Report from an Expert Work Group

# Pediatric Provider Networks for Children with Special Needs in the Current Health Insurance Market


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**Pediatric Expert Work Group on Managed Care and Children with Special Needs**

# Preface

The federal Maternal and Child Health Bureau has for decades dedicated its resources to improving health care services to children with special health care needs. Working with its state Title V agencies, pediatric providers, families, and other constituencies, the Bureau has attempted to support family-centered, comprehensive, coordinated, and culturally competent care for children who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions.

With the myriad of changes that have taken place in the last ten years with managed care, the Bureau has focused particular attention in three areas. First, we are working to develop new tools for identifying children with special health care needs and, with the National Center for Health Statistics, we plan to conduct a national survey that will contain reliable prevalence and impact data for each state. Second, we are supporting Family Voices and other family support groups to facilitate greater knowledge about and involvement in Medicaid, the state Children's Health Insurance Program (S-CHIP), private health insurance, and managed care organizations. Third, we are collaborating with the American Academy of Pediatrics to increase children's access to a comprehensive medical home, which encompasses not only preventive, ambulatory, and inpatient care but also continuity of care over an extended period of time, and coordination of specialized physical and mental health and related school and community services.

Our success in achieving a comprehensive medical home for children with special health care needs depends largely on the availability of pediatricians and family physicians to serve in this role. However, in the past few years, physicians and other health care professionals have expressed serious reservations about assuming more responsibility for this vulnerable population for several reasons, including inadequate reimbursement, restrictive referral and authorization policies, and limited pediatric provider networks. To obtain an objective assessment of pediatricians' experiences with managed care, we requested that the MCH Policy Research Center conduct a comprehensive literature review. We also asked the American Academy of Pediatrics to summarize its related activities in managed care and its members' key concerns. We then convened a diverse group of pediatric experts to review these findings and to summarize the major barriers in managed care arrangements and to recommend alternative strategies that could remedy these problems.

In the coming year, the Maternal and Child Health Bureau will be developing specific federal, state, and local strategies to address the concerns and recommendations identified in this report. These issues will also be taken into consideration as we develop our 10-year action plan for the Healthy People 2010 Objectives for children with special health care needs. Thank you for your continued interest in supporting improvements in health care services for all children with special health care needs.

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# Summary of Problems and Recommendations Related to Managed Care and Children with Special Needs

## I. Identification of Problems Affecting Pediatricians

Several areas of concern were identified by the pediatric managed care expert work group convened by the federal Maternal and Child Health Bureau on February 16, 2000. Several of the issues extend beyond managed care and address the supply, distribution, training, and reimbursement of pediatric providers. The problems identified are organized according to three topics: capacity and expertise in managed care organizations, access to specialized pediatric services, and reimbursement.

### A. **Capacity and Expertise in Managed Care Organizations**

1. Shortages in certain pediatric medical and surgical subspecialists (e.g., neurologists, psychiatrists, and rheumatologists) are being reported in certain parts of the United States.
2. The availability of qualified pediatric mental health and substance abuse professionals is also limited in most managed care organizations, due primarily to low reimbursement rates. In addition, few mental health professionals have experience and training in treating mental health conditions that are secondary to physical health conditions affecting children.
3. Comprehensive pediatric provider networks are not consistently available, making specialty referrals problematic. Oftentimes children with chronic conditions are referred to adult specialists who have limited experience and training in the care of childhood conditions (e.g., an adult cardiologist rather than a pediatric cardiologist or a general orthopedist rather than a pediatric orthopedist).
4. Many children with chronic conditions, such as autism, have difficulty obtaining medical homes because of the complexities of their care and the lack of adequate financial compensation. Also complicating the delivery of comprehensive medical homes for certain children with complex conditions is the use of separate behavioral health plans and the confusing mix of school, state and community, and voluntary services that are often difficult to access and are seldom coordinated.
5. Few multidisciplinary practice arrangements exist to serve children with complex conditions.
6. Case management in managed care organizations is often difficult to access and is generally limited to only high-cost children. Also, it focuses on benefit management, not care coordination.
7. Many families are assuming too much nursing care responsibility for their children with serious medical conditions.

B. **Access to Specialized Pediatric Services**

1. There is enormous variation in utilization review and prior authorization criteria among managed care organizations, making it very burdensome for pediatricians and family physicians who contract with multiple plans and need approval for physician and other specialized services.
2. Managed care plans often apply restrictive medical necessity criteria, limiting access to certain services (e.g., medications, therapies) or limiting the duration of treatment.
3. Utilization managed staff and case managers in managed care organizations often have limited knowledge about chronic childhood conditions.
4. While well-intentioned, the use of carve-outs for children with chronic conditions makes the delivery of comprehensive care almost impossible to achieve. Separate behavioral health plans create particular problems for those who have conditions, such as anorexia nervosa, which require multidisciplinary interventions and for those who have physical or developmental conditions with related emotional problems.
5. Communication between medical, behavioral, and educational service systems is oftentimes limited and administratively complex.

C. **Reimbursement**

1. Pediatricians serving a disproportionate number of children with chronic conditions are experiencing serious financial difficulties because of the unreimbursed time and services they provide.
2. Accepting full-risk capitation for children with chronic conditions is problematic since there are no reliable health risk adjusters for children. Moreover, it is unlikely that any risk adjustment method will be sufficiently predictive for children with chronic conditions.
3. Reimbursement rates for all pediatric services are much lower than reimbursement rates for adult services.
4. Managed care organizations and other insurers often fail to reimburse certain CPT codes that are needed for the treatment of chronic childhood conditions. These include, but are not limited, to:
    a. prolonged physician service without direct patient contact (99358, 99359),
    b. team conferences (99361, 99362),
    c. telephone calls (99371-99373),
    d. care plan oversight services (99374-99380),
    e. preventive medicine, individual counseling (99401-99404), and
    f. preventive medicine, group counseling (99411, 99412).
5. Few insurers or managed care plans reimburse on the basis of resource-based relative value scale (RBRVS).

## II. Recommended Strategies for Improving Pediatric Services to Children with Special Health Care Needs

To address the managed care and other problems identified above, numerous recommendations were developed by the pediatric expert work group. They are organized below into the same three topic areas—capacity and expertise in managed care organizations, access to specialized pediatric services, and reimbursement.

### A. Capacity and Expertise in Managed Care Organizations

1. Monitor the adequacy of the supply and availability of pediatric primary care and specialty providers to serve children with chronic physical, developmental, behavioral or emotional conditions.

