

# Quality of health care in the US managed care system

## Comparing and highlighting successful states

Kristina L. Guo

*University of Hawaii-West Oahu, Pearl City, Hawaii, USA*

### Abstract

**Purpose** – This paper aims to examine the issue of quality of care in the US managed care system and to compare state-level policies and programs. Specifically, it aims to describe five states which are making the most quality of care improvements.

**Design/methodology/approach** – This study examines the literature to identify states' care quality rankings. Additionally, five state case studies are presented to illustrate various programs approach to quality.

**Findings** – The paper finds that some states are better than others in their strategies to enhance quality of care. California, Florida, Maryland, Minnesota and Rhode Island are considered among the best. Thus, their programs are described.

**Research limitations/implications** – From a research perspective the study brings a renewed focus on various methods in which states invest to improve residents' quality of care.

**Practical implications** – From a practical standpoint, since quality of care is an important topic and interesting to all stakeholders in health care – policymakers, consumers, providers, and payers – readers can use the study's results to compare states' strategies and develop new ways to increase quality.

**Originality/value** – This study's value lies in the way it helps states to compare their performance over time and against other states as they make improvements to enhance quality.

**Keywords** Quality, Health services, Medical management, Local government reform, United States of America

**Paper type** Case study

### Introduction

The USA spends more on health care than any other nation. Yet, as of this year, there is still 14.5 percent of the population without health insurance (CDC, 2006). Rising health care costs remains a major concerns for policymakers, healthcare organizations and consumers. The growth of Managed Care since the 1980s, as a mechanism to decrease cost, increase access and enhance quality is questionable, and changes have been miniscule. Specifically, on multiple indicators, the US needs to improve its performance by more than 50 percent to reach benchmark countries, states, hospitals, health plans or targets (Schoen *et al.*, 2006). Furthermore, cross-national comparisons of healthcare quality indicate that other countries achieve better performance on many measures than the USA (Reinhardt *et al.*, 2004). Nevertheless, attention continues to center on managed care and whether it can be used to make quality of care gains. In the past decade there have been extreme levels of concern and actions focused on improving healthcare quality. Healthcare organizations, professional associations, public and private payers, accrediting bodies and consumer groups have come together to make

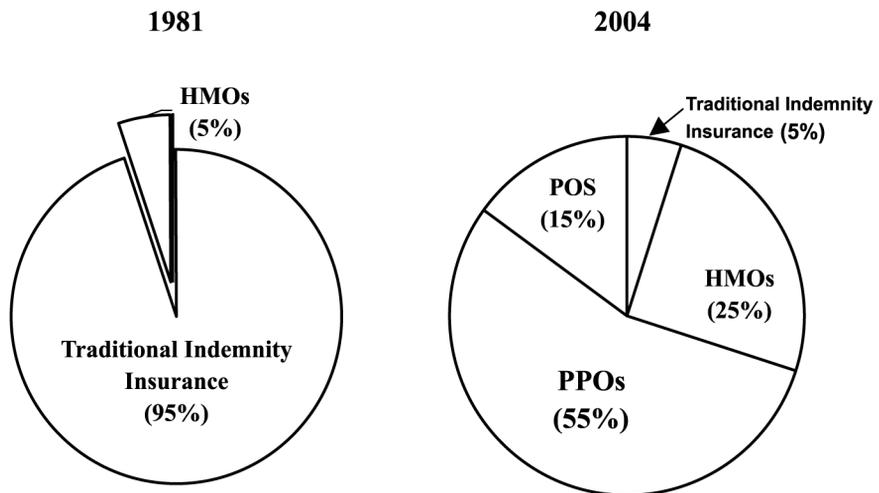
---

significant investments and improvements designed to achieve better quality (Torres and Guo, 2004). Despite these efforts, progress is slow; often fragmented and major improvements in care quality remain elusive. Since the USA does not have universal health care, the primary burden of health care reforms has descended to state level. States have devised various strategies to improve residents' care quality. However, these reforms vary substantially across states and some are more innovative in their approaches to improve quality than others (Guo and Buss, 2003). Thus, the purpose of our article is to examine the issue of US care quality and specifically highlight the actions, policies and programs of five states making major strides toward improved quality of care under managed care.

