

# West Virginia State Health Plan

## *Health Care Quality\**

### **I. BACKGROUND**

The Institute of Medicine (IOM) defines health care quality as “the degree to which health services for individuals and populations increase the likelihood of desired health care outcomes . . . consistent with current professional knowledge.” In 1998, the IOM National Roundtable on Health Care Quality, a 20-member group with representatives from the private and public sectors, medicine, nursing, academia, business, consumer advocacy, and the health media, concluded that:

The quality of health care can be precisely defined and measured with a degree of scientific accuracy comparable with that of most measures used in clinical medicine. Serious and widespread problems exist throughout American medicine. These problems, which may be classified as underuse, overuse, or misuse, occur in small and large communities alike, in all parts of the country, and with approximately equal frequency in managed care and fee-for-service systems of care. Very large numbers of Americans are harmed as a direct result. Quality of care is the problem, not managed care. Current efforts to improve will not succeed unless we undertake a major, significant effort to overhaul how we deliver health care services, educate and train clinicians, and assess and improve quality. (IOM, National Roundtable on Health Care Quality, 1998)

Contemporaneously, the President’s Advisory Commission on Consumer Protection and Quality in the Health Care Industry (1998) concluded the American health care industry does not have the ability to systematically measure and report on the quality of health care that is delivered to patients. Both IOM and the President’s Commission observed that there are substantial areas where improvements are necessary. Like the IOM Roundtable, the President’s Advisory Commission cited several key indicators of the problem:

- **Avoidable Errors.** Many people are injured during the course of their treatment, and some die prematurely as a result. Errors include missed diagnoses, errors in interpretation of laboratory or imaging studies, medication prescribing, and administrative errors, surgical errors, and errors in the care furnished by physicians, nurses, and other health care professionals.
- **Underuse of Services.** Millions of people do not receive care they need and suffer needless complications that add to disease, disability, and death, to health care costs and to reduced productivity. Technically, underuse occurs when there is evidence that a patient did not receive a service or procedure whose benefits exceeded its risks.
- **Overuse of Services.** Millions of Americans receive health care services that are unnecessary, increase costs, and often endanger their health. In technical terms, overuse occurs when a health service is provided that poses substantially greater risks than potential benefits to the patients.
- **Variations in Service Use and Delivery.** There is tremendous variation in the delivery of health care services, including sharp regional differences and significant variation even within small areas. Although some variation in services is expected because of differences in health status, availability of resources, and ambiguity in clinical knowledge, variations of the magnitude observed are not clinically justified or defensible.

\*Note: tables and maps referenced but not contained here may be viewed and obtained, in their entirety, at the West Virginia Health Care Authority.

The President's Advisory Commission recommended creation of a private sector organization called the National Forum on Quality Measurement and Reporting to promote ongoing national leadership in encouraging and guiding continuous improvement in health care quality. Planning for the Forum is under way; it is expected to be operational by late 1999. Among its major tasks, the Forum is expected to:

- Develop a framework based on national aims for quality improvements, to coordinate and promote quality measurement and reporting.
- Develop a comprehensive plan for implementing quality measurement, data collection, and reporting standards in the public domain to ensure availability of comparative information on the quality of health care furnished in all sectors of the health care industry.
- Identify and endorse core sets of quality performance and consumer protection measures to meet the common information needs of purchasers, consumers, providers, health plans, quality oversight organizations, federal and state policymakers, and public health officials.
- Promote standardized measurement specifications, information collection, verification and audit tools, and analytical tools for quality measurement and establish an effective education and communication plan for use by all stakeholders.
- Encourage the development of health information systems and technology to support quality measurement, reporting and improvement.

The Forum is expected to play an important role in encouraging standardization of measures of quality and the data needed to support those measurements. The result should be more efficient, effective quality measurement, reduced total demand for data from providers, and more publicly available, comparable information on health care quality. It will convene key organizations involved in developing quality performance measures to promote coordination and acceptance of the measures developed. Likely organizations to be involved include the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), National Committee on Quality Assurance (NCQA), Health Care Financing Administration (HCFA), Agency for Health Care Policy and Research (AHCPR), American Hospital Association (AHA), American Medical Association (AMA), and American Nurses Association (ANA).

Those responsible for improving quality in West Virginia should monitor the work of the Forum closely and employ its guidance in their own efforts to promote consistency in data collection, integrated health information system formation, and quality measurement throughout the state.