2. Promote the medical home concept to managed care organizations.

3. Develop an effective educational program for pediatricians to improve their office-based capacity to serve as medical homes for children with special needs.

    a. Develop specific clinical and administrative requirements for medical homes and centers of excellence for children with complex physical, developmental, behavioral, or emotional conditions. Designate pediatric office, clinic, and hospital-based sites that meet these requirements.

    b. Describe, categorize, and quantify the activities necessary for care coordination within a medical home.

4. Expand information sharing and quality monitoring systems

    a. Conduct national and plan-specific studies on pediatrician evaluation of managed care plans, using either the New England SERVE survey instrument[1] or adapting another tool. Work with researchers at the University of Minnesota to provide feedback on their Physician Evaluation of Health Plan Survey.[2]

    b. Encourage the use of the Living with Illness Module (LWIM) screener[3] in the pediatric version of the Consumer Assessment of Health Plans (CAHPS).

    c. Establish Internet-based systems for information sharing among practices serving children with chronic conditions.

    d. Encourage greater collaboration between the Maternal and Child Health Bureau (MCHB), the Health Resources and Services Administration (HRSA), the Health Care Financing Administration (HCFA), the National Committee for Quality Assurance (NCQA), and the Joint Commission on the Accreditation of Healthcare Organizations (JCAHCO) in the development of new and improved mechanisms for evaluating pediatric provider network capacity.

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[1] New England SERVE. Primary Care Provider Survey. *Shared Responsibilities Tool Kit* (Version 1.0). Boston: New England SERVE, November 1998.

[2] Borowsky SJ, Davids MK, Goetz C, and Lurie N. Are All Health Plans Created Equal? The Physician's View. *JAMA*. Vol. 278, No.11, September 17, 1997.

[3] Bethell CM, Read D, and Newacheck P. *Toward a Common Approach to Identifying Children with Chronic Conditions.* Portland, OR: Foundation for Accountability, 2000. For additional information, contact www.facct.org.

B. **Access to Specialized Pediatric Services**

1. Adopt medical necessity standards that address treatment for chronic or disabling conditions as well as illnesses and injuries affecting children. Cost considerations should only be taken into account when evaluating alternative treatments that have comparable health outcomes.

2. Simplify administrative mechanisms and develop common utilization review and prior authorization policies among managed care organizations.

   a. Reduce approval requirements and establish a "certification" approval process where approval is given if consistent with treatment protocols or a plan of care.

3. Improve access to mental health and other specialty services.

   a. Improve the coordination between physical and behavioral health systems.

   b. Identify and disseminate examples of best practices (e.g., co-location of psychiatrists, psychologists, or social workers in pediatric offices).

C. **Reimbursement**

1. Establish payment policies that protect pediatric practices from assuming excessive financial risk for caring for children with chronic conditions.

2. Create financial incentives for pediatricians to serve children with conditions, such as add-on payments, disproportionate payment rates, or fee-for-service reimbursement after a certain level of service is furnished or cost is reached.

3. Establish special care payment mechanisms to cover the costs of multidisciplinary service arrangements, care coordination functions, and education and training activities.

4. Conduct evaluations of the cost effectiveness of care when delivered in a comprehensive medical home.

5. Conduct evaluations of the cost effectiveness of care coordination based in or linked to pediatric practices.

6. Establish the evidence base for ancillary therapies for children with or at risk for chronic conditions. Encourage state legislation to direct public and private payers to furnish at least a minimum amount of ancillary therapy visits for children, as is done with Medicaid.

7. Establish a mechanism within HCFA and HRSA to review current managed care reimbursement policies and the adequacy of Medicaid payment levels for pediatric care.

   a. Create a formal mechanism to modify payment rates with the introduction of new or improved treatment.

   b. Develop pediatric relative value units for CPT codes that have not been given values.

   c. Develop improved methods to support pediatric risk adjustment and risk sharing.

   d. Encourage insurers to use risk pooling mechanisms to fairly distribute the high cost

of care for certain children with chronic conditions and to encourage certain plans with particular expertise on childhood chronic conditions to expand their enrollment of children with special needs.

8. Expand the use of reliable and uniform methods for the identification children with special needs.

    a. Encourage use of new pediatric screening tools for purposes of payment and quality monitoring. These are the Questionnaire for Identifying Children with Chronic Conditions—Revised (QuICCC-R),[4] developed by Dr. Ruth Stein and other researchers at the Albert Einstein College of Medicine, and the Living with Illness Module Screener, developed by the Child and Adolescent Measurement Initiative and the Foundation for Accountability.

    b. Develop a marketing plan to inform managed care plans about new identification tools and the unique service delivery requirements needed by children with chronic conditions.

[4] Stein REK, Silver EJ, and Bauman LJ. Shortening the Questionnaire for Identifying Children with Chronic Conditions (QuICCC): What is the Consequence? *Pediatric Research.* Vol. 47, No. 4, April 2000.

# Comprehensive Literature Review on Pediatrician Satisfaction with Managed Care

## I. Introduction

This literature review on pediatrician satisfaction with managed care relies heavily on the literature for physicians generally, since no current studies on pediatricians have been published. There are several problems with the physician satisfaction research which are important to note, and which any future study needs to address. Most importantly, the categories of concern about managed care were not determined by the physicians themselves but by the issues identified by each individual research team. While most articles showed some agreement on the general issues of concern, the individual variables defining satisfaction differed greatly by study. Additionally, few studies distinguished the types of managed care arrangements or the distribution of patients' health insurance coverage. Most of the studies were conducted prior to 1996 and, given the changes in managed care enrollment and practices, it is unclear to what extent these studies reflect the current situation with respect to physician satisfaction.

The literature review is divided into three sections. The first section provides background information on pediatricians' general experience with managed care and primary care providers' specific experience in caring for children with special needs. The second section is a summary of the physician satisfaction literature related to clinical decisionmaking, financial issues, administrative issues, and continuity of care. The third section is an annotated bibliography of 19 studies.

### A. Background on Pediatricians and Managed Care

Managed care now dominates the medical insurance marketplace, and the vast majority of physicians are participating in managed care to some extent. Pediatricians are more likely than other primary care physicians to participate in managed care, with 97% having at least one managed care contract in 1998, as shown in Table 1. While differences in managed care participation by physician specialties appear to have diminished over time, pediatrician participation in managed care has historically been higher than it has for other types of physicians. Moreover, compared to physicians generally, a greater proportion of pediatricians' revenues derive from managed care. In 1998, 61% of pediatricians' revenues came from managed care compared to 52% for physicians nationwide. This percentage has almost doubled since 1990 (AMA, 1999).