### **Managed care background**

Managed care is an organized effort by health insurance plans and providers to use financial incentives and organizational arrangements to alter provider and patient behavior so that services are delivered in a more efficient and cost-effective manner (Drake, 1997; Guo, 2004). Managed care concentrates on reducing delivery costs and improving healthcare financing through strict utilization management, financial incentives to physicians and limited access to providers. The earliest managed care was health maintenance organizations (HMOs) or health plans that offer prepaid, comprehensive health coverage for hospital and physician services to members who must use participating providers and be enrolled for a specified period of time. At the height of HMO growth, enrollment in 1999 was 81.3 million or 31 percent of the population. The highest enrollment occurred in the US western region where approximately 41 percent of the population was enrolled. California had the highest HMO penetration since almost half its total population (49 percent) was enrolled (KFF, 2004).

In response to consumers' demand for more choices, greater access to health care and better quality, preferred providers organizations (PPOs) were formed. Unlike HMOs, PPOs provide greater flexibility for patients to choose nonparticipating providers for covered services. The PPOs generally have higher levels of deductibles and co-payments and because PPOs are less restrictive than HMOs, PPO growth surpassed HMO. While the current national average HMO enrollment rate is about 25 percent, PPO enrollment is 55 percent (KFF/HRET, 2004). Figure 1 shows managed care plans' market share and how that share has changed over time. In the early 1980s, managed care began to grow during a time when traditional indemnity insurance, or fee-for-service, dominated the market at 95 percent. By 2004, a reversal took place; that is, traditional indemnity insurance occupied only 5 percent of the market, while managed care products, comprising HMOs, PPOs and POSs took over the healthcare system. A POS plan is a hybrid between an HMO and PPO – similar to an HMO because enrollees can pay fewer premiums when they use a participating network of providers, yet it can also be used like a PPO when enrollees access nonparticipating providers at a higher cost each time such providers are used. Currently, managed care exists as the dominant financing and delivery system; not surprisingly, access, cost, and quality dilemmas are vital; strategies and policies, therefore, must be adopted to address these issues.



**Figure 1.**  
The managed care trend:  
1981 and 2004

**Sources:** KPMG (1981); KFF/HRET (2004)

### US managed care system quality of care

In managed care, equal attention is focused on maintaining costs while providing quality services. However, there are many quality problems that exist. For example, the definition of quality varies according to patient, physician, health care manager, purchaser, payer or policymaker interests. Patients perceive quality from a personal viewpoint, based on their personal health outcomes derived from their encounters with healthcare systems. In a US general public survey only 15 percent rated healthcare quality as excellent (Leatherman and McCarthy, 2002). Physicians define quality based on clinical and technical knowledge. Their definition mirrors the Institute of Medicine's, where quality of care is "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." In a survey of physicians, 57 percent believed their ability to deliver high quality of care has decreased in the past five years (Leatherman and McCarthy, 2002, p. 10). Healthcare managers, payers and purchasers define quality based on their concerns with service cost effectiveness. Policymakers worry about appropriate resource use to optimize population health in the most equitable manner. Because of these definition differences, quality is perceived in different ways.

### Measuring quality of care

To measure care quality under the managed care system the federal government, through the Agency for Healthcare Research and Quality (AHRQ), developed the Consumer Assessment of Health Plans (CAHPS) survey in 1995 to help beneficiaries compare Managed Care health plans. The CAHPS is a standardized survey covering a range of topics related to service utilization and specialty service use. Although CAHPS is widely used by private and public health plans, including Medicare (health care entitlement program for those aged 65 and over), the nation's largest purchaser and Medicaid (state and federal programs that fund healthcare for the medically

indigent), there are few data comparing state variations and experiences with CAHPS. For instance, states require Medicaid Managed care plans need to have an internal quality assurance system. Thus, many utilize CAHPS to monitor plan quality. Unfortunately, several states reported low response rates from sampled populations. Consequently, the Government Accounting Office conducted a study and found states' response rates ranging from a 27 percent low in Nevada to 85 percent in Illinois (GAO, 2003).

