health priorities and implement preventive measures to reduce the impact of or even avoid public health crises. Leaders must not rely on the current assurance models (service interventions) but must implement new assurance models built on an integrated system of service and program delivery.[6]

The Credibility of Public Health

Researchers who have investigated the advances in clinical medicine over the past 50 years, estimate that only five of the 30 years of increased life expectancy can be tied to clinical breakthroughs. Most of the increase in life expectancy is instead due to changes in public health policy. If society continues to invest in the public health system

substantial financial savings will accrue. It is the public health system that prevents epidemics; protects the environment, workplaces, food and water; promotes healthy behavior; monitors the health status of the population; mobilizes communities; responds to disasters; assures the quality and accessibility of medical care; reaches out to high risk and disenfranchised communities; performs research to develop new insights and innovative solutions; and leads the development of sound health policy and planning.[7]

With new challenges emerging in the public health field infrastructure needs to grow in order to continue to assure a healthy state and nation. However, barriers stand in the way of needed infrastructure, impediments such as the public not understanding the role of public health and legislators not perceiving the value of public health. For many, public health has become incorrectly synonymous with medicine for poor people. Compounding the dilemma is a widespread complacency about disease, a growing antagonism toward traditional medicine and its providers, and a skepticism, if not outright fearfulness, about immunization programs, the backbone of public health successes of the last 50 years.

According to Laurie Garrett in her book, *Betrayal of Trust, the Collapse of Global Public Health*:

> Public health is a negative. When it is at its best, nothing happens: there are no epidemics, children are immunized, the air is breathable, food and water are safe to consume, the citizens are well-informed regarding personal habits that affect their health, factories obey worker safety standards, (and) there is little class-based disparities in disease or life expectancy.

She argues that in the absence of the failure of public health, politicians faced with budgetary cuts may feel justified in cutting public health programs.[8]

Nationally, governmental public health budgets were reduced 25% between 1981 and 1993.[9] Additionally, public health agencies and professionals are experiencing an identity crisis due to recent changes in roles and responsibilities. Many human service fields struggle with issues of credibility simply due to the fact that the public often doesn't understand the nature of services provided. It will take public health leaders and its partners to market the value of public health and assure that its infrastructure is strengthened.[10]

Public Health Leadership Defined

The literature on public health and leadership emphasizes the importance of acknowledging that visionary, inspiring leaders are critical to driving change in public health. Leaders bring hope and vision and have the ability to find solutions for the challenges that face the field of public health.[11] Public health leaders must take on many roles including that of visionary, advocate, change agent, convener, policymaker and bridge builder. This is often carried out in varying political and social environments where individual rights or moral issues may conflict with the most efficient ways of keeping populations safe and healthy; the leader must strike a careful balance. Needle exchange programs to prevent the spread of HIV, and helmet laws are two examples of this. One is reminded of the old maxim that "If you are not involved in controversy, you are probably not practicing public health."

Public health leaders are concerned with excellence in public health. They act as role models for emerging public health leaders. They develop benchmarks for best practices. They work with the leaders of other organizations to develop a comprehensive, integrative approach to improving public health in the community.[12]

Training of Leaders Critical to Public Health

The 1988 Institute of Medicine report, *The Future of Public Health,* argued that the creation of effective leaders must not be left to chance. The report stated the concern that schools of public health were not teaching the necessary leadership courses. The report recognized that leaders would need training not only in public health specialties but in all management techniques and tools. Leaders must know how to work across organizations and cultures and how to integrate organizational activities into the communities they serve.[13] As a consequence of this report and through the support of the Public Health Program Office at the Centers for Disease Control and Prevention, a National Public Health Leadership Institute and a number of state-based or regional leadership institutes have been developed. Many of these institutes are a collaboration of a school of public

health and a state health agency. Progress in leadership development was noted in the1996 Institute of Medicine report entitled *Healthy Communities: New Partnerships for the Future of Pubic Health*. The report emphasized that leadership development must continue and that building and strengthening the infrastructure of public health would require strong and effective leaders.[14]

