Managed Care and the Quality of Children’s Health Services

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Abstract
Managed care has changed the practice of medicine. The choice of health care providers has been narrowed, physicians are being held financially accountable for the number of services they use, and a new emphasis is being placed on the cost and quality of the care provided. The transition to managed care has occurred with little attention to its impact on access to health care services or the quality of services provided. There is an absence of information about how children fare in these new systems. What little is known indicates that children in managed care arrangements are less likely to be able to be seen by pediatric specialists, and that families and providers are less satisfied under managed care. The impact of these changes on children’s health status, however, is yet to be determined. For children with special needs, the problems of coordination of care, coverage of needed services, and the choice of the appropriate pediatric subspecialists, many of which existed in traditional fee-for-service systems, persist under managed care.

In spite of all of the negative anecdotes about managed health care, managed care’s focus on its population of enrollees and its heightened sense of a need for health care accountability bring exciting new opportunities to measure and improve the health care children receive. A new emphasis is being placed on practicing evidence-based medicine; the focus is on closing the gap between what is known (effective, evidence-based care) and what is done (current practice). Improved health outcomes and reduced health care costs have been documented in demonstration projects in neonatal intensive care units and in pediatric offices. Applying the principles of these learning collaboratives and employing the tools of continuous quality improvement in health care are urgent challenges that deserve to be met. Health plans, physicians, health care purchasers, regulators, families, and their children must work together to assure that children receive the highest-quality care possible—care that is technically excellent and medically appropriate, and that improves the health of our children.

During the past 20 years the growth of managed care organizations (MCOs) has had a significant impact on the practice of medicine. The result has been substantial changes in the way clinicians are rewarded for the care they deliver; in the way that health care benefits are provided to children and families; and in the manner in which health care...
services are monitored and improved. That these changes have had—and will continue to have—an impact on the way health care is provided for children is undisputed. It is unclear, however, what form these changes will take in the future, and what the magnitude and direction of their impact will be on the quality of care provided to children.

Unfortunately, the implementation of managed care has not been accompanied by a richness of data documenting precisely how, and to what extent, this change from fee-for-service health care has influenced health service delivery. There are many reasons for this dearth of evidence. First, managed care is not a monolithic entity with a uniform set of characteristics. Each managed care organization has implemented in a unique way techniques to contain costs and control utilization patterns, such as utilization reviews and shared-risk arrangements for physicians. MCOs also vary in the degree to which they strive to measure and improve patient care outcomes. Some MCOs spend considerable resources in the areas of quality assessment and improvement, while others focus primarily on lowering costs, meeting the minimum quality requirements set by regulatory agencies, and monitoring sentinel events. This variability among plans makes it difficult to generalize about the effect of managed care on health care quality.

Another difficulty in assessing the effect of managed care on quality of care is that the majority of controlled studies were conducted more than a decade ago and were limited in scope, usually comparing a Medicaid health maintenance organization (HMO) to a traditional fee-for-service Medicaid program. The effect of managed care, however, may be different for Medicaid beneficiaries and privately insured populations. In addition, managed care has evolved substantially in recent years, and many fee-for-service programs have sought to lower costs by adopting managed care tactics. As a result, it is often difficult to differentiate fee-for-service programs from managed care arrangements on the basis of cost-containment and quality-improvement programs, thus making controlled studies that assess the effect of managed care on quality a challenge.

Finally, because the science of health outcomes assessment for children and adolescents is relatively immature, there is a lack of valid, reliable, and easily implemented measures for assessing child health care outcomes. Although some relatively rigorous studies have shown the impact of managed care on access and utilization (see the article by Szilagyi in this journal issue), very few studies have evaluated its effect on clinical outcomes and children’s functional status.
Quality Defined

High-quality care is defined here as accessible care that is technically excellent and evidence based, and that improves child health. “Technically excellent” means that key processes encompassing the delivery of care (which can range from a surgical procedure to a diagnostic test) are implemented in an effective and efficient manner. “Evidence based” means that the care given is provided because its effectiveness is supported by medical evidence and/or expert consensus. Other aspects of high-quality care are that it is coordinated and involves effective interpersonal communication between the health care provider and the family. High-quality care needs to be distinguished from high-value care, a term that refers to both cost and quality. High-value care provides the greatest improvement in health care outcomes at the lowest unit cost. The Institute of Medicine (IOM) extends the definition, defining quality as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes.”