## **II. SYSTEM ASSESSMENT**

### **A. Context**

Although there is little or no public information delineating avoidable errors and other internal deficiencies of the health care system, there are indications that health care quality in West Virginia varies considerably within and across communities, delivery systems, geographic areas, and health problems. Analyses of West Virginia morbidity and mortality data reveal substantial disparities among selected populations. The *Dartmouth Atlas of Health Care: The South Atlantic States* analyzes selected variations among Medicare patients. These differences may be associated with a number of demographic, economic, environmental, personal behavior, health provider, and health system variables. Strategies for improving quality include a mix of techniques involving provider interventions, patient-oriented interventions, and health-system-oriented interventions. It is also necessary to recognize that many of the determinants of population health are not individual-specific, but rather reflect characteristics and factors found in the larger

environment. Examples include crime, poverty, and employment levels, air and water purity levels, and vocational and community safety and accident prevention programs.

Information on health care quality varies depending on the rigor that has been used to define service populations, analyze patterns of care, and interpret the findings. Population-based analyses of health care delivery and clinically linked health services research may be used to identify gaps and inconsistencies in health care delivery. Relatively recently, several population-based approaches have been developed to generate information that evaluates the health care delivery system. Small area variation studies show differences in practice patterns and how they affect access, costs, and quality.

Both physician and patient characteristics are linked to certain variations. Patient preferences and psychosocial characteristics, too, can influence patterns of disease and health care use. Examples of provider and patient factors that contributed to practice pattern variations include:

- Provider-related factors
  - Professional background and experience level of providers
  - Professional attitudes toward risk
  - Availability of specialists in the community
  - Attitudes toward cost-effectiveness as a criterion for recommending care
  - Quality and nature of the medical evidence
  
- Patient-related factors
  - Severity of illness and type of disease
  - Gender, race, and social and economic background
  - Inequalities in availability or use of services among special populations
  - Patient risk-taking preferences in selecting treatments
  - Patient tolerance for pain or discomfort
  - Idiosyncratic psychosocial issues

The ability to assess quality requires agreed-upon measures and the data needed to apply them. Data to study all of these factors in West Virginia are not now readily available, and special efforts may be needed to obtain and analyze the data in some of these areas.

West Virginia does routinely collect vital statistics data, mortality and morbidity data, hospital and nursing home operating data, behavioral risk factors survey information, population counts, and some selected health plan information. These data used alone or in conjunction with other health-related information, e.g., motor vehicle accident data and transportation data, are generally available and can be used in quality improvement efforts.

## **B. Strength-Weakness-Opportunities-Threats (SWOT) Analysis**

Improving health care quality requires commitment and resources, as well as common measures and an information system to support measurement. The following discussion highlights the strengths, weaknesses, opportunities, and threats that should be addressed in trying to improve quality in West Virginia.

### **1. Strengths**

Quality measurement and improvement is well under way. The *West Virginia Healthy People 2000 Midcourse Review 1995* shows positive changes in some health status measures. Comparable performance data are available on some standard measures for hospitals (from both the WVHCA and WV Hospital Association) and for health plans participating in HEDIS.

There are a number of databases useful for quality improvement efforts. These include vital and health statistics, mortality and morbidity data, use and cost of hospital and nursing home services, behavioral risk factor data, immunization data, and a number of other health and health-related databases.

The *Dartmouth Atlas of Health Care: The South Atlantic States* displays the variations among populations and geographic areas for Medicare patients in West Virginia. Similar analyses can be performed using existing hospital discharge data for all populations.

West Virginia policymakers recognize the importance of health data as a necessary tool for addressing the profound underlying personal and community health problems they confront and to help the health care system respond effectively to these problems. Senate Bill 458 charges the WVHCA to coordinate and oversee data collection of state agencies, to develop an integrated system for the efficient collection, use, and dissemination of those data, and to promote the development of statewide health information systems and the use of electronic data interchange (transmissions). WVHCA plans to build a data warehouse/clearinghouse for data storage and access. Data available for storage in the WVHCA data warehouse include Public Employees Insurance Agency (PEIA) data, 1994-1998; Workers' Compensation data, 1996-1998; Medicaid data, 1997- early 1999; hospital discharge data (Uniform Bill format), 1991-early 1999, and selected health department data. These data represent a powerful tool for analysis, especially if different databases could be merged or linked together.