Leadership Development In Colorado

As a part of the national network of public health leadership institutes, Colorado developed its Regional Institute for Health and Environmental Leadership in 1998. The Institute is a collaboration of the University of Denver, the University of Colorado Health Sciences Center, the Colorado Department of Public Health and Environment, the Rose Community Foundation and the Centers for Disease Control and Prevention. The objectives of the program are "to augment the leadership skills of the participants, to broaden the view of the health and environmental system, and to encourage collaboration across the sectors of the system, broadly defined." Up to 40 Fellows participate in a yearlong experience. The development of collaborative leadership skills is also a key component.[15] In addition to Colorado's program, Yale and Harvard Universities, and the University of Maryland are also recognized for quality leadership programs in the public health arena.

Other local leadership programs include the Lundy Foundation's Leadership Challenge, which has successfully developed leadership in marginalized communities using the American Leadership Forum as a template.[16] Leadership Denver through the Denver Civic League and the Denver Minority Leadership Program are additional examples.[17]

Leadership development does not necessarily require formal training. In a recent meeting in Denver, Colorado, a panel of experts in the field of collaborative leadership agreed that many leaders develop as the result of having a mentor and being given opportunities where they are empowered to lead. This is a model of leaders developing leaders.[18]

In addition to enhancing the leadership skills and approaches of current leaders, it is clear that there is a critical requirement to develop new leaders, thereby increasing the number of people who can engage others in resolving problems and in focusing the necessary commitment. Recognition of the need to cultivate a grass roots leadership is also vital in reconciling differences and being sufficiently representative of the diversity of interests within the public health and health care sectors. The effectiveness of these social changes will be measured when health conditions are altered in such a way that all are somehow better off. Successful engagement in this process can empower citizenry and bridge the schism between the public health and private care sectors.[19]

Leadership Practices

What practices make a leader successful? Jim Kouzes and Barry Posner have developed five fundamental practices derived from research-based case analysis and survey questionnaires spanning eleven years of study, which include a database of 10,000 leaders. These are the practices taught at Colorado's Regional Institute for Health and Environmental Leadership. The five practices include the following and will be described below:

- Challenging the process
- Inspiring a shared vision
- Enabling others to act
- Modeling the way
- Encouraging the heart

1. Challenging the Process: Leaders venture out to seek and accept challenges as opposed to waiting for things to happen to them. They are pioneers, willing to take risks, experiment, and innovate. Courage is a common characteristic in leaders who challenge the process.[20]
2. Inspiring a Shared Vision: Creating a vision involves imagining what could be. The leader has an absolute and total personal belief in their picture of the future and is confident in their abilities to make extraordinary things happen. The visionary must enlist people with similar interests by convincing them of the possibility to realize the vision. The shared vision is required because a person without a constituency is not a leader, and a constituency without a leader will not progress.[21]

3. Enabling Others to Act: Leaders recognize that grand dreams don't become significant through the action of a single leader. Leadership is a team effort. Exemplary leaders enlist support and assistance from all stakeholders invested in the vision. Leaders involve those who will be effected by the vision and make it possible for these people to do good work. Leaders work to make their constituencies feel strong, capable, and committed.[22]
4. Modeling the Way: Titles are granted but it is behavior that earns respect. Leaders go first and set an example and build commitment through simple, daily acts that create process and momentum. To model effectively, leaders must be clear about their guiding principles.[23]
5. Encouraging the Heart: To take on a vision is long and arduous work. People become exhausted and disenchanted. Leaders encourage the hearts of their constituents to carry on. Encouragement can come from dramatic gestures or simple actions. It is part of the leaders job to show people that they can win.[24]