These definitions of quality suggest that patient care outcomes must be assessed at both the individual and population levels, and that the quality of health services should also be assessed based on the process of care. However, the assessment of health care quality does not reside in either process or outcome measures alone, but in the link between the two. A health care provider’s knowledge of the most effective evidence-based guidelines for asthma care, for example, does not ensure that the provider will actually use the guidelines to change his or her practices; nor does it necessarily translate into improved outcomes for the asthmatic child. Improving the quality of care involves forging a bond linking scientific knowledge to health care practices.

The Impact of Managed Care on the Quality of Health Care Services

The cost-containment efforts of MCOs have had a profound impact on clinical practice. Prior to the development of managed care, clinicians practiced medicine with little regard to costs. The ethical imperative was to provide services for patients, regardless of the costs. In fact, the fee-for-service payment system rewarded doctors for providing more care, because the more they provided, the more fees they could collect. With the advent of managed care, clinicians were required to consider cost and necessity together when delivering care. These efforts to contain costs on the part of MCOs were frequently misconstrued by the public as having a direct effect on quality. Some providers and consumers assumed that there was a monotonic relationship between cost and quality, and that any reduction in cost led to a reduction in the quality of care. However, numerous studies have documented that a significant percentage of health care services are not necessary and are provided inappropriately. No consistent relationship between resource use (cost) and quality of care for common pediatric conditions has been observed.

MCOs claim that their efforts to integrate cost considerations into decisions about the delivery of care work to eliminate inappropriate care while preserving necessary care. Supporters of managed care argue that there is no evidence that managed care practices adversely affect patients, and they cite the failure of numerous studies to document any significant negative impact of managed care on quality. Critics of managed care, however, note that many of these studies are outdated, and many of those relating to children were conducted primarily in Medicaid plans, as discussed earlier. They argue that the conclusions of these studies do not reflect the current cost-containment pressures and profit-oriented environments in which many MCOs operate today. These critics are supported by consumer surveys demonstrating a perceived decrease in the quality of care provided by MCOs as compared to fee-for-service programs, and by an increase in highly visible media stories portraying the perils of managed care.
Unfortunately, the evidence on both sides has become increasingly difficult to interpret. Often, there is no explicit definition of the key cost-containment mechanisms used by managed care plans and their relative importance in different organizations. How MCOs differ across five characteristics, however, can influence one aspect of health care quality for children—namely, the medical appropriateness of care. These characteristics include (1) limiting inappropriate use of health care services, (2) controlling access to health care services, (3) limiting care by restricting benefit packages, (4) limiting the provider network, and (5) manipulating clinicians’ financial incentives to reduce utilization of expensive services. The article by Szilagyi in this journal issue covers in more detail the impact of managed care on utilization of and access to health care services for children. The following sections of this article concentrate on the latter three ways that managed care can affect the quality of health care for children.

### Limiting the Benefit Package

Both public and private payers of health services work in close concert with MCOs and medical groups to include in their insurance contracts a range of health care products with varying degrees of cost sharing for families. To bring the cost of these insurance packages down, insurers have reduced the scope of the insurance packages. Often, this has resulted in the exclusion of services that could significantly affect health care outcomes. For children, this is most apparent in the failure of many MCOs to cover mental health care, ancillary medical services, and durable medical equipment that is often needed by children with chronic or disabling conditions. In some situations, the benefit package may exclude efficacious services to children because they have been deemed experimental and not part of usual medical practice.

The question remains, however, whether children under managed care, and children with special needs in particular, confront significant barriers to needed care because of inadequate benefit packages, and whether these barriers are worse than those experienced in fee-for-service plans. A survey of 59 HMOs found that 42% to 62% did not provide coverage for ancillary services such as physical therapy, speech therapy, and occupational therapy. In this sample, 42% of the plans did not provide outpatient mental health coverage, and fewer than half offered inpatient care or partial hospitalization for psychiatric diagnoses. The majority of these plans required physician authorization for mental health referrals, and they usually limited coverage to conditions that were expected to improve in 60 to 90 days. While no comparison fee-for-service group was included in this survey, another study of six large indemnity insurers and the six largest HMOs in Connecticut found that HMOs and fee-for-service plans tended to have comparable restrictions for specific services needed by children with chronic illnesses. These included durable medical equipment and mental health services. One review of state Medicaid programs, however, found that managed care plans were more comprehensive in their benefit packages for children than traditional fee-for-service Medicaid plans.