In addition to CAHPS data, the Health Plan Employer Data and Information Set (HEDIS) developed by the National Committee on Quality Assurance (NCQA) also can be used to measure health plan quality. Created in 1992, HEDIS was designed by private employers who purchase health care for their employees. The HEDIS scheme is a set of standardized measures to compare managed health care plan performance. Performance measures fall into eight categories, four of which include measures directly related to member services utilization – care effectiveness, access and availability, service use and care experience satisfaction. The remaining four categories are health plan stability, care cost, informed health care choices and health plan descriptive information. There are differences among states that use HEDIS data to measure quality. In a study investigating whether states report HEDIS data in both commercial plans and the state Medicaid program, about half the states do not require HEDIS data for both commercial and government funded health plans (AARP, 2001). Of those reporting HEDIS data some require simple reporting while others ask for more stringent, audited HEDIS information. The audit refers to plans that have been subject to a HEDIS compliance review. Specifically, in the state Medicaid program, only nine states require audited HEDIS data and the remaining 14 require only HEDIS reporting information. Similarly, for commercial plans, 12 states require HEDIS data and an additional 12 require audited HEDIS information. Only six states: Michigan, Missouri, New Jersey, New Mexico, New York and Pennsylvania require audited HEDIS data for both commercial and Medicaid plans (see Table I). Currently, states have been negligent reporting HEDIS quality information; thus, more rigorous policies are needed to enforce higher quality indicators.

---

Medicaid managed care plans  
with audited HEDIS data

---

Florida  
Kentucky  
Michigan  
Missouri  
Nebraska  
New Jersey  
New Mexico  
New York  
Pennsylvania

---

Commercial health plans  
with audited HEDIS data

---

Maine  
Maryland  
Michigan  
Missouri  
New Jersey  
New Mexico  
New York  
Pennsylvania  
Texas  
Utah  
Vermont  
Virginia  
Maine

Source: AARP (2001)

---

**Table I.**  
States that require  
audited HEDIS data in  
commercial and Medicaid  
managed care plans

In a study measuring care quality among Medicare patients, researchers surveyed medical records and claims data in seven different diagnoses to determine whether they were given 22 treatments or evaluations considered essential to good care, including prescribing aspirin within 24 hours of acute myocardial infarction, examining diabetic patients' eyes every two years or giving appropriate vaccinations to those hospitalized with pneumonia. State-by-state results found that on average, quality increased for 20 of the 22 measures in the 2000-2001 survey compared to two years earlier. The top three states: New Hampshire, Vermont and Maine were consistently and respectively ranked in the top three for both the 1998-1999 and 2000-2001 studies (see Table II).

### States' variations in quality under managed care

In addition to federal legislation states passed their own governing managed care organizations. These regulations protect consumers and increase access and availability to managed care plans, while monitoring quality levels and maintaining costs. State laws range from access, coverage and providers to quality assurance, consumer assistance and licensing medical directors. For instance, care continuity affects quality and is an area of concern for plan members. When managed care organizations do not renew contracts with providers, this adversely affects plan members. Now, states have passed laws permitting subscribers to continue using their provider even after the provider has terminated its contract with the managed care organization. In this way, continuity and care quality are preserved.

Another way for states to improve quality and protect consumer rights under managed care is adopting ombudsman programs. These offer assistance to consumers when selecting the most appropriate types of managed care coverage for their needs. They ensure that consumers understand their rights and assist with grievances and appeals. A total of 17 states operate ombudsman programs (Morgan, 2003). Regularly reporting managed care organization activities is required by 24 states. Some "report cards" include satisfaction data, grievances and appeals' data summaries. A total of 17

Ranking of states with the highest quality of care		Ranking of states with the lowest quality of care	
1	New Hampshire	51 <sup>a</sup>	Louisiana
2	Vermont	50	Mississippi
3	Maine	49	Texas
4	North Dakota	48	Arkansas
5	Utah	47	Georgia
6	Iowa	46	Illinois
7	Colorado	45	Oklahoma
8	Wisconsin	44	California
9	Connecticut	43	New Jersey
10	Minnesota	42	Alabama

**Table II.**  
States with the best and worst ranking in quality of care among Medicare patients, 2000-2001

**Note:** <sup>a</sup> The 50 states, District of Columbia and Puerto Rico were ranked from 1-52. This study ranked DC 37th and Puerto Rico 52nd