WVHCA has developed and successfully pilot-tested an electronic interactive website that contains patient-level hospital data for West Virginia (Health IQ). The site will be open to the public upon the Governor's approval. Other states (e.g., Missouri, Utah, Wisconsin) have found interactive query sites a popular and useful tool for researchers, the public, providers, and an array of other interested groups.

## **2. Weaknesses**

Although there are numerous health and nonhealth databases available in West Virginia, using them for quality measurement may be difficult or impractical because of problems related to data gaps (e.g., no ambulatory care data, physician office data, etc.), comparability, timeliness, quality, and accuracy. Specific threats to data acquisition and analysis could arise from the frequency of data collection (timeliness), from the inability to gain access to data or certain data elements not now collected, and from the economic burden of new data collection and processing.

Currently, there is no general consensus among the interested parties on a common core set of measures. Critical interested parties will need to accept a core set of quality measures and identify the data needed to evaluate the measures before significant progress can be made. The core set should address priority health issues, as well as provide an overall assessment of the population's health and the delivery system's performance.

Historically, West Virginia has not prepared or disseminated publicly the types of reports on quality, effectiveness, or patient satisfaction with hospitals, physicians, or health plans that many other states (e.g., Maryland, New Jersey, New York, Pennsylvania, Texas and Utah) have published. Given this history, early agreement on data dissemination and public reporting is of unusual importance. Efforts to provide useful information to each audience (policymakers, public, media, hospitals, physicians, plans, etc.) may be particularly valuable if there is to be broad support for the effort.

## **3. Opportunities**

There are resources and well-known examples of successful efforts elsewhere upon which West Virginia can model its efforts. The National Forum on Quality Management and Reporting, for example, will help promote standardization and uniformity among quality measurement of programs. Missouri and South Carolina, to name just two states, have leveraged the value of existing databases by merging or linking several together to develop the capability to directly address public health problems

The existing hospital discharge database could be used to perform analyses such as small area variation studies and preventable hospitalization studies. Models of studies done elsewhere are readily available. Findings could be used to improve quality, target health education and primary care services program improvement, and inform providers, the public, and other interested groups about the performance of the health care system.

West Virginia can compare its hospitals' experience to other states by participating in the Agency for Health Care Policy and Research Healthcare's Cost and Utilization Project Quality Indicators Project. This set of 33 clinical performance measures is useful for hospital self-assessment of inpatient quality and for statewide and community assessment of access to primary care. It includes measures of potentially avoidable adverse hospital outcomes, inappropriate use of hospital procedures, and avoidable hospital admissions.

#### **4. Threats**

Even with the maximum use of resources and models available elsewhere, additional expenditures are likely to be needed if the additional data needed to assess quality are to be obtained. Data sources may object to bearing the cost of collecting and reporting the data.

Lack of agreement on a definition of quality and measurement techniques among interested parties could thwart progress. Reaching consensus on a core set of quality measures and the data needed to support the measures, and on collecting the data and reporting the results, could be difficult to achieve.

In some cases, turf issues have arisen elsewhere. Those who control the data may not wish to share it with others.

Legitimate concerns about the ability to continue to operate, given current financial difficulties and the negative economic effects on many entities deriving from the implementation of the Balanced Budget Act of 1997, may result in quality issues being set to the side as necessarily subsidiary to survival.

Pursuing systematic quality improvements will require agreement on core data sets and core measures, and on developing better information systems. Much can be done to identify and improve current practices and conditions using existing databases, but data collection and reporting will need to expand into other settings as quickly as is practical.

### **III. PROBLEM STATEMENT**

Health care quality is problematic nearly everywhere. As recent reports from the Institute of Medicine and the President's Advisory Commission state, though its dimensions may vary considerably from state to state and among communities within states, the problem is endemic and will have to be approached systematically if substantial improvement is to be made. The three general areas of concern identified by the President's Advisory Commission are all to be found in West Virginia. With the exception of "avoidable errors," which are not publicly documented or reported, there is considerable evidence of higher-than-expected use of some services, of underuse that may result from limited access, and of considerable variation in use among similar populations that does not appear to be related to underlying differences in health status.