Despite extensive participation in managed care by pediatricians, no large-scale, comprehensive, peer-reviewed studies have been published on pediatrician satisfaction with managed care in the past decade. Two relevant, unpublished studies were conducted in 1996—one of a national sample of pediatricians (O'Connor, 1997) and the other of New England primary care physicians. (New England SERVE, 1997). Findings from these studies of provide important insights into managed care physician satisfaction in caring for children with special needs.

Briefly, in 1996, pediatricians across the country reported that 90% of their patients were in some form of managed care, according to the AAP survey. They had a median number of six managed care contracts, and most of their income was derived from discounted fee-for-service payments (44%) and capitation (38%). On average, fees were discounted by about 20%. Several

areas of dissatisfaction were identified pertaining to chronically ill children in managed care—41% cited inadequate reimbursement as *always* a problem, 33% mentioned complex authorization processes for using out-of-plan specialists or inpatient care, 11% reported that the gatekeeper role impaired their ability to refer, and 7% identified lack of pediatric specialists and specialized pediatric inpatient facilities in plans' networks as a problem (O'Connor, 1997).

The AAP survey also included questions on practice changes and other changes attributable to managed care. The greatest practice changes were increased administrative activities (reported by 84% of respondents), increased number of patients in the practice (49%), increased hours in direct patient care (46%), and changes in income (37% reported a *decrease* and 20% an *increase*). Still, 53% of pediatricians reported that access to well child care improved under managed care and 48% reported improvements in treatment for common illnesses. However, continuity of care and access to treatment for rare illnesses declined according to 40% and 38% of pediatricians, respectively (O'Connor, 1997).

The New England SERVE survey found that physicians from Connecticut, New Hampshire, Rhode Island, and Vermont identified several areas of dissatisfaction with managed care related to their ability to care for children with chronic conditions. More than half of primary care physicians were not satisfied with the support they received in managing the psychological or emotional needs of their pediatric patients. In addition, physicians identified certain services for which referrals were most difficult to make. These were referrals to family support groups (52% were not satisfied), inpatient psychiatric care (50%), counseling for family members and the child (48% and 44%), psychological testing (41%), and specialized dental or orthodontic services (39%). Physicians' ability to coordinate care for children with special needs and the required paperwork for referrals for specialty care were also significant problems (New England SERVE, 1997).

Only one study on pediatrician satisfaction has been published and it was based on data collected in 1988, before the proliferation of managed care. That study found more referral barriers, restricted availability of pediatric subspecialists and hospitals, and greater administrative and financial barriers under managed care than under fee-for-service arrangements (Cartland and Yudkowsky, 1992).

Although pediatricians are likely to share many of the same concerns as other physicians regarding managed care, certain unique characteristics of pediatric care may affect the extent to which the general physician literature applies to pediatricians. One distinguishing feature of pediatric care may be the insurance status of the patients. In 1996, pediatricians reported that 55% of their patients were privately insured; 30% were receiving Medicaid; 7% were insured by other sources; and the remaining 8% were uninsured (O'Connor, 1997). Other physicians, by comparison, see a higher proportion of privately insured patients. A second distinctive characteristic is that children are more likely than adults to be in HMOs. A third unique aspect of pediatric care may be the nature and prevalence of chronic illness. Although fewer children than adults have chronic conditions, the range and manifestations of their conditions are quite different. Most adults with chronic conditions have one of a handful of prevalent conditions, while children with chronic conditions are much more likely to have rare conditions and conditions that are highly variable. Other factors, such as the supply and distribution of pediatric medical and surgical subspecialists, may also present different managed care issues for physicians caring exclusively for children versus physicians caring for adults or both children and adults.

# Table 1: Managed Care Participation by Physician Specialty, 1990-1998

| Physician Specialty | 1990 | | 1994 | | 1997 | | 1998 | |
|---|---|---|---|---|---|---|---|---|
| | Contract[a] | Revenue[b] | Contract[a] | Revenue[b] | Contract[a] | Revenue[b] | Contract[a] | Revenue[b] |
| All Physicians | 61% | 28% | 77% | 34% | 90% | 32% | 94% | 52% |
| Pediatrics | 71% | 34% | 79% | 40% | 94% | 45% | 97% | 61% |
| Family Practice | 57% | 31% | 74% | 34% | 83% | 33% | 91% | 49% |
| Internal Medicine | 65% | 29% | 78% | 31% | 87% | 30% | 93% | 50% |
| Internal Medicine Subspecialists | 67% | 24% | 86% | 28% | 94% | 28% | 98% | 53% |
| Obstetrics/Gynecology | 68% | 38% | 88% | 44% | 95% | 45% | 98% | 70% |
| General Surgery | 65% | 27% | 81% | 36% | 94% | 29% | 98% | 58% |
| Surgical Subspecialists | 70% | 26% | 84% | 33% | 94% | 30% | 98% | 51% |
| Psychiatry | 45% | 21% | 58% | 32% | 78% | 31% | 84% | 43% |
| Emergency Medicine | 35% | 25% | 40% | 23% | 91% | 25% | 94% | 43% |

a = Percentage of physicians with at least one managed care contract
b = Percentage of revenue from managed care

Sources: Emmons D. and Simon C. Managed Care: Participation, Revenues, and Risk. *Socioeconomic Characteristics of Medical Practice 1995.* Vol. 11, 174-181, 1995.

American Medical Association. 1997 Socioeconomic Monitoring System Survey of Nonfederal Patient Care Physicians. *Physicians Marketplace Statistics 1997-1998.* Chicago, IL: AMA 1998.

American Medical Association. 1998 Socioeconomic Monitoring System Survey of Nonfederal Patient Care Physicians. *Physician Socioeconomic Statistics 1999-2000.* Chicago, IL: AMA, 1999.

## II. Summary of Literature on Physician Satisfaction Generally

Since 1990, 16 large-scale surveys have been conducted to assess physician satisfaction with managed care. Most of these studies were based on national samples of primary care physicians and specialists (although a few state-specific studies were included), and most were conducted before 1996. At this time a standardized physician satisfaction survey instrument comparable to the Consumer Satisfaction of Health Plans (CAHPS) has not been developed and adopted by the managed care community. However, researchers at the University of Minnesota are in the process of designing a physician satisfaction survey instrument to evaluate health plan practices that facilitate or impede the delivery of high quality health care. The Minnesota researchers intend for this physician survey to be widely used in conjunction with consumer surveys as part of health plan performance measurement (Borowsky et al., 1997).