In summary, studies of benefit package restrictions that may limit the quality of care for children in MCOs have been inconclusive. It is important to note that most of these studies are several years old and may not be relevant today, given current cost-containment pressures faced by both MCOs and state Medicaid programs. Several MCOs experienced substantial financial losses or had lower-than-expected earnings for the first time in 1997. Many experts believe that further reductions in Medicaid spending cannot be achieved without either decreasing the number of enrollees or limiting benefits. Current pressures faced by MCOs and state Medicaid agencies to lower costs or slow their rate of growth—which are occurring simultaneously with the proliferation of Medicaid managed care—may limit the benefits available to children enrolled in managed care plans and adversely affect the quality of health care. To evaluate whether children in managed care have more limited benefits than their fee-for-service counterparts, however, requires well-executed studies.
comparing plans with similar premium levels. Unfortunately, without such comparisons, it is impossible to determine whether any differences observed are attributable to managed care arrangements specifically.

**Restricting the Provider Network**

In establishing provider networks to deliver health care services, MCOs seek to bring together panels of providers that are sufficiently large in size and varied in specialties to meet the needs of their enrollees. These provider panels, however, must be small enough to ensure an adequate patient base for participating providers, offer an increase in volume to offset the effect of lower fees, and remain manageable in size. Problems in achieving better quality of care arise when small panel size limits the choice of available health care providers or disrupts existing physician-family relationships. A 1994 survey of enrollees in 21 managed care plans found that 28% reported difficulties in seeing the physician of their choice.14

For children with special needs, small panel size may limit access to appropriate pediatric subspecialists with expertise in rare childhood conditions. The availability of care by a pediatric subspecialist often requires an out-of-plan referral, which may be rejected by MCOs trying to control health care costs. It has been shown that the probability of visiting a pediatric subspecialist is lower by about 8% among children in managed care plans than among those in fee-for-service plans, though it is unclear whether this difference is attributable to limited provider networks or barriers to specialty referrals within managed care plans.15 For cost-conscious MCOs, the usual alternative to an out-of-plan referral is to direct the child to an in-plan adult specialist, who may not have the appropriate training and requisite expertise to treat childhood problems. Several studies have shown that using adult specialists as a substitute for pediatric specialists often decreases the quality of care for children.16,17 Thus, there is some evidence that limiting provider networks by MCOs may decrease children’s access to specialty care, and that this limited access may reduce the clinical effectiveness of the care they receive.

Just as restricted provider networks may reduce the quality of health care services, excessively large networks also may affect quality, though there is little empirical evidence in this area. The rationale for this argument is that large, loosely organized provider panels make it difficult to institute improvement strategies aimed at reducing the variability of physician practices, improving patient outcomes, and controlling costs. Achieving better health care quality, then, is dependent upon establishing a provider network that balances the need for a broad choice of physicians and access to appropriate specialty care with the need to develop and monitor the implementation of uniform practice standards aimed at improving health outcomes.

**Manipulating Clinicians’ Financial Incentives**

Financial incentives offered to providers differ substantially between traditional fee-for-service care and managed care arrangements. Under fee-for-service programs, providers are financially rewarded for delivering more care. Each unit of work provided generates a billing code, and the more codes the provider generates, the greater the reimbursement. This system can encourage overutilization of health care resources if reimbursements are high enough. If reimbursements are too low, access to care can be a major problem. This often occurred under fee-for-service Medicaid, when reimbursement levels were so low that providers refused care to Medicaid recipients. In contrast, certain financial arrangements common under managed care may place providers at financial risk for providing excessive care. Specifically, reimbursement by salary and shared risk through capitation reward providers for offering less care, possibly leading to the underutilization of necessary services. Currently, more than 50% of pediatricians in the United States are salaried, and an increasing percentage are sharing risk through capitated contracts.18