**Source:** Jencks *et al.* (2003)

states implemented procedures to collect, monitor and analyze quality based on clinical intervention data. Again, activities vary by state; for instance, Delaware requires performance and outcome measures every six months, including population-based and patient-centered quality indicators, appropriateness, access, utilization and satisfaction. In Oregon, managed care organizations must furnish annual reports to the Department of Information regarding insurers' health promotion and disease prevention activities. Among laws protecting consumers through monitoring quality and establishing procedures for filing grievances and appeals, a total of six rules have been enacted. Only Texas mandates all six rules, while Florida, Massachusetts, New Jersey, Oklahoma and Virginia each enacted five of the six. Idaho, Mississippi, Nebraska, Nevada and Wyoming have no mandates governing care quality, customer assistance, grievances and appeals procedures. If HMO medical directors supervise their quality assurance programs and clinical staff establish treatment policies and perform reviews then licensed physicians need to become HMO medical directors, but 19 states do not require this. While 31 states require licensed physicians to be medical directors, only 24 states mandate licensing.

When examining the quality of care in hospitals, state-to-state variations were discovered. Shapiro (2003) found that better-performing hospitals were concentrated in northern and less populous states, while worse performing hospitals were concentrated in southern states. Many exhibiting the highest hospital quality, such as Florida, Colorado, Ohio, Pennsylvania and Michigan, ranked among the best across all procedures and diagnoses studied. Similarly, many of the worst states, such as Arkansas, Alabama, Oklahoma, Tennessee and Mississippi, were ranked among the worst consistently. While there are five-star hospitals in these states, patients, on average, received better care in the higher ranking states (Shapiro, 2003). The top ten states are listed by quality outcomes measurements are listed below:

- (1) North Dakota;
- (2) Florida;
- (3) Ohio;
- (4) Michigan;
- (5) Maryland;
- (6) Colorado;
- (7) Pennsylvania;
- (8) Connecticut;
- (9) Utah; and
- (10) South Dakota (Shapiro, 2003).

Another quality difference was found in the area of home health care. Florida, Massachusetts, Missouri, Oregon, New Mexico, South Carolina, West Virginia and Wisconsin are the only states currently undertaking home health quality measures, collected by Medicare and certified home health agencies (CMS, 2003). Information called the Home Health Outcome and Assessment Information Set (OASIS) is collected on patients' health, how they function, skilled care and social, personal and support services they need, as well as living conditions. These data are gathered to determine how well home health agencies provide care for their patients. Patient improvements

while receiving home health care reflect service quality provided by the home health agencies. To date, only eight states collect home health OASIS quality monitoring data. Efforts made by states and Medicaid managed care organizations to improve quality have focused on a number of financial and other incentives. A recent study of 102 plans by Mathematica Policy Research for the Kaiser Family Foundation found that 39 plans provided quality-related financial incentives to network providers (Felt-Lisk and Gold, 2003). The Center for Health Care Strategies conducted a follow-up study of these plans (Verdier *et al.*, 2004). They found that it takes years to assess the impact of an incentive program but those that appeared successful had several indicators in common including: supportive plan leadership, favorable market environment, full and continuing consultation with physicians, good databases, and a commitment to experimentation and innovation. Because states' care quality varies considerably the following is a description of several states' efforts to improve quality. Specifically, it shows the types of programs available, progress and improvements, and how other states emulate and learn from examples provided.

### Descriptions of quality of care in five innovative states

Based on a review of the literature the following is a compilation of five states found to be innovative in their approaches to monitoring and improving care quality (CMS, 2005; Guo and Buss, 2003). These states have been selected for analysis because they invested in unique strategies to enhance quality. For instance the *CMS Quality Improvement Roadmap* collects information on innovative state programs and outlines CMS's importance for supporting state efforts as they implement quality improvement strategies including pay-for-performance (P4P) programs, care coordination, patient safety initiatives, e-prescribing, electronic medical records, public reporting, evidence-based guidelines and performance measurement (CMS, 2005). Specific program and policy innovations examples from the five states are described below and summarized in Table III.