Leadership Case Study

The AIDS epidemic of the last 20 years offers an enlightening and inspiring case study of public health leadership. Ironically, this leadership came from sectors outside of traditional public health organizations and the mainstream medical establishment. It was a community-based lay leadership, most identifiable through organizations like Act Up. These individuals, these non-traditional leaders, galvanized, invigorated and emboldened not only the gay community, but U.S. policy makers and the health care system, to acknowledge the AIDS crisis and to target resources toward research. Act Up accelerated the FDA drug approval process and invented the phenomenon of "patient empowerment."[25]

Act Up was politically savvy, expert at manipulating the media, and adroit at devising unconventional and provocative marketing campaigns (so called "guerrilla marketing") to both raise public awareness about the disease and to educate individuals about avoiding infection. The organization fundamentally changed American public health practices; it taught other groups focusing on specific diseases how to "successfully hector the government for access to new treatments and services."

> The AIDS walk begot breast cancer walks, and public parades for other illnesses are now as much a rite of spring in Central Park as softball and Shakespeare. And while few groups staged the 'die-ins' favored by Act Up that tied up Holland Tunnel traffic and turned Grand Central into a macabre rush-hour graveyard of the living, many emulated the strategy.[26]

In the apparently inhospitable political climate of the 1980's, AIDS activists acquired political power, raised public awareness and sympathy, and garnered massive governmental and private sector resources to combat the epidemic.

The originality and power of AIDS fits the model of Kouzes' and Posner's five fundamental leadership practices.[27] The gay community's advocacy and perseverance *challenged the process* of the traditional health care delivery system, and *inspired a shared vision* in the AIDS community to minimize the disease's devastation if not to find a cure. Additionally, it *enabled others to act*, not just those with AIDS or at risk for contracting the virus; it created the paradigm for patients to be knowledgeable about their illnesses and to take initiative in their recovery. Finally, AIDS activism *modeled the way* for all patients and all diseases, and was an *impassioned movement*.

Leadership Types

Many times, organizations are guided by traditional models of leadership dependent on the power of the authority or the position. These types of leaders are appropriate in many situations. In times of distress, we turn to authority. We place our hopes and frustrations upon those with presumed knowledge, wisdom, and skill. Both in organizations and in politics, we look generally to our authorities for direction, protection, and order. Direction may take the form of vision, goals, strategy, and technique. Authority as it relates to these challenges is enormously productive if the authority is a credible leader. Sometimes, larger, more complex problems demand the involvement of many constituents or stakeholders in defining the problems and in creating and implementing solutions. The problems are too big for one group or person to solve alone. These types of situations call for collaborative leadership.[28]

To distinguish when the appropriate leadership type is required, Ronald Heifetz has proposed model based on types of problems. He labels these problems as Type I, Type II, and Type III. Type I problems are readily definable and have solutions; what is then needed is an expert or authority figure it out or to fix it. For example, a broken leg is easily diagnosed and treated by an orthopedic doctor. A more traditional style of leadership is needed for Type I problems.[29]

Type II problems are clearly defined but the solution is either unclear or requires action and thought on the part of those affected. This type of problem cannot be fixed solely by the expert. For example, a patient's heart problem cannot simply be cured by the doctor, instead the patient must alter his behavior and take the lead in assuring his own health, guided by the doctor. A public health example could involve air pollution where sources of pollution are known but there is little agreement about who is responsible and what solutions are appropriate. Many people may have to change behavior or take specific actions to implement a solution. Getting agreement on the solution to a Type II problem is often difficult.[30]

A Type III problem is the most complex, and many leadership development experts argue, the most common seen in public health. With a Type III problem, neither the problem nor the solution is definable, and usually, neither the problem nor the solution is agreed upon. Examples of these complex problems include teen pregnancy, crime, suicide, violence, and drug abuse. The war on drugs is a great example: is the problem a supply or demand issue? Is poverty the problem? Why are some communities more affected than others? There is no agreement on the problem, which makes the solutions unclear as well. Is the solution the "War on Drugs" or a "Just Say No" campaign?[31]

Most challenges faced by communities are Type II and Type III problems. These problems demand the involvement of many constituents or stakeholders in defining the problems and in creating and implementing solutions. The problems are too big for one group to solve alone.