Taken together, survey findings indicate that physicians were highly dissatisfied with managed care and that specialists were even more dissatisfied than primary care physicians. Geographic areas with high HMO market penetration were associated with greater physician dissatisfaction than areas with low HMO market penetration. Interestingly, though, one study found that physicians employed by group/staff model HMOs and those receiving at least 75% of their income from capitation were more satisfied compared to physicians contracting with other forms of managed care organizations and receiving less than 75% of their income from capitation (Kerr et al., 1997). The two main problems that physicians have with managed care pertain to clinical decisionmaking and payment methods and amounts. Also, many expressed serious concerns regarding administrative hassles and continuity of care. Some positive changes resulting from managed care have been reported by physicians as well. These include increases in the availability of preventive care and the use of practice guidelines or disease management protocols. The following summarizes the literature in each of these areas.

### A. **Clinical Decisionmaking Issues**

Most of the physician satisfaction surveys addressed clinical decisionmaking and defined it in many different ways—referral difficulties and other service utilization restrictions, time constraints with patients, lack of control over work schedule, strained physician-patient relationships, ethical conflicts, excessive scope of practice demands, limited provider panels or availability of appropriate care, compromised patient care, or simply problems with clinical autonomy. Overall, physicians perceive that their ability to treat patients based on their best judgment has been compromised in HMOs and to a somewhat lesser extent with PPOs.

The major complaint that most physicians reported with managed care arrangements in general and capitated arrangements in particular related to service utilization constraints, specifically restrictions on specialist referrals, hospital admissions and lengths of stays, tests and procedures, prescriptions, and expensive or experimental treatments (Cartland and Yudkowsky, 1992; Collins et al., 1997; Donelan et al., 1997; Grumbach et al.,1998; Kaiser Family Foundation, 1999; Kerr et al., 1997; New England SERVE; O’Connor, 1997). In 1999, for example, The Kaiser Family Foundation’s Survey of physicians found that almost all physicians reported service denials in the past two years for their managed care patients. On a weekly or monthly basis, 61% of physicians reported prescription denials, 42% for tests or procedures, 31% for hospital stays, 29% for referrals to specialists, and 18% for mental health or substance abuse treatment. Between a third to two-thirds of these denials reportedly resulted in serious declines in patients’ health. To get necessary

care, about a fourth of physicians stated that they exaggerated the severity of their patient's condition (Kaiser Family Foundation, 1999). Despite the fact that referral restrictions were commonly cited as a major problem with managed care, one national study conducted in 1995 found very low actual denial rates. For all forms of care surveyed (hospitalizations, surgical procedures, referrals to specialists of choice, substance abuse referrals of choice, mental health referrals, MRIs, endoscopies, and cardiac catheterizations), first-round denials of coverage was less than 6% and the final denial rate was at most 3% (Remler et al., 1997).

A few other physician satisfaction surveys identified limits in the specific types of participating providers. These included pediatric specialists and impatient care (Cartland and Yudkowsly, 1992; New England SERVE; O'Connor, 1997; Remler et al, 1997) and child and adult mental health, substance abuse, and physical and rehabilitative therapy services in plans' provider networks (Collins et al., 1997).

The literature consistently shows that physicians contracting with HMOs reported seeing more patients per day, spending less time with each patient, and having less control over their work schedule (Baker and Cantor, 1993; Collins et al., 1997; Donelan et al., 1997; Grumbach et al., 1998; Kaiser Family Foundation, 1999; Kerr et al., 1997; Nadler et al., 1999; and O'Connor, 1997). Many of these studies also found that physicians felt pressure to see more patients and this adversely affected their relationship with their patients and the quality of the care delivered. In addition, in a 1996-1997 survey of more than 12,000 physicians, a fourth of primary care physicians and a third of specialists said that the scope of care provided by primary care physicians was greater than it should be. (Scope of care was defined in terms of complexity or severity of conditions for which primary care physicians provide care without referrals to specialists.) Pediatricians and internists were more concerned than family physicians and general practitioners about the appropriateness of care expected. Although significant geographic variation was reported, capitation was consistently associated with concerns regarding the scope of primary care (St. Peter et al, 1999).

### B. Financial Issues

Financial issues associated with managed care are the second most common topic covered in physician satisfaction surveys. These are defined to include income, denial or termination from contracts, and effects of financial incentives. In general, a significant proportion of physicians reported lower incomes and greater financial risk under HMOs compared to other forms of managed care.

The literature on physician income revealed a mixed picture. More than a third of physicians reported that their income had declined as a result of managed care and about one quarter reported an increase (Collins et al., 1997; O'Connor, 1997). In addition, a 1999 study found that a quarter of physicians were reportedly not making enough money under managed care (Kaiser Family Foundation, 1999). In another study comparing 1985 and 1993 physician incomes, increases in managed care penetration were associated with a 6% increase in primary care physicians' income, but no change in specialists' income (Simon et al., 1998). Academic physicians reported a decline in their income (Simon et al., 1999) and HMO-salaried physicians were more dissatisfied with their incomes than those who were self-employed with managed care contracts (Baker and Cantor, 1993).

A California study found that although pediatricians were the least likely among primary care physicians to be denied or terminated from a managed care contract, 14% cited this as a problem in 1996. Solo practice and higher rates of non-white and uninsured patients were associated

with managed care contract denials or terminations (Bindman et al., 1998). More recently, The Kaiser Family Foundation (1999) found that a third of physicians nationwide had, in the last two years, stopped participating in at least one managed care contract.

The use of financial incentives in the form of bonuses and withholds, which are common in both HMOs and PPOs, was also cited in four studies as an ethical problem and a source of dissatisfaction by many physicians. Those with strong financial incentives were much more likely to be dissatisfied and to report that their expectations about professional autonomy and ability to practice quality medicine had not been met (Hadley et al., 1999). Financial incentives indexed to referrals or productivity were associated with the perception that care was compromised, unlike financial incentives linked with quality of care or consumer satisfaction (Grumbach et al., 1998).