States	Programs and policies to address quality
California	Developing the Medi-Cal Managed Care Report Card and Quality Initiative Project addressed quality gaps; implementing focused enforcement procedures to target and improve quality in non-compliant nursing homes; implementing a performance based auto-assignment program rewards health plans with superior performance
Florida	State offers several tools for consumers to compare care quality; the Florida Medical Quality Assurance Inc., works with health care providers to address care quality
Maryland	The state's Comprehensive Performance Report: <i>Commercial HMOs and Their POS Plans in Maryland</i> provides detailed, plan-specific and Maryland-wide clinical quality, member satisfaction, descriptive and utilization indicators
Minnesota	The Quality Assurance and Performance Measurement report monitors and evaluates four specific areas of quality of care in managed care organizations
Rhode Island	The state established the Comprehensive Evaluation, Diagnosis, Assessment, Referral, and Reevaluation (CEDARR) services for children with special needs with a quality of care component

**Table III.**  
Programs and policies of  
five states toward  
improved quality

---

### *California*

Initiatives to improve California's care quality occur in three programs. The first enhances consumer and patient organizations' involvement in health care quality issues in the state's Medicaid managed care program. To promote quality, California developed the Medi-Cal Managed Care Report Card and a Medi-Cal Quality Initiative Project, funded by the California Health Care Foundation (CHCF). The goals are to:

- Increase Medi-Cal managed care consumers' knowledge so that they are able to make more informed decisions when selecting and using the Medi-Cal system.
- Develop a consumer guide to assist consumers in assessing service accessibility and quality of Medi-Cal Managed Care plans based on their personal health care needs.
- Actively engage state and local health plan partners to improve the quality assurance reporting system. Through this project, quality is measured through report cards.

From 2005, California is only one of three states (the other two are Michigan and New York) implementing a performance based auto-assignment program that rewards health plans with superior performance. This program creates an incentive to improve Medicaid quality and preserve the safety net by increasing enrollee volume and payment to those plans providing a consistent level of quality improvement (CMS, 2005). Additionally, strategies to address information gaps are identified and policy recommendations are made (Community Health Councils Inc., 2001a). A third program that targets quality improvement concentrates on California's nursing homes. The state created a policy to target, enforce and improve quality in non-compliant nursing homes. Specifically, the program places non-compliant facilities on a six-month survey cycle instead of a typical 12-month one required by federal law. It also requires immediate remedies for deficiencies and mandates revisits to all facilities with deficiencies to ensure compliance with the law rather than simply allowing facilities to self-certify compliance. Licensure may be revoked for chronic non-compliant nursing homes (Community Health Councils Inc., 2001b). The Medi-Cal managed care program and the tightened policy on nursing home non-compliance are two strategies implemented in California to improve residents' care quality.

### *Florida*

Since quality indicators vary across health plans and providers, comparing quality data for consumers are often difficult. To address this problem Florida provides several tools to better assist consumers to make well-informed health-care decisions. These tools include The Agency for Health Care Administration's prescription drug cost comparison web site ([www.myfloridarx.com](http://www.myfloridarx.com)), the Florida Department of Financial Services' prescription drug price comparison tool ([www.floridaseniors.net/prescriptiondrugs/](http://www.floridaseniors.net/prescriptiondrugs/)) and Florida Compare Care ([www.floridacomparecare.gov](http://www.floridacomparecare.gov)). Not only do these sites provide comparison data, but also they allow consumers to compare performance data for selected medical conditions and procedures in all of Florida's acute care hospitals and ambulatory surgery centers. Additionally, health care report cards provide information on quality indicators for physicians, hospitals, and health plans. This information is useful and serves as a motivator for providers to compare their performance against their counterparts and benchmark quality improvements.

Moreover, the Florida Medical Quality Assurance Inc. (FMQAI) is an organization funded by the federal government to work with health care providers to address care quality. For instance, FMQAI partners: physicians, nursing homes, home health agencies and rural and underserved areas, work to promote better outcomes for specific health problems, diseases and conditions such as pneumonia, diabetes, cancer, heart failure. It provides detailed quality initiatives such as the Nursing Home Quality Initiative (NHQI) and Home Health Quality Initiative (HHQI). To increase quality, activities include focused quality improvement projects, medical record reviews for accuracy and assurances that treatments are medically necessary, educate patients by distributing educational material, speeches using the news media to distribute information to consumers, monitor Medicare payment errors and prevent payment errors. Through these particular quality-enhancing strategies, Florida is considered one of the best service providers at state level (Shapiro, 2003).