Collaborative Leadership

Leaders and citizens in this country's cities and regions face unprecedented challenges in addressing public problems of shared concern. As the complexity of US society has increased, traditional forms of leadership have become ineffective in solving complex problems.[32] Currently, across the county, citizens and civic leaders are addressing complex public issues in collaborative ways. They are taking new leadership roles that produce new visions and strategies for meeting public needs and creating a new civic culture. By creating approaches to help diverse citizens with disparate interests interact, they find ways to meet the broader needs of the community. In spite of cultural, geographic and circumstantial differences, political challenges are remarkably similar. "What makes leadership difficult in one area is the same in other areas. Traditional forms of civic and political leadership have failed to cope with these challenges."[33]

Characteristics of Collaborative Leaders

Typically, collaborative leaders usually have no explicit authority or power; leadership is a group process among peers. Collaborative efforts engage numerous sectors resulting in more diversity in terms of beliefs, values, knowledge and experience. Collaborative efforts attempt to address complex problems where the causes and solutions may be unclear. Collaborative leadership requires leaders to rely on the group work as their guide. Once the leader has inspired a shared vision, their task is to ensure that the process has integrity, is constructive and leads to results. The answers must emerge from the interaction of the stakeholders. Once this occurs, individual organizations are well positioned to reap the benefits of expanded thinking.[34]

Arthur Himmelman, author of "Collaborating for A Change: Definitions, Decision-Making, Roles and a Collaboration Process Guide," has written that there is an increased incidence of public, private, and nonprofit institutions and organizations working together in coalitions with communities, neighborhoods, and constituencies.[35] Their interactions are defined as networking, coordinating, cooperating, or collaborating. These levels of interaction for a common purpose can be viewed on a continuum and organizations must decide the

appropriate choice about their working relationships and their level of commitment. Unlike other organizations, public health has a greater commitment as an advocate for all individuals, demonstrated by a collaborative and ethical framework, bringing a new approach to complex issues.[36] Himmelman identified several reasons for creating multi-sector collaboration in communities. As legislation requires services without providing adequate dollars for implementation, there is a need for developing other ways for communities to cope with such responsibilities. He also noted that local collaborative initiatives should not be considered an alternative to greater governmental support, but rather as strategic and valuable contributions to partnerships that enhance that support. Himmelman's rationale for collaboration included utilizing a diversity of individuals and organizations; inclusiveness of broad community interests and concerns; "pooled" resources to meet the financial, physical and human resource demands; demonstration of successful collaborative models; and finally the potential power of the collective coalition to effect change.[37]

A number of studies conducted by the Institute of Medicine have examined the role of public health agencies in relation to community-focused activities and the improvement of health within entire communities. No complete working model of this strategic initiative will emerge quickly or easily, in particular the emergence of partnerships to improve the health of communities. Investing in a process that mobilizes expertise and strategic action from a variety of community members, as well as state and organizational entities, offers us the best possibilities to substantially improve community and public health. Collaborative leadership holds an important key to the sustainability of those proposed projects and programs launched to implement other recommendations in this report. It appears to be a powerful means of achieving the stated goals of programs and to go beyond the tangible outcomes, and to enhance the potential for improvements and changes in other areas by creating robust partnerships. Educating, mentoring and providing opportunities for successful experience adds to the cadre of leadership necessary to continue thinking beyond limitations and into the realm of all that is possible when committed, passionate people learn to lead others.

Through increased infrastructure in the area of collaborative leadership development, recognized, experienced leaders will find access to and value in learning new approaches to leadership and in making concerted efforts to bring together all the parties who have solutions and answers. Additionally, the next generation of leaders will benefit from a development program that increases personal effectiveness as managers and as leaders. It is this belief in the need for leadership development that Colorado Turning Point issues this report.