### C. Continuity of Care Issues

Only a few studies queried physicians about their satisfaction with continuity of care. This was defined to include either perceptions regarding continuity of care or the movement of patients in and out of practices, as well as concerns about coordination or care. These studies reported a decline in continuity of care with managed care. One study found that 40% of pediatricians mentioned that continuity of care had declined under managed care (O'Connor, 1997) and 52% of academic physicians perceived that continuity of care was better in fee-for-service arrangements compared to managed care (Simon et al., 1999). Another study found that almost two-thirds of physicians complained about the movement of their patients in and out of practice due to changes in health insurance plans (Donelan et al., 1997). This percentage was estimated to be about 10% of the practice population (Collins et al., 1997).

### D. Administrative Issues

Administrative burdens, examined in about a third of the studies, had reportedly increased as a result of managed care. This variable was defined to include "increased paperwork," or, in some instances, documentation requirements for referrals. Almost all physicians that responded to questions on administration cited increased paperwork under managed care (Cartland and Yudkowsky, 1992; Kaiser Family Foundation, 1999; and O'Connor, 1997). In addition, difficulties staying abreast of utilization rules and additional paperwork for referrals were mentioned by a large percentage of physician respondents in 1995 (Collins et al., 1997 and Donelan et al., 1997).

## III. Annotated Bibliography

1. **Baker LC, and Cantor JC. Physician Satisfaction Under Managed Care. *Health Affairs.* Supplement, 258-270, 1993.**

   **Methodology:** Telephone survey of 4,257 physicians under age 45 who had been in practice for 2-9 years and engaged in patient care for at least 20 hours per week. The sample was divided into 6 groups—self-employed with and without managed care, HMO employees, government employees, and other employees with and without managed care. The survey was conducted in 1991 by Mathematica Policy Research. The response rate was 70%. (See Hadley et al., 1997.)

   **Major findings:**

   - Only 39% of HMO employees felt that they could control their work schedule compared to 81% of self-employed physicians with managed care. Physicians employed by HMOs were less likely than other physicians with managed care contracts to have sufficient time with their patients.
   - HMO physician employees felt more able to hospitalize patients and order tests and procedures than other physicians with managed care contracts. In fact, HMO employment was perceived to be associated with the right amount of routine tests and procedures and a decrease in the perception of underuse of tests and procedures.
   - Still, however, HMO employees were significantly more dissatisfied with their current practice than those who were self-employed with managed care contracts (29% vs. 9%). No difference was found in satisfaction with current practice by physicians employed by HMOs and those employed by others with managed care. The same pattern of dissatisfaction emerged for satisfaction with income. With respect to plans to leave the medical practice within 2 years, 28% of HMO employees reported plans to leave as compared to 9% of self-employed physicians with managed care affiliations.
   - Generalists employed by HMOs were more dissatisfied than specialists employed by HMOs with their level of professional autonomy and their ability to practice quality medicine.

2. **Borowsky SJ, Davis MK, Goertz C, and Lurie N. Are All Health Plans Created Equal? The Physician's View. *Journal of the American Medical Association.* Vol. 278, No. 11, 917-921, 1997.**

   **Methodology:** Telephone survey of 249 physicians practicing in 1 of 3 managed care plans in Minneapolis-St. Paul, Minnesota. The 3 managed care plans included 2 network model plans, one of which had a primary care gatekeeping approach, as well as one staff model HMO. The survey was of individual health plan practices that promote or impede high-quality care. The response rate was 84%.

   **Major findings:**

   - The overall quality of primary care was rated as excellent by only 22% of physicians, specialty care by 29%, and emergency and hospital care by 23% of physicians. Lower ratings were given to the formulary and to mental health care (10% and 6%, respectively).

- Physicians' ratings of health plan practices that promote high-quality care identified several problem areas. Fewer than 20% of physicians thought that plans did an excellent job with providing education to patients and physicians, identifying patients who needed preventive care, providing feedback to physicians about practice patterns and patient outcomes, and employing effective physician performance evaluations.
- Physician's ratings of health plan practices that impede high-quality care also revealed many barriers. The most commonly cited problems were as follows:
  - 80% reported that the plan's authorization policies do not help patients get better care,
  - 70% reported that the plan did not provide timely feedback explaining why authorizations were denied,
  - 44% reported that the plan asked the physician to put cost containment ahead of patient care,
  - 34% would not recommend the plan to a family member who needed mental health care,
  - 29% reported that often plan patients who need mental health care cannot receive it,
  - 26% reported that primary care providers are not doing an excellent job in coordinating patient care,
  - 25% reported that they do not usually have enough time with their patients, and
  - 22% reported that patients who really need to see a specialist are not able to see one promptly.
- Ratings pertaining to overall plan quality differed across health plans, with physicians ranking as the highest the network model plan without primary care gatekeeping and the staff model with the next highest ranking.

3. **Bindman AB, Grumbach K, Vranizan K, Jaffe D, and Osmond D. Selection and Exclusion of Primary Care Physicians by Managed Care Organizations. *Journal of the American Medical Association.* Vol. 279, No. 9, 675-679, 1998.**

**Methodology:** Mail survey of a probability sample of 947 primary care physicians providing direct patient care in the 13 largest urban counties in California. The survey of managed care contracts denials or terminations was conducted in 1996 by the Primary Care Research Center of the University of California, San Francisco. The response rate was 71%. (See Grumbach et al., 1998.)

**Major findings:**

- Eighty-seven percent of primary care physicians had at least one managed care contract, and 22% of primary care physicians had been denied or terminated from at least one contract. Among primary care physicians, pediatricians were the least likely to be denied contracts, and the most likely to participate in managed care (14% were denied or terminated from a managed care contract). The most common reason for contract denial was that the IPA or HMO had too many physicians in the same specialty.

- Solo practice was the largest predictor of denial or termination of a contract, and also of non-participation in any managed care contracts.
- Physician characteristics (age, race, and sex) were not predictive of managed care involvement, denial, or termination, but patient demographics were significantly predictive—those physicians involved in managed care contracts had significantly lower percentages of uninsured and nonwhite patients.

4. **Cartland JDC and Yudkowsky BK. Barriers to Pediatric Referrals in Managed Care Systems. *Pediatrics.* Vol. 89, No. 2, 183-192, 1992.**

**Methodology:** Mail survey of a national random sample of 1,264 fellows of the American Academy of Pediatrics (AAP). This survey of referral barriers in HMOs and PPOs was conducted in 1988 by the AAP. The response rate was 79%.