Comparisons of common health indices for West Virginia with those of contiguous states and the nation generally show much higher-than-expected morbidity and mortality statewide (Table 1, entries 1-34, Mortality and Morbidity, Maps 1-25). Regional and county level analyses reveal the same patterns, i.e., morbidity and mortality patterns substantially higher than expected and wider variations among regions and counties than can be logically explained by underlying population characteristics (Maps 25-50). Use of health care services also is higher than appears justified for many acute care services.

The problem facing health care officials in West Virginia, as elsewhere, is how to maintain and improve quality in a cost-effective manner, without sacrificing access or unduly burdening any element of the delivery system, in an efficient, effective manner.

#### **IV. ANALYSIS**

Health indices in West Virginia raise a number of concerns that suggest, but do not in and of themselves demonstrate, quality deficiencies. West Virginia generally ranks lower than neighboring states in terms of key morbidity, mortality, and natality measures, and state and county level data show marked disparities among populations and communities in West Virginia. The incidence and prevalence of heart disease, cancer, diabetes, and chronic obstructive pulmonary disease, as well as several other major chronic diseases, is higher than expected throughout West Virginia, and varies considerably within the state (Table AT-1, Maps AC 1-12). Unusually high morbidity and mortality rates, the failure to make progress comparable to that of contiguous states and the nation in reducing morbidity and mortality over the last decades, and the comparatively high hospital and surgical use rates for a number of high variation conditions are troublesome, and warrant careful attention. Given that it is possible that all of these negative indices could reflect deeply entrenched health problems and needs, rather than system deficiencies and failures, all of these areas need careful detailed study to determine whether and how the health care delivery system can respond more effectively.

Given its demography, geography, economic circumstances, and supply of health care personnel and other resources, access to care by the elderly, particularly the poor elderly, is a major concern. The rural elderly are at increased risk of not receiving needed services. The *Dartmouth Atlas of Health Care: The South Atlantic States* shows hospital use by Medicare patients for a number of “high variation” surgeries (e.g., cardiac surgery, back surgery, prostate surgery). Generally, rates are higher than expected in West Virginia and vary widely within the state. Elderly West Virginians will be the state’s largest at-risk population for decades to come. Both of these findings raise serious questions and warrant detailed, systematic study.

The necessarily small size of service programs is another area of potential concern. Generally, program size and volume are inversely correlated with outcome: the higher the volume, the lower the complication and mortality rate. This pattern has been shown to hold not just for highly specialized services such as neonatal intensive care and cardiac surgery, but even for routine inpatient services such as obstetrics and surgery. Although some studies have shown that the volume/outcome relationship does not appear to hold for the array of services usually provided in smaller rural hospitals, this, too, is an area that warrants careful study (Schlenker et al., “Volume/Outcome Relationships in Small Rural Hospitals,” *Journal of Rural Health*, Fall 1996).

A more complete picture of health care quality in West Virginia awaits the development of a more fully integrated health information system that will support the additional analyses required. In the meantime, much can be learned from a greater use of existing hospital discharge data by linking hospital data with birth and death records, Workers’ Compensation data, and highway accident/crash data; by analyzing variations in treatments and physician practice patterns, and by examining more closely hospital admissions that could have been prevented (e.g., admissions for asthma and diabetes-related conditions that may have been prevented through changes in the primary care delivery system).

## V. ACTION STEPS

Several of the steps that need to be taken to improve quality have been identified. Senate Bill 458 gives the WVHCA responsibility for coordinating data collection and reporting and for creating a data warehouse/clearinghouse (CHRIS). This is an essential tool for making more effective use of the existing data and for promoting an integrated statewide health information system. WVHCA has already established a Data Advisory Group (DAG), which should ensure that key interested parties are involved in the process.

Steps derived from ongoing activities, suggestions, and analyses discussed in other sections of this plan include: Inventorying the continuum of health services and programs (e.g., education, prevention, promotion, acute care, rehabilitative care, long-term care) available in the state for potential quality measures to be included in the core set.