Summary

A review of the literature has revealed that there are a number of theoretical models for successful leadership. Through increased infrastructure in the area of collaborative leadership development, recognized, experienced leaders will find access to and value in learning new approaches to leadership. However, as has been seen with AIDS advocacy and leadership of the last 20 years, successful, courageous, innovative leadership transcends theoretical frameworks and conventional, acceptable notions of problem solving. Leaders can create political consensus, envision solutions to complex problems, and raise capital, both human and financial. Politics is the art of the possible, and political will can ignite passions, spur awareness and embolden leaders not yet known to solve the public health problems of this century.

Recommendations

The following recommendations were derived from a focus group of Turning Point Steering Committee Members and representatives from the Regional Institute for Health and Environmental Leadership

Public and Environmental Health Fields

- Establish mentoring programs based on best practices to guide the building of networks, and to teach skills based on the wisdom of experienced leaders
- Recognize collaborative leadership as a vital public health strategy and introduce the concepts to lawmakers, policy level decision makers, and elected and appointed officials

- Provide technical assistance to small, rural communities and rural health agencies to aid in their leadership development efforts.
- Build a workforce development plan focusing on leadership development
- Link national level leadership development activities to the state and local level
- Adopt NACCHO's (National Association of City and County Health Officials) Principles of Collaboration

Public and Environmental Health Leaders

- Current leaders should recognize emerging leaders and support their leadership development through formal training and mentoring
- Leaders should run for public office to influence policies that will benefit the field and society as a whole
- Supervisors should facilitate the inclusion of leadership development in individual employee plans for professional development.

Public Health and its Partners

- Broaden collaborative initiatives to include others with the same problems or issues
- Recruit leaders who model collaborative characteristics and qualities to assist in workforce development of leadership skills
- Convene summits or conferences to bring people together to learn about collaboration, begin to build networks and begin collaborative processes
- Develop leadership programs for communities with health disparities or promote and support the attendance of community members in leadership programs

Leadership Development Programs

- Provide academic credit, recognition, and/or certification
- Coordinate Regional Institute graduates to as mentors for developing leadership skills within the public health workforce and with community partners

Notes

1. Laurie Garrett, *Betrayal of Trust: The Collapse of Global Public Health* (New York: Hyperion, 2000), 1–13: 545–85

2. Louis Rowitz, *Public Health Leadership: Putting Principles into Practice* (Gaithersburg, MD: Aspen Publishers, 2001): 393–94

3. Rowitz, 3

4. Rowitz, 62

5. Institute of Medicine, *The Future of Public Health* (Washington, DC: National Academy Press, 1988)

6. Rowitz, 90–91

7. Rowitz, 138

8. Garrett, 7

9. Ibid.

10. Rowitz, 4

11. Rowitz, 65

12. Rowitz, 7, 16

13. Institute of Medicine

14. Institute of Medicine, *Healthy Communities: New Partnerships for the Future of Pubic Health* (Washington, DC: National Academy Press, 1996)

15. Regional Institute for Health and Environmental Leadership (RIHEL), *Advanced Leadership Training Pamphlet* (Denver: 2000)

16. Lundy Foundation, *Leadership Challenge 2001: Connecting, Communicating, Collaborating Pamphlet* (Denver: 2001)

17. National Civic League, *Leadership Program Pamphlets* (Denver: 1999)

18. Conference Proceedings for the Collaborative Leadership Forum, Turning Point Initiative, 6 April 2001, University of Denver Campus, Denver.