The impact of physician reimbursement mechanisms on patient care was explored in
a study of 302 HMOs. This study examined the relationship between financial incentives and two measures of resource use: hospitalization rates and outpatient visit rates. Investigators found that the use of capitation or salaries as payment strategies was associated with a lower rate of hospitalizations and fewer outpatient visits per enrollee when compared to fee-for-service reimbursement. Although this study suggests that financial arrangements do affect physician decision making, there is a paucity of evidence to show that the decreased utilization occurring in HMOs results in worse patient care outcomes for children. Results from the RAND Health Insurance Experiment showed that although capitation and cost sharing among families decreased health service utilization among children, there was no significant effect on parents’ perceptions of their children’s health or on objective physiologic measures of health status.

By requiring salaried physicians to see more patients or by providing incentives for them to do so, MCOs’ financial performance can be enhanced by increasing the number of patients seen without a concomitant increase in costs. The tradeoff, however, may be less patient-provider communication time and poorer patient adherence to prescribed regimens. As discussed later in this article, a recent survey of patient satisfaction with health care found that managed care had an adverse impact on important aspects of patient-physician communication. Other studies have shown that the quality of the patient-doctor relationship can directly affect patient outcomes. As MCOs struggle to contain costs, there is a risk that they will require salaried physicians to see more patients within a given period of time or offer incentives for physicians to increase the number of patients they see. This may result in a reduction in time spent with patients, which may adversely affect patient care outcomes.

**Provider and Patient Satisfaction**

For children and families, issues such as effective patient-provider communication, coordination of care among providers and across sites, and choice of providers are important determinants of the quality of care. Similarly, physicians are concerned with factors such as their ability to provide care based on their best clinical judgment and the time available to spend with patients. Mechanisms adopted by MCOs to reduce health care costs and control service utilization may have an effect on patient and provider perceptions of health care quality. A review of studies in this area offers some insight into the direction and magnitude of this effect.

**Provider Satisfaction**

Several studies have measured physicians’ satisfaction with various aspects of managed health care. A recent survey of 1,700 physicians nationwide reported that, overall, physicians with large managed care practices were less satisfied with managed care and the practice of medicine than their peers who predominantly or exclusively had patients who were not enrolled in managed care. Managed care rated less favorably than fee-for-service medicine on numerous indicators, including the provider’s ability to make appropriate patient care decisions, obtain needed treatment for patients, and obtain preapproval for care; problems with external review; limits on specialty referrals; and time spent with patients. However, ratings varied by type of managed care plan, with physicians in group- or staff-model HMOs having levels of satisfaction similar to those of physicians in fee-for-service practices. Another recent study found that primary care physicians working in capitated medical practices were less satisfied with their ability to obtain referrals to specialists and treat patients according to their own best judgment than physicians reimbursed on a fee-for-service basis.

**Physicians with large managed care practices were less satisfied with managed care.**

In contrast, a 1991 survey comparing physicians’ perceptions of practice with and without managed care showed no difference in the degree of perceived autonomy to hospitalize patients, determine hospital length of stay independently for each patient, and order tests and procedures based on their own judgment. Differences were observed,
however, in physicians’ perceived freedom to order more expensive tests and diagnostic procedures, with greater restrictions felt under managed care. Physicians surveyed also grew more dissatisfied with utilization reviews in managed care as the percentage of managed care patients in the physicians’ practices increased.25

**Patient Satisfaction**

Studies of patient satisfaction show lower rates of satisfaction among managed care enrollees than among fee-for-service patients.1,9,26 However, further analyses of these studies suggest that a large proportion of this dissatisfaction centers around problems with access to care. In a recent nationwide study of 3,800 adults, satisfaction with several aspects of health care access was found to be lower among managed care enrollees than among fee-for-service patients. Indicators of access that rated lower in managed care included waiting times for appointments; time spent with physicians; accessibility of physicians by phone; how much the physicians listened to concerns; and choice of provider.26 An earlier study found that while patient perceptions of access were poorer under managed care, there were no differences between the groups in satisfaction with the utilization of acute care or preventive services.1