- Using existing data to identify variations in service use among providers, communities, and populations, and work with interested parties to reduce them where appropriate.
- Developing a core set of health care quality measures and identify the data needed to apply them. The measures should address overuse, underuse, avoidable errors, patient satisfaction with providers and the health care system, and the health problems of specific high-risk populations. Consideration should be given to beginning with the currently available measures listed below. (*Consultation with those now using these measures would be productive.*)
- Compare West Virginia hospital experience to other states using the AHCPR's HCUP Quality Indicators.
- Gather and report HEDIS data from all managed care organizations in West Virginia, including Medicare + Choice plans and Medicaid managed care plans.
- Survey health plan enrollees using the AHCPR Consumer Assessment of Health Plans (CAHPS).
- Select and use Foundation of Accountability (FACCT) performance measures such as those for coronary artery disease, alcohol misuse, end of life services, and/or pediatrics.
- Incorporate the federal administrative simplification standards for use in West Virginia data collection and reporting.
- Encourage private data sources to share their data in CHRIS. Develop data-sharing agreements and policies and procedures governing access, ownership, security, and data release.
- Monitor the National Forum on Quality Measurement and Reporting. Consider adopting its recommendations for use in West Virginia where applicable.
- Develop consensus information-dissemination policies and procedures, including the education of consumers, policymakers, and others about how to use the information

## VI. POTENTIAL SOLUTIONS

Developing CHRIS (Consolidated Health-Related Information System) is the initial phase of a process that should lead to an integrated health information system statewide. Considerable effort and substantial resources will be required to develop, maintain, and expand data collection and reporting and to oversee data release and access. Inventorying existing databases will be useful to identify data gaps and guide data collection and reporting efforts. Before any new data collection is undertaken, interest parties should be convened to develop quality measures for services and settings covered. This approach focuses limited resources to priority areas and offers flexibility to address emerging issues.

Developing and implementing a quality improvement process is an ongoing activity that will require considerable time and energy, as well as additional resources. A deliberate process grounded in the CHRIS framework and development process appears advisable.

## **VI. RECOMMENDATIONS**

Stakeholder expectations concerning data collection, analysis, and system change may be unrealistic. The time needed to stimulate and observe changes in health care delivery or individual behavior will likely take years. Consequently, conservative objectives and schedules should be established. Those guiding the process may wish to take advantage of other states' experiences to gain insight on these practical problems, as well as into the technical problems they faced.

Selection of several high-risk populations for special attention could prove useful in helping to focus attention and energy. Incorporation of measures developed by others should expedite the development process. These measures have been tested elsewhere and found valid and reliable and should be acceptable to most stakeholders. Examples include AHCPR's HCUP Quality Indicators and HEDIS measures.

Small area variation studies, using existing hospital data, should be fruitful. They are likely to show significant variations among facilities, communities, and at-risk populations. These findings, and the implications for changes in the delivery system and in personal behavior, would be unusually valuable guidance as the information system is established and formal efforts to improve quality are undertaken.

## **VIII. FEASIBILITY**

West Virginia's consistently poor health indices are widely understood and provide more than sufficient incentive among all interested parties to ensure interest in quality improvements. State and regional disparities are already cause for considerable concern. There appears to be sufficient momentum and interest to begin addressing these problems.

Limited resources suggest a targeted approach; concentrating initially on several high-risk populations, especially the elderly, may be appropriate. The cost of additional data collection and reporting will necessarily be balanced against the value of additional analysis.

## **IX. ACCOUNTABILITY**

Accountability as used here refers to the willingness of health care officials and organizations to acknowledge that there is substantial reason to conclude that quality indicators such as avoidable errors, the underuse and overuse of services, and unexplained wide variations in service use patterns suggest that there are notable quality deficiencies in the state's health care system. It also implies agreement that this question, and these anomalies, warrant careful study and that the results of any studies conducted be made public.

Given recent and ongoing statewide activities to maintain the integrity of the health care delivery system and assess its functioning, there is little reason to doubt that those in responsible positions are prepared to be held accountable.

Accountability will necessitate regular data collection and reporting, and the imposition of penalties for failure to supply needed information.

## **X. ISSUES FOR THE FUTURE**

Assessing and improving health care quality is a continuous process. Over time, West Virginia needs to expand its analyses to include examination of care provided in settings for which there is now little or no data available. Planning and regulatory changes may be required to ensure that providers and other data sources collect and report the data elements needed to support quality improvement measures.

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### World Wide Web Sites

- Quality Indicators Project, Healthcare Cost and Utilization Project, Agency for Health Care Policy and Research, [ahcpr.gov/data/hcup/qifact](http://ahcpr.gov/data/hcup/qifact)
- National Forum for Health Care Quality, Measurement and Reporting , [uhfnyc.org/intro/qfpc.htm](http://uhfnyc.org/intro/qfpc.htm)
- Quality Measurement Advisory Service, [qmas.org](http://qmas.org)