#### *Maryland*

Maryland can be credited for innovative reports detailing care quality measures. For example, the state is among 12 that require audited HEDIS data for its commercial health plans and one of 13 to monitor Medicaid Managed Care plan performance using both HEDIS and Consumer Assessment of Health Plans. Additionally, the state evaluates its performance through the *Comprehensive Performance Report: Commercial HMOs and their POS Plans in Maryland*, which provides detailed, plan-specific and Maryland-wide performance indicators. This performance report differs from other states in that it incorporates clinical quality, member satisfaction, descriptive and utilization indicators drawn from CAHPS and HEDIS data. For instance, in category of satisfaction with care experience is defined by four measures:

- (1) members rating their health plan;
- (2) members rating health care received;
- (3) getting care quickly; and
- (4) consumer complaints.

Maryland performed better over time in the “consumer complaints” measure and performed better than the national average (Maryland Health Care Commission, 2003). Because of its comprehensive and unique Managed Care plan annual report, which emphasizes care quality, Maryland is highlighted as an example for other states to follow.

#### *Minnesota*

Incorporating care quality initiatives into Minnesota’s health care financing and delivery system, the state has implemented a number of quality efforts in its Managed Care contracts. For instance, contracts must include annual enrollee satisfaction surveys, reports on service use, care effectiveness, well-child visits, compliance with Quality Improvement System for Managed Care (QISM) and annual performance improvement projects for each contract year (Minnesota Department of Health, 2006). There are four specific areas that Minnesota’s quality assurance and performance measurement (QAPM) report monitors and evaluates:

- (1) A managed care organization's quality program administration, including its quality assurance plan, work plan, quality studies and activities, organization and staffing, credentialing program, medical records management, delegated activities and patient complaints.
- (2) Consequently, the organization must have an internal complaint and appeal program for all incidents, which are then investigated by the state health department to not only ensure that corrective actions have been taken, but also that they are effective.
- (3) Managed care organization service accessibility and timeliness are also monitored. For instance, these include appointment scheduling, coordination of care activities, referrals, timely access to health services, access to emergency care, continuity of care, direct access to obstetrics-gynecology services and equal access to chiropractic services.
- (4) Compliance with Minnesota's utilization review law monitors a managed care organization's standards, staffing, procedures, and qualifications of reviewers (Minnesota Department of Health, 2006).

While the state does not mandate HMOs to apply for accreditation from the NCQA to participate in the Medicaid program, five of the six HMOs in the state are NCQA accredited. The NCQA accreditation process consists of evaluating HMOs based on core systems and processes that constitute a health plan's operations and health plans' performance regarding care and service. Of the five accredited HMO's, three received an excellent performance (the NCQA's highest) rating and granted only to managed care health plans that demonstrate the highest levels of service and clinical quality. Plans earning this rating must also achieve HEDIS results that are in the highest range of national or regional performance. Two other HMOs received commendable ratings for demonstrating service and clinical quality levels that meet or exceeded NCQA's requirements for consumer protection and quality improvement. Minnesota maintained and improved its managed care service quality through careful monitoring and evaluation programs. In fact, for the past nine years, the state is consistently ranked as the healthiest US state, with low rates of uninsured population and the lowest cardiovascular and premature deaths (United Health Foundation, 2006).

### *Rhode Island*

Rhode Island has been a leader among states using data to monitor and improve healthcare as well as publicizing and building support for its quality improvement programs. For instance, outcomes research was built into Rhode Island's initial Medicaid waiver program. The state began collecting data in 1995 and documented improved outcomes measured by consumer satisfaction surveys by 1997. Since then, improvements have been demonstrated in many areas including prenatal care, birth outcomes, inter-birth intervals, lead screening, pediatric preventive care, decreased emergency room use and hospital utilization (Silow-Carroll *et al.*, 2002). Moreover, there is a strong willingness to use data to inform key decisions. For example, when data indicated high neonatal intensive care unit (NICU) service use, the state investigated and found that many infants should not have been admitted to NICUs and certainly not for long periods of time. In response to improving quality, the state carved out this benefit, managed it by placing an operative directly in the state's primary NICU and

changed the reimbursement structure. Although NICU admission rates remained constant, the length of stay declined after these Managed Care changes were made (Silow-Carroll *et al.*, 2002). Another example of Rhode Island's quality focus is in the Medicaid program. A statewide survey among families of children with disabilities on Medicaid revealed significant unmet needs related to support and ancillary services to caregivers. Survey results prompted a series of meetings for children with special needs that led to establishing the Comprehensive Evaluation, Diagnosis, Assessment, Referral, and Reevaluation (CEDARR) services, including a quality of care component. Two CEDARR Family Centers constitute "one-stop" service sites providing professional assessment, specialty clinical evaluation, intensive case management, information and education for parents, coordination of services and ongoing referral assistance and support for families of children with disabilities (Silow-Carroll, 2003).