As with physician perceptions of quality of care, patient satisfaction is influenced by the type of managed care plan. In general, among both providers and patients, group- and staff-model HMOs are favored over independent practice associations (IPAs), network/mixed-model HMOs, and preferred provider organizations (PPOs). Nonprofit HMOs are favored over for-profit HMOs. Among managed care plans, quality is rated higher by patients who are offered a choice of health plans by their employers.27

In summary, findings of physician and patient satisfaction with quality of health care under managed care are somewhat mixed. While the majority of evidence suggests greater dissatisfaction with at least some aspects of care under managed care plans, levels of satisfaction may vary substantially across types of managed care arrangements. More research is needed in this area to deduce the specific elements of managed care that may worsen patient and provider perceptions of the quality of care. The self-selection of patients and providers into managed care plans or fee-for-service plans also is a variable that has not been controlled for adequately in previous studies. Finally, it is important to note that studies of both provider and patient satisfaction with health plans have focused on adults; the experiences of children and their parents in managed care may be different, and require further investigation.

**Opportunities to Improve Health Care Practices for Children**

Arguably, the elements of managed care discussed previously can affect the quality of patient care. Studies to date have been inconclusive about how cost-containment mechanisms used by MCOs have influenced the quality of care, particularly for children. Nonetheless, the current state of medical care in the United States offers timely opportunities for MCOs to focus on improving health care quality. Competition brought on by managed care also has encouraged traditional health plans and independent practitioners to increase their emphasis on improving the quality of health services. Numerous efforts focusing on quality improvement are underway, a limited number of which have been initiated by MCOs.

**Variability in Health Care Practices**

Much of the concern about quality in health care stems from studies 25 years ago documenting significant variability in the way that health care was provided. Wennberg and colleagues noted large differences in hospitalization rates for surgical conditions across hospital market areas; these differences were unrelated to patient characteristics or to the severity of their conditions.28 Later, these studies were extended to children, among whom large differences were documented in tonsillectomy and adenoidectomy rates.29 More recently, Perrin and colleagues...
demonstrated large differences among three major academic medical centers in hospitalization rates for asthma, toxic ingestion, and head injuries. For conditions where the decision to admit was straightforward—such as fracture of the femur or meningitis—this variability disappeared. These studies suggest that improvements in quality could be realized through the development and implementation of practice standards for physicians and hospitals that extend across geographic areas.

The Gap Between Current Care and Evidence-Based Practices

While studies that document variability in the ways in which health care is delivered are important markers for opportunities to improve child health care, they provide insufficient direction for improvement efforts. The reduction of variability alone does not ensure improved health care outcomes. The more relevant issue from an improvement perspective is the size of the gap between what is known (effective, evidence-based practices) and what is done (current practice patterns). The extent of this gap has been well documented for preventive health care practices for children. For example, despite the known efficacy of most pediatric vaccines, numerous studies have documented the failure to achieve adequate immunization rates for children of all ages and across all socioeconomic groups. Similarly, a study of vision screening in a research network of office-based practices demonstrated that one-third of all children were not screened for visual problems at the appropriate age, and that those children with identified problems often did not receive a follow-up by a vision specialist. This failure to implement evidence-based practices also has been documented in the area of asthma care. One study found that a significant percentage of children hospitalized for asthma did not receive optimal assessment, treatment, or patient education. Another study found that among children seen in pediatricians’ offices for acute exacerbation of asthma attacks, 5% did not receive appropriate assessment with peak flow meters, 23% did not receive adequate inhalation treatments, and 80% were not given anti-inflammatory medications when indicated. While there is little information concerning the effect of managed care on failure to provide effective, evidence-based practices, the apparent gap between optimal and actual practices in such key areas as preventive health services and asthma care provides an important impetus to MCOs to focus their improvement efforts on closing the gap between actual and evidence-based practice.

Efforts to Improve the Quality of Health Care for Children

Concerns about the adverse impact of cost containment on quality have stimulated several important efforts to improve the quality of health care in managed care plans. Competition has turned out to be one incentive for improvement, as MCOs strive to
improve health care practices to retain their place in a highly competitive health care market. In addition, this new interest in quality has spawned more direct efforts to improve health care delivery and health outcomes, as described below. It is important to note, however, that because a relatively small percentage of expenditures in most health plans are directed toward children, health plans generally have been slower to adopt improvement initiatives that target children than those that target adults.