19. Ibid.

20. James M. Kouzes, and Barry Z. Posner, *The Leadership Challenge* (San Francisco: Jossey-Bass Inc., 1995): 8–14

21. Kouzes and Posner, 10–11

22. Kouzes and Posner, 11–12

23. Kouzes and Posner, 12–13

24. Kouzes and Posner, 13–14

25. Jennifer Steinhauer, "AIDS Altered the Fabric of New York in Ways Subtle and Vast." *The New York Times on the Web,* 4 June 2001, results from a yahoo.com online search using the title: *http://www.nytimes.com/learning/students/pop/010605snaptuesday.html* (June 5, 2001)

26. Ibid.

27. Kouzes and Posner, 10–14

28. David D. Chrislip, and Carl E. Larson, *Collaborative Leadership: How Citizens and Civic Leaders can Make a Difference* (San Francisco: Jossey-Bass Inc., 1994): 129–131

29. Ronald A. Heifetz, *Leadership Without Easy Answers* (Cambridge: Belknap Press of Harvard University Press, 1994): 73–76

30. Heifetz, 74

31. Heifetz, 74–76

32. Chrislip and Larson, 19

33. Chrislip and Larson, 1

34. Chrislip and Larson, 129–31

35. Arthur T. Himmelman, *Collaboration for a Change: Definition, Decision-making, Roles and a Collaboration Process Guide* (Minneapolis: Himmelman Consulting, 1996)

36. Ibid.

37. Ibid.

The Road to Success

SO WHERE DO WE GO FROM HERE? How do we proactively influence the issues presented before us? First, it is important to recognize the efforts that have brought the state and communities to where they are today. Because of collaborative relationships that have been formed thus far, multifaceted and practical strategies have been developed. With that in mind, it will undoubtedly be the result of continued collaborative efforts and expansion of existing partnerships that create a public health system we jointly envision for the future.

The Colorado Turning Point Initiative is aware of several collaborative, statewide efforts already underway that are addressing recommendations listed in this state plan. One such collaboration is between the Office of Local Liaison at the Colorado Department of Public Health and Environment and the Colorado Association of Local Public Health Leaders. Their priority is to conduct a public health capacity needs assessment—a critical first step in cooperatively determining essential services and needed resources. The Colorado Health Data Advisory Committee has launched efforts in response to recommendations outlined in the Health Status Assessment Capacity chapter. Remarkably, some of these recommendations have already been realized. The Colorado Coalition for the Medically Underserved (CCMU) is one of the state's leaders in advocating for an improved health care system. The CCMU is paving the way with its shared vision of "unimpeded access to affordable, quality health care and preventive care programs … for all Coloradans by 2007."

Alongside these efforts, the Turning Point Initiative has been awarded a four-year implementation grant by the Robert Wood Johnson Foundation that enables the Initiative to move forward with the recommendations outlined in the Elimination of Health Disparities chapter. To this end, Turning Point will focus on building the leadership capacity of the Colorado Minority Health Forum, a collaboration dedicated to improving the health status of communities of color in Colorado. The grant will also allow Turning Point to support proactive efforts of the Colorado Rural Health Center and the Gay, Lesbian, Bisexual, Community Services Center of Colorado to eliminate health disparities in rural communities and the gay, lesbian, bisexual, and transgendered community, respectfully. Finally, Turning Point will continue to support the Regional Institute for Health and Environmental Leadership. The Institute is a guiding entity in terms of leadership development for the public and environmental health fields and their partners. Turning Point and the Institute are working jointly to sponsor and mentor rural and minority health professionals and community partners who are working with populations affected by health disparities.

Turning Point also recognizes efforts made by others, who are out in the trenches also making great strides and contributions. Since the onset of the Colorado Turning Point Initiative, its strength has been largely due to the sum contributions of many individuals, organizations, and nontraditional partners who see the need for change in our public health care system. Turning Point continues to believe that any one person, community, or entity can be empowered or has the ability to take a leadership role in mobilizing partners around the recommendations in this plan, and we openly invite their participation. For more information about this plan or to obtain additional copies, call (303) 692-2094 or visit our Web site at www.cdphe.state.co.us/tpi.

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