### Conclusion

Descriptions of these five states are informative and helpful to others as they examine their own strategies. Furthermore, others can emulate the state's approaches to increasing care quality. Our study is valuable for other reasons. First, we have examined the important topic of care quality under US managed care. Quality is an important aspect of healthcare delivery that is receiving renewed attention as a means to improve patient outcomes and contain costs. Quality-related aspects include ongoing assessment health practitioners' performance standards and service facilities. Additionally, more research needs to be conducted to standardize quality measuring methods. This topic is timely and interesting to all health care stakeholders including customers, policymakers, providers and payers. Second, since reform strategies vary from state to state, some are more innovative in their approaches to meet patients' needs for improved quality than others. Thus, the way we highlight quality improvement programs in five states is especially helpful to other states so that they can learn from their peers as they aim to improve service quality. Third, we have compared performance indicators in different quality areas. State rankings are illustrated in tabular form – information useful for others wishing to compare performance over time and against other states. Owing to a lack of federal comprehensive legislation on quality, budget constraints and major health care reforms, states have taken on the challenge of improving quality. Successes we describe are attributed to several factors including deliberate planning, corrective actions, reforms and processes as well innovative leaders who make both incremental and sometimes drastic quality improvements. As states devise strategies to improve quality, their methods and outcomes vary. A systematic investigation of these techniques is useful for managers and practitioners striving to improve care quality under US managed care.

### References

- American Association of Retired Persons (AARP) (2001), *Reforming the Health Care System: State Profiles 2001*, Public Policy Institute, AARP, Washington, DC.
- Centers for Disease Control (CDC) (2006), "Early release of selected estimates based on data from the January through March 2006 national health interview survey", available at: [www.cdc.gov/nchs/data/nhis/earlyrelease/200609\\_01.pdf](http://www.cdc.gov/nchs/data/nhis/earlyrelease/200609_01.pdf) (accessed November 8, 2006).

- 
- Centers for Medicare and Medicaid Services (CMS) (2003), "Home health compare home information about home health quality measures", available at: [www.medicare.gov/HHCompare/Home.asp](http://www.medicare.gov/HHCompare/Home.asp) (accessed October 13, 2003).
- Centers for Medicare and Medicaid Services (CMS) (2005), "Value-based, results-driven health care: the Medicaid quality initiative", August, available at: [www.cms.hhs.gov/MedicaidSCHIPQualPrac/Downloads/qualitystrategy.pdf](http://www.cms.hhs.gov/MedicaidSCHIPQualPrac/Downloads/qualitystrategy.pdf) (accessed February 21, 2007).
- Community Health Councils Inc. (2001a), "Quality initiative project", available at: <http://chc-inc.org> (accessed November 27, 2006).
- Community Health Councils Inc. (2001b), "Quality nursing homes", available at: <http://chc-inc.org> (accessed November 27, 2006).
- Drake, D. (1997), "Managed care: a product of market dynamics", *Journal of the American Medical Association*, Vol. 277 No. 7, pp. 311-4.
- Felt-Lisk, S. and Gold, M. (2003), "Do quality improvement strategies for medicaid enrollees differ in medicaid-dominated versus commercial managed care?", *American Journal of Managed Care*, Vol. 9 No. 12, pp. 806-16.
- General Accounting Office (GAO) (2003), *Medicaid and SCHIP: States Use Varying Approaches to Monitor Children's Access to Care*, GAO-03-222, US General Accounting Office, Washington, DC.
- Guo, K.L. (2004), "Organizational and management strategies in response to us market trends", *Journal of Health Organisation and Management*, Vol. 18 No. 5, pp. 370-9.
- Guo, K.L. and Buss, T.F. (2003), *Health Care Policy in the States*, National Academy of Public Administration, Washington, DC, available at: [www.napawash.org/aa\\_social\\_equity/healthcarepolicy.pdf](http://www.napawash.org/aa_social_equity/healthcarepolicy.pdf) (accessed November 15, 2006).
- Jencks, S.F., Huff, E.D. and Cuelton, T. (2003), "Change in the quality of care delivered to Medicare beneficiaries, 1998-1999 to 2000-2001", *Journal of the American Medical Association*, Vol. 289 No. 3, pp. 305-12.
- Kaiser Family Foundation (KFF) (2004), "Number of HMOs. 50 state comparisons", available at: [www.statehealthfacts.kff.org](http://www.statehealthfacts.kff.org) (accessed October 18, 2004).
- Kaiser Family Foundation/Health Research and Educational Trust (KFF/HRET) (2004), "Employer health benefits, 2004 annual survey", available at: [www.kff.org/insurance/7148.cfm](http://www.kff.org/insurance/7148.cfm) (accessed February 21, 2007).
- KPMG (1981), *KPMG Survey of Employer-sponsored Health Benefits, 1981*, KPMG, New York, NY.
- Leatherman, S. and McCarthy, D. (2002), *Quality of Health Care in the United States: A Chartbook*, The Commonwealth Fund, New York, NY.
- Maryland Health Care Commission (2003), *Policy Report on Maryland Commercial HMOS and POS Plans*, 6th ed., Maryland Health Care Commission, Baltimore, MD.
- Minnesota Department of Health (2006), "Quality assurance and performance measurement", available at: [www.health.state.mn.us/divs/hpsc/mcs/quality.htm](http://www.health.state.mn.us/divs/hpsc/mcs/quality.htm) (accessed December 7, 2006).
- Morgan, R.B. (2003) in Levy, D.R. (Ed.), *2003 State by State Guide to Managed Care Law*, Aspen Publishers, New York, NY.
- Reinhardt, U., Husse, P.S. and Anderson, G.F. (2004), "US health care spending in an international context", *Health Affairs*, Vol. 23 No. 3, pp. 10-25.
- Schoen, C., Davis, K., How, S.K. and Schoenbaum, S.C. (2006), "US health system performance: a national scorecard", *Health Affairs*, Vol. 25 No. 10, pp. 457-75.