**Evidence-Based Practice Guidelines**

The development and dissemination of evidence-based practice guidelines—which offer a framework for physicians to provide evidence-based recommendations for care—have been an important first step in improving health care. While the development of these guidelines provides an important framework for improving care, their development and dissemination do not ensure a uniform change in practice patterns or improved outcomes. Nonetheless, several investigators have documented that adherence to evidence-based guidelines can lead to an improvement in the quality of care provided, although this relationship has not been extensively studied.

Adherence to evidence-based guidelines can lead to an improvement in the quality of care.

Learning Collaboratives

Although guidelines provide a means for effectively disseminating evidence-based recommendations for care, information about effective ways to implement these recommendations has not been readily available. Learning collaboratives, however, have begun to address this challenge. The use of learning collaboratives in neonatal intensive care units (NICUs), pediatric offices, hospitals, and health plans has provided an important means of translating scientific evidence into improved health outcomes. These collaboratives, formed to develop common processes for measuring and improving health care outcomes, currently exist at different levels of care and may be temporary or ongoing. For example, the Vermont-Oxford Network (VON) and the California Children’s Hospital Association (CCHA) are permanent and ongoing collaboratives that have engaged in a wide range of efforts to measure outcomes, perform clinical trials, and improve quality. The hospital and health plan collaboratives organized under the auspices of the Institute for Health Care Improvement (IHI) came together to focus on quality improvements in specific target areas, including cesarean delivery rates, medication errors, and asthma management.

Learning collaboratives have begun to demonstrate success in implementing changes that have resulted in more effective practices and improved health care outcomes for children. In VON, 10 NICUs agreed on specific improvement aims for decreasing nosocomial infections and the incidence of chronic lung disease. These units collected data on a common set of clinical practices, outcomes, and costs; shared and benchmarked their best practices; implemented best practices and monitored their outcomes; and ultimately showed statistically significant improvements for both target conditions. The Partners-in-Prevention Project, a collaborative of office-based pediatric practices in North Carolina, has effectively implemented changes in practice that have increased the percentage of children who receive appropriate preventive care services. Finally, using an improvement methodology that relies on evidence-based practices, the IHI initiative described above has documented improve-
MCOs themselves have begun to form collaboratives, such as the American Group Health Association, to improve health care quality. To date, their efforts have focused primarily on the implementation and evaluation of quality indicators within their organizations, and not on targeted improvement initiatives. Improvement projects are now being planned and implemented in HMOs.

Finally, professional societies can play an important role in stimulating the use of collaboratives to implement evidence-based practices for children. Professional societies such as the American Academy of Pediatrics (AAP) are in a key position to influence the practice patterns of more than 50,000 physicians who care for children nationwide. There are ongoing efforts in the AAP to use the existing Pediatric Research in Office Settings (PROS) network for an improvement effort in the area of asthma care; efforts directed toward other areas of child health are equally promising.

Indicators for Measuring the Quality of Health Care Practices

The rise of managed care has stimulated the development of quality indicators for health care that assess the health status of a population of patients as well as the individual patients. Prior to the advent of MCOs, quality of care was assessed with respect to the individual patient who presented for services. The rise of MCOs and capitated payment mechanisms, however, has shifted the provider’s accountability from the individual patients to the population of patients, and has encouraged the development of comprehensive indicators to track the quality of care delivered. As discussed below, these indicators include both population-based process indicators, such as immunization and breast cancer screening rates, and outcome indicators for acute care, such as surgical mortality.

In response to concerns about the impact of managed care on the quality of health services, public and private entities have begun to develop and distribute both condition-specific and generic health outcome indicators for children. These measures can be used to monitor the quality of health care, to inform consumers about the variation in quality across health plans, and to improve the overall quality of health care practices. Efforts in this area have been supported by private foundations and public agencies that fund research to evaluate the effect of quality indicators on health care delivery.