**Major findings:**

- More referral barriers were reported by pediatricians in HMOs and PPOs than in traditional insurance. Almost 10% reported that they referred their managed care patients less frequently to pediatric subspecialists and 7% reported that they referred their managed care patients to inpatient care less frequently.
- Lack of availability of pediatric subspecialists and inpatient care was cited as a barrier in both HMOs and PPOs. Pediatricians with HMO patients experienced greater pressure to refer to adult providers as compared to PPO patients.
- Twenty percent of pediatricians reported at least one denial for pediatric subspecialist services in the past year. Approximately a third of pediatricians who were denied a referral believed that the patient's health status was compromised.
- Pediatricians reported more difficulties with managed care than with traditional insurance in the following areas—administrative barriers (91% vs. 72%), financial barriers (66% vs. 26%), and availability of appropriate care (54% vs. 12%).

5. **Collins KS, Shoen C, and Sandman DR. *The Commonwealth Fund Survey of Physician Experiences with Managed Care.* New York: The Commonwealth Fund, March 1997.**

**Methodology:** Telephone survey of a national random sample of 1,710 physicians, with an oversample of physicians practicing in group or staff model HMOs. The sample included only office-based physicians (who deliver patient care at least half of their time). Medicaid and Medicare managed care experience was excluded. This study of experiences with managed care was conducted in 1995 by Louis Harris and Associates. The response rate was 48%.

**Major findings:**

- Clinical decisionmaking declined in the 3 years prior to the study, according to 38% of the physicians sampled. Problems with hospital lengths of stay and admissions were most commonly cited. Half of physicians in discounted or capitated plans rated their ability to get necessary treatment as fair or poor, and 62% cited problems in getting

appropriate treatment for care without delay. In addition, between 23-31% of physicians reported difficulties obtaining referrals for child and adult mental health, substance abuse, and physical and rehabilitative therapy services.

- Difficulties staying abreast of insurance plan practice guidelines and utilization rules were cited by 80% of physicians, and 60% reported problems with external reviews and other limits on clinical decisions.
- Specialists were more likely than generalists to report declines in clinical autonomy.
- Time spent with patients had also decreased, according to 41% of physicians.
- Physicians reported losing, on average, about 10% of their patients because of health insurance plan changes in the 3 years prior to the study. Moreover, physician income was lower for 36% of the sample and higher for 26% of the sample over the 3 years prior to the study. The reduction in income was more pronounced among specialists.
- A fifth of physicians left a plan in the last 3 years, and a fourth, particularly specialists, were denied participation in a plan's provider network.
- Overall, physicians in solo practice reported more dissatisfaction with managed care than physicians in large group practices, and the greater the managed care volume, the higher the level of physician dissatisfaction.

6. **Conrad DA, Maynard C, Cheadle A, Ramsey S, Marcus-Smith M, Kirz H, Madden CA, Martin D, Perrin EB, Wickizer T, Zieler B, Ross A, Noren J, and Liang S. Primary Care Physician Compensation Method in Medical Groups. *Journal of the American Medical Association.* Vol. 279, No. 11, 853-858, 1998.**

   **Methodology:** Mail survey of 865 primary care physicians from 60 Washington state medical groups contracting with 4 managed care organizations—a staff model HMO, a network model HMO, a group model HMO, and a PPO. Single specialty pediatric groups were excluded, as well as physicians' panels covered by Medicaid, CHAMPUS, Medicare, and VA reimbursement. This study, to determine the effect of different types of financial incentives on health care utilization, was conducted in 1995 by the University of Washington. The response rate was 82%.

   **Major findings:**

   - There was no significant association between physician compensation method and cost and utilization of physician and outpatient visits, hospital days, or annual estimated costs per member. Also, no association was found by medical group or individual physician, even when considering patients with higher than expected health care utilization for chronic conditions, such as asthma.
   - Variables that were related to higher utilization were younger age of physician, enrollee gender (female), and lower plan cost-sharing levels.

7. **Donelan K, Blendon RJ, Lundberg GD, Calkins DR, Newhouse JP, Leape LL, Remler DK, and Taylor H. The New Medical Marketplace: Physicians' Views. *Health Affairs.* Vol. 16, No. 5, 139-148, 1997.**

**Methodology:** Telephone survey of a national cross-sectional sample of physicians and an oversample of physicians practicing in California, Massachusetts, Minnesota, and Oregon, totaling 2,003 physicians. The sample included physicians spending at least 20 hours per week in direct patient care. The survey to assess managed care satisfaction was conducted by Louis Harris and Associates in 1995. The response rate was 53%. (See Remler et al., 1997.)

**Major findings:**

- Physicians practicing in high HMO penetration states (California, Massachusetts, Minnesota, and Oregon) were significantly more likely to be dissatisfied with the health care system and their medical practices than those in low HMO penetration states.
- The top 4 problems reported by physicians nationwide were movement of patients in and out of practice due to changes in insurance coverage (62%), administrative paperwork requirements for specialist referrals (56%), limits on specialist referrals (53%), and limits on hospital lengths of stay (48%).
- Other problems cited by physicians in the sample were:

  – patients who should have been referred sooner (42%),

  – limits on hospital admissions (41%),

  – limits on referrals to appropriate specialists (41%),

  – limits on ordering diagnostic tests and procedures (39%),

  – financial incentives to do less than what is best for patients (38%),

  – pressure to see more patients than is appropriate (38%), and

  – limits on prescription drugs (31%).

8. **Grumbach K, Osmond D, Vranizan MA, Jaffe D, and Bindman AB. Primary Care Physicians' Experience of Financial Incentives in Managed-Care Systems. *The New England Journal of Medicine.* Vol. 39, No. 21, 1516-1521, 1998.**

**Methodology:** Mail survey of a probability sample of 766 primary care physicians with at least one managed care contract or employed by a group/staff HMO, and in active patient care in the 13 largest counties in California. The survey to assess experience with financial incentives was conducted in 1996 by the Primary Care Research Center of the University of California, San Francisco. The response rate was 71%. (See Bindman et al., 1998.)

**Major findings:**

- Fifty-seven percent of physicians in the sample reported feeling pressure to limit the number of referrals, and 17% believed the pressure compromised quality of care.
- Seventy-five percent felt pressure to see more patients per day, and 24% believed this pressure compromised patient care.

- Twenty-eight percent reported feeling pressure to limit what they told patients about treatment options.
- The use of financial incentives indexed to referrals was associated with the perception that pressure to limit referrals compromised care.
- The use of financial incentives based on productivity was associated with physicians feeling pressure to see more patients per day that they believed compromised care.
- The use of financial incentives related to quality of care or patient satisfaction was not significantly associated with pressure to limit referrals, see more patients, or limit what patients are told.
- Physicians with a higher volume of patients enrolled in HMOs felt more pressure to limit referrals.
- Satisfaction was positively associated with less pressure to limit referrals, see fewer patients, and place fewer limits on what is told to patients.

9. **Hadley J, and Mitchell JM. Effects of HMO Market Penetration on Physicians' Work Effort and Satisfaction. *Health Affairs.* Vol. 16, No. 6, 99-111, 1997.**

    **Methodology:** Same sample as Baker and Cantor, 1993, with slightly different inclusion criteria, yielding a sample size of 4,373.

    **Major findings:**

    - Approximately 50% of all physicians in the sample were not very satisfied with the practice of medicine; those in high HMO penetration areas were more dissatisfied than those in low penetration areas.
    - Satisfaction varied by the ability to spend sufficient time with patients, carefully review patients medical histories and charts, hospitalize patients who need it, care for patients who require heavy use of time and resources, and communicate with patients unrestrained by organizational rules.
    - Contrary to findings in other studies, increases in HMO penetration were related to a 4% reduction in the number of annual hours worked, and a 14% reduction in the number of patients seen. These effects differed for generalists and specialists: generalists had greater reductions in the hours worked while specialists had greater reductions in the number of patients seen.

10. **Hadley J, Mitchell JM, Sulmasy DP, and Blocke MG. Perceived Financial Incentives, HMO Market Penetration, and Physicians' Practice Styles and Satisfaction. *Heath Services Research.* Vol. 34, No. 1, 307-321, 1999.**

    **Methodology:** Telephone survey of a random sample of 1,549 physicians who had 8-17 years of post-residency experience, who spent 20 or more hours in patient care, and who resided in the 75 largest metropolitan areas. The survey to assess the effects of financial incentives in managed care and physician satisfaction was conducted in 1997 by Georgetown University's Public Policy Institute. The response rate was 74%.

**Major findings:**

- About 6% of physicians sampled reported receiving "strong" financial incentives to decrease services, and another 16% reported receiving "moderate" financial incentives to decrease services. Those with self-reported "strong" financial incentives were 3.5 times more likely to be very dissatisfied. Those with a "moderate" financial incentives showed the same pattern, but to a lesser degree.
- Employment in an HMO, too little formal medical training in managed care settings, and practice in geographic areas with a relatively high level of HMO market penetration were associated with higher levels of physician dissatisfaction.
- Physicians reporting "strong" financial incentives were significantly less likely to report that their expectations about professional autonomy and the opportunity to practice quality medicine were met compared to those with neutral incentives.

11. **Kaiser Family Foundation/Harvard University School of Public Health. *Survey of Physicians and Nurses.* Menlo Park, CA: The Kaiser Family Foundation, July 1999.**

**Methodology:** Mail survey of a national random sample of 1,053 physicians and 768 nurses to assess managed care experience and attitudes. The physician sample was stratified to represent primary care physicians and specialists serving patients under 65 years of age. The survey was conducted in 1999 by the National Opinion Research Company. The physician response rate was 55%.

**Major findings:**

- Most physicians (87%) reported service denials over the last 2 years. Commonly reported denials were for prescription drugs (61% reported a denial on a weekly or monthly basis), diagnostic tests or procedures (42%), hospital stays (31%), referrals to specialists (29%), and referrals for mental health or substance abuse treatment (18%). Between a third to two-thirds of these denials, in the physicians' judgement, resulted in serious declines in patients' health status.
- A fourth of physicians said they often or sometimes exaggerated the severity of a patient's condition to get medically necessary care.
- Over a third of physicians had dropped participation in a managed care organization during the last 2 years.
- Approximately a fourth of physicians said that they were not making enough money.
- Physicians were generally negative in their attitudes toward managed care. Almost all (95%) reported increased paperwork; 83% reported decreased time spent with patients; and 72% reported lower quality of care for patients who were sick. Overall, 68% said that managed care has had a negative effect on the way they practice medicine.
- Overall, specialists were more negative about managed care than primary care physicians, and physicians contracting with more than one MCO were more dissatisfied than those contracting with a single MCO.
- Many physicians, however, reported positive experiences and attitudes regarding managed care efforts to improve patient care by providing them with practice guidelines or disease management protocols and by increasing access to preventive services.

12. **Kerr, EA, Hays RD, Mittman BS, Siu AL, Leake B, and Brook RH. Primary Care Physicians' Satisfaction with Quality of Care in California Capitated Medical Groups.** ***Journal of the American Medical Association.*** **Vol. 278, No. 4, 308-312, 1997.**

    **Methodology:** Mail survey of 910 California primary care physicians practicing in 89 physician groups with capitated contracts. This study to assess satisfaction was conducted in 1995 by the VA Center for Practice Management and the University of Michigan. The response rate was 80%.

    **Major findings:**

    - Physicians reported lower satisfaction in serving patients in capitated plans than in their overall practice with respect to several aspects of care—relationships with patients (71% vs. 88%), quality of care (64% vs. 88%), ability to treat based on a physician's best judgement (51% vs. 79%), and ability to obtain specialty referrals (50% vs. 59%).
    - Physicians in medical group practices were more satisfied with these aspects of care than physicians in independent practice arrangements.
    - Salaried HMO physicians were more satisfied than physicians receiving capitation or discounted fee-for-service.
    - Physicians with more than 75% capitated patients were more satisfied than those with a smaller percentage of capitated patients. One possible explanation, according to the authors, is that these physicians may have established systems that allow them to practice medicine more efficiently.

13. **Nadler ES, Sims S, Tyrance PH, Fairchild DG, Brennan TA, and Bates DW. Does a Year Make a Difference? Changes in Physician Satisfaction and Perception in an Increasingly Capitated Environment.** ***Journal of the American Medical Association.*** **Vol. 107, 38-44, 1999.**

    **Methodology:** Mail survey of Massachusetts physicians (N=363 at Time 1, N=267 at Time 2) with direct patient care responsibilities in a large physician-hospital organization based at an urban tertiary care teaching hospital. The surveys to assess satisfaction were conducted in 1996 by the Brigham and Women's Hospital, when capitation accounted for less than 5% of all physician reimbursement, and again in 1997, when capitation accounted for 25% of physician reimbursement. The response rate was 62% at Time 1 and 51% at Time 2.

    **Major findings:**

    - Seventy-one percent of physicians at Time 2 reported being very satisfied with their medical practice under managed care, as compared to 57% at Time 1. For those physicians responding at both time points, overall satisfaction was unchanged, but increases in satisfaction were found for patient load, time to discuss patient needs, helpfulness of care coordination, and control over clinical schedules.
    - Satisfaction was similar for primary care physicians and specialists, although primary care physicians were somewhat less satisfied than specialists with the care of capitated patients and their own patient load.

- Sixty-five percent of physicians believed that capitation arrangements adversely influenced the physician-patient relationship.
- Significant ethical concerns were reported under managed care. Seventy-five percent of physicians agreed that capitation arrangements presented a conflict of interest, 67% believed that capitation arrangements diminished the ability of the physician to place the interest of the patient first, and 36% believed that there were incentives to not take care of sick patients. Better severity adjustments to lessen the incentives to avoid care of sick patients were suggested by 58% of the physicians surveyed.
- Only 9% of physicians believed that capitation arrangements improved the quality of care.

14. **New England SERVE.** ***Assessing the Quality of Managed Care for Children with Special Health Care Needs.*** **Boston, MA: New England SERVE, March, 1997.**

    **Methodology:** Mail survey of 253 primary care physicians (87% pediatricians, 13% family physicians) in Connecticut, New Hampshire, Vermont, and Rhode Island. The survey, to assess the experience of primary care physicians caring for children with special needs, was conducted in 1994. The response rate was not possible to calculate because the survey was distributed through multiple sources.

    **Major findings:**

- Primary care physicians were somewhat satisfied with their ability to provide appropriate primary care services. The item with the highest level of dissatisfaction was support in managing the emotional needs of their pediatric patients with special needs. (53% reported that they were not satisfied.) Twenty-four percent were not satisfied with the amount of time available to spend with patients.
- Physician satisfaction was slightly higher with respect to their ability to make referrals for certain medical and subspecialty services. Still, the items with the highest level of dissatisfaction were psychological testing (41%), specialized dental/orthodontic services (39%), multidisciplinary assessments (34%), and nutritional counseling (34%).
- Very high levels of dissatisfaction were reported for referrals for mental health services. Specifically, 52% were dissatisfied with referrals for family support groups, and 50% were dissatisfied with the ability to make referrals for inpatient psychiatric care. Forty-eight percent were dissatisfied with the ability to make referrals for the counseling of family members, and 45% were not satisfied with their ability to make referrals for counseling for the child.
- The highest levels of dissatisfaction reported was for care coordination for children with special health care needs—78% were dissatisfied with the time and compensation needed to coordinate multiple appointments. Seventy-two percent were dissatisfied with their time and compensation to assist with access to community services. Seventy percent were dissatisfied with the time and compensation available to coordinate with community providers. Forty-five percent were dissatisfied with the information they received regarding public benefit programs, 43% were dissatisfied with the information that they were provided about community services, and 37% were dissatisfied with their access to a care coordinator.

- Several other aspects of service delivery presented difficulties for primary care physicians serving children with special health care needs—the required paperwork for referrals for speciality care (53% of primary care physicians were not satisfied), appeals on grievance procedures (48%), telephone access to managed care plans (37%), and transition from adolescent to adult services (36%).

15. **O'Connor K. *Pediatricians' Participation in and Perception of Managed Care Health Plans.* Paper presented at the AAP's 1997 Annual Chapter Forum. Elk Grove Village, IL: American Academy of Pediatrics, September 12, 1997.**

**Methodology:** Mail survey of national random sample of 693 post-residency fellows of the AAP who provided direct patient care. The survey to assess managed care participation and perceptions was conducted in 1996 by the AAP. The response rate was 64%.

**Major findings:**

- Pediatricians referred their managed care patients less than their nonmanaged care patients for the following services—emergency departments (16% referred less), nonphysician specialists (13%), pediatric medical specialists (11%), inpatient care in a specialist pediatric hospital (10%), and pediatric surgical specialists (7%).
- The frequency of managed care referral restrictions was greatest for nonphysician specialists (70%), emergency departments (64%), pediatric medical subspecialists (56%), pediatric surgical specialists (51%), and inpatient care in a specialized pediatric hospital (50%).
- With respect to chronically ill children in managed care plans, 66% of the pediatricians reported that the "gatekeeper" role impaired their ability to refer always or sometimes; 57% stated that there was a lack of pediatric subpecialists in plans to accommodate referrals for their patients with special needs; and 47% reported a lack of specialized pediatric inpatient care.
- As a result of managed care participation, 31% of pediatricians reported less time spent with patients/families per visit, 48% reported a greater number of patient visits per week, 46% reported an increase in hours spent in direct patient care; and 37% reported a decrease in their income (20% reported an increase in their income). In addition, 84% reported an increase in administrative work.
- Pediatricians believed that managed care has had a positive impact on increased access to well child care and treatment for common childhood illnesses. They perceived, however, a negative effect in terms of cost burdens for families, continuity of care, and access to treatment for rare illness.

16. **Remler DK, Donelan K, Blendon RJ, Lundberg GD, Leape LL, Calkins Dr, Binns K, and Newhouse JP. What Do Managed Care Plans Do to Affect Care? Results from a Survey of Physicians. *Inquiry.* Vol. 34, 196-203, 1997.**

    **Methodology:** Same as Donelan et al., 1997.

    **Major findings:**

    - First round denial of coverage was less than 6% for all types of services studied and many of these initial denials ultimately were approved; the final denial rate was at most 3% for all care. (Services examined were hospitalizations, surgical procedures, referrals to specialist of choice, substance abuse referral of choice, mental health referrals, MRIs, endoscopies, and cardiac catheterizations.) Denial rates for referrals to a specialist of choice was more common in high HMO penetration states.
    - The use of condition-specific guidelines or protocols, profiling, use of restricted provider panels, and presence of gatekeepers was more common in high HMO penetration states.

17. **Simon CJ, Dranove D, and White WD. The Effect of Managed Care on the Incomes of Primary Care and Specialty Physicians. *Health Services Research.* Vol. 33, No. 3, 549-569, 1998.**

    **Methodology:** A telephone survey of post-residency, non-federal physicians (N