- Shapiro, S. (2003), "Hospital care quality differs markedly by state: annual health grades study", available at: [www.eurekalert.org/pub\\_releases/2003-09/h-hcq091803.php](http://www.eurekalert.org/pub_releases/2003-09/h-hcq091803.php) (accessed November 24, 2006).
- Silow-Carroll, S. (2003), "Building quality into RITE care: how Rhode Island is improving health care for its low-income populations. Field report", available at: [www.statecoverage.net/statereports/ri11.pdf](http://www.statecoverage.net/statereports/ri11.pdf) (accessed November 27, 2006).
- Silow-Carroll, S., Waldman, E., Meyer, J. and Williams, C. (2002), "Assessing state strategies for health coverage expansion, case studies of Oregon, Rhode Island, New Jersey, and Georgia. Field report", November, available at: [www.statecoverage.net/statereports/ri9.pdf](http://www.statecoverage.net/statereports/ri9.pdf) (accessed November 27, 2006).
- Torres, E.J. and Guo, K.L. (2004), "Quality improvement techniques to improve patient satisfaction", *International Journal of Health Care Quality Assurance*, Vol. 17 No. 6, pp. 334-8.
- United Health Foundation (2006), "America's health rankings: a call to action for people and their communities, 2005 edition", available at: [www.unitedhealthfoundation.org/shr2005/ahr05\\_email.pdf](http://www.unitedhealthfoundation.org/shr2005/ahr05_email.pdf) (accessed December 7, 2006).
- Verdier, J., Felt-Lisk, S., Smieliauskas, F. and Wong, J. (2004), *Quality-related Provider and Member Incentives in Medicaid Managed Care Organizations*, Center for Health Care Strategies, Hamilton, NJ, available at: [www.chcs.org](http://www.chcs.org) (accessed November 13, 2006).

#### **Further reading**

- Minnesota Department of Health, Health Economics Program (2002), "The Minnesota HMO profile: analysis of enrollment, financial, and quality of data", available at: [www.statecoverage.net/reportsearch/stateresult.cfm](http://www.statecoverage.net/reportsearch/stateresult.cfm) (accessed March 4, 2003).

#### **Corresponding author**

Kristina L. Guo can be contacted at: [kguo@hawaii.edu](mailto:kguo@hawaii.edu)