Several important initiatives are under way to develop child-centered outcome instruments. Currently, there are at least three valid and reliable generic functional status instruments available for use. These instruments—which measure how children function in everyday settings such as school and home—vary by age group, the perspective of the reporter, and the ease of administration. A focus on the infant-toddler group, however, is missing in all of the instruments. The Functional Outcomes Project, under the auspices of the AAP, has been active in the development of condition-specific instruments for children. The project has completed an instrument for asthma; instruments for otitis media with effusion, head trauma, and musculoskeletal disorders are in progress. In addition, Kaplan has developed a set of condition-specific measures for children with chronic illnesses that use innovative computer graphics in an interactive program to assess outcomes. Outside of academic settings, however, questionnaires that measure child health outcomes are not generally used.

Despite considerable effort to develop quality-of-care measures to assess health care outcomes for children, a comprehensive set of pediatric measures and a plan for their implementation are still lacking. The National Committee for Quality Assurance (NCQA) has indirectly addressed this issue with the development of the Health Plan Employer Data and Information Set (HEDIS), a data set used to compare how well health care outcomes for children.
plans address the prevention and early detection of disease and improve the functional status of enrollees.\textsuperscript{56} While NCQA has made important inroads toward ensuring that health plans begin to measure quality in a consistent and comprehensive manner, few child-centered measures are included in HEDIS. Efforts to develop a more comprehensive set of child measures for use in the accrediting of health plans are just beginning. In addition, using an approach that explicitly involved the consumer perspective, the Foundation for Accountability (FACCT) developed comprehensive sets of quality measures for specific conditions, including adult diabetes and depression, though development of child measures has just begun.\textsuperscript{57} A third effort to develop a comprehensive set of quality indicators for children has been initiated by the Health Care Financing Administration (HCFA) and the RAND Corporation. Together, they have used expert consensus panels and medical literature to develop a set of indicators addressing more than 30 ambulatory care conditions in pediatric practice; pilot testing is currently under way on this project.\textsuperscript{58}

With efforts to develop a comprehensive outcomes measurement set for children occurring along multiple fronts, an opportunity exists to bring together the stakeholders in this process and develop a single measurement set for pediatric outcomes. The David and Lucile Packard Foundation and the Agency for Health Care Policy and Research (AHCPR) are currently funding a program to combine the resources and expertise of NCQA and FACCT to develop a unified measurement set for child-focused outcomes of care. To date, this program has produced a concept paper defining the scope and characteristics of the measurement set, and an agreed-upon process for developing and implementing new measures.\textsuperscript{59} The goals for 1998 are to define a comprehensive measurement set for pediatric outcomes and to develop at least six measures that can be incorporated into HEDIS and used by health plans to assess quality of care for children.

**Accountability for Measuring and Improving Health Care**

The development of a comprehensive set of pediatric outcome measures is an important step toward assessing and improving children’s health care. However, without a strong incentive for providers to use these measures to assess health care practices and alter care as appropriate to enhance quality, little progress can be made in improving child health outcomes. Traditionally, incentives have been linked to the accreditation process for hospitals and health plans. During the past 40 years, the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) has played an important role in holding hospitals accountable for quality and mandating that hospitals assess the performance of their clinical and medical staff. This accreditation process has primarily focused on helping hospitals and medical staff to meet minimum standards of care. In recent years, JCAHO has recognized the need to go beyond ensuring that minimum standards of care are being met, and accordingly approved ORYX, an initiative designed to integrate performance measures into the accreditation process. Through the ORYX initiative, JCAHO now requires hospitals to measure patient-centered outcomes using approved sets of measures, and to assess their performance compared to peer institutions.\textsuperscript{60} This process has encouraged the development of multiple sets of performance measures from various organizations. This proliferation of measurement sets under the auspices of JCAHO mitigates against efforts to develop a single, uniform set of pediatric measures.

NCQA has recently become active in the accreditation process, with a primary focus on health plans. Similar to JCAHO, NCQA has defined a comprehensive set of 50 structure and process indicators required for accreditation.\textsuperscript{31} Both JCAHO and NCQA are currently developing accreditation standards for medical groups that are independent of health plans and hospitals.
A different approach to holding providers accountable for performance has been developed by employer groups that focus on health care issues. These groups were initially formed to more effectively negotiate health care contracts and to ensure greater value for their health care dollar. Recently, groups such as the Pacific Business Group on Health have proposed that managed care plans and medical groups be required to measure outcomes and meet performance standards of excellence as part of the contracting process.61 These groups are looking to NCQA and other organizations to provide both patient-focused outcome measures and performance standards to accomplish their objectives.

State governments also have become responsible for monitoring quality and fostering improvements in health care practices through their contracting with Medicaid managed care plans. As part of the contracting process, each state requires participating plans to meet specific standards. These standards usually have been designed to ensure that appropriate benefits are defined; that health plans have comprehensive provider networks; and that member rights are preserved, particularly in the areas of enrollment and appeals. More recently, states have begun to require that Medicaid managed care plans measure clinical practices and meet specific performance standards. A recent study of all 34 states with comprehensive prepaid managed care contracts in 1996 found that 25 of 30 (83%) states that responded collected data on childhood immunization rates in 1995–96, though all 34 states planned to collect this information during the following year. However, only 9 of 30 (30%) state Medicaid agencies surveyed provided comparative information on childhood immunizations to health plans, and no states offered this information to Medicaid beneficiaries in the process of selecting managed care plans.52 The advent of the transfer of federal funds to the states from the State Children’s Health Insurance Program (CHIP) provides additional opportunities to incorporate accountability for quality standards into the contracting process.

The transition from defining accountability to consumers on the basis of an accreditation process that ensures minimum standards of care to defining accountability on the basis of achieving standards of excellence represents an important opportunity for improving health care outcomes. To maximize accountability, clear performance standards ultimately need to be developed and adopted by states, employer groups, and accrediting organizations. These performance standards must be translated into quality-improvement initiatives within hospitals, health plans, and individual provider practices. Increased accountability to children also requires that all participants—states, employer groups, and accrediting organizations—implement a common comprehensive set of pediatric measures, and consult on the development of performance standards that focus on improving the quality of care and subsequent child health outcomes. Ultimately, health care purchasers must require and enforce accountability in managed care contracts.
Conclusion

Recently, the impact of managed care on the quality of health care services has received much attention. In both the lay and professional press, however, discussions have been polemical and often pejorative in nature. Managed care has been perceived as a significant threat to children in need of comprehensive and appropriate care, with the impact being particularly severe for children with special needs. While much has been written about these potential dangers of managed care, there has been little discussion about the potential benefits that might accrue from managed care, or about the opportunity that managed care has to enhance the measurement and quality of child health outcomes.

Creating a balanced assessment of the impact of managed care on health care quality—in particular, children’s health care quality—is difficult. This challenge exists because of the changing character of managed care, an imprecise definition and articulation of what is meant by quality, and a dearth of studies that examine outcomes other than cost and utilization.

Despite these obstacles, important stakeholders play key roles in promoting and ensuring quality care for children in the current health care environment. Employer groups focusing on health care issues must ensure that all managed health care plans measure and report child health indicators in a reliable and valid manner that allows consumers to select health plans based on quality as well as cost. Ideally, consumers should have access to information about how plans compare on important quality indicators, and whether plans achieve important improvement goals for children’s health. Federal and state regulatory agencies should assume a similar role for publicly funded insurance programs, such as Medicaid.

Physicians need to assume responsibility for the development and implementation of evidence-based recommendations that lead to cost-effective care. The responsibility of designating “best practices” cannot be left solely to health plans and hospitals, which may be motivated primarily by cost considerations. Professional and scientific societies can play an important role in the development and dissemination of these evidence-based guidelines and in child health improvement activities. For example, societies such as the AAP can organize collaborative groups of pediatricians to initiate improvement activities to lower morbidity rates, improve immunization rates, and decrease health risk factors among adolescents. Health plans, hospitals, and medical groups must work to differentiate themselves in the marketplace on the basis of quality and value instead of price alone. Moreover, these organizations will need to assume risk for achieving health care improvement goals, and not merely for meeting cost targets.

Consumers need to be given clearly understandable information to be able to compare health plans on the basis of both cost and quality. This provision of information will require a comprehensible and accurate data set on health plans and providers, as well as a set of tools to aid consumers in selecting plans and appropriate providers.

Finally, any clear-cut conclusions about the impact of managed care on the quality of health care for children will require more research to define and implement effective medical practices and promote the ongoing development of outcome assessment measures. Continued vigilance across all aspects of the health care system is necessary to ensure that the appropriate health care interventions and qualified health care professionals are accessible to children and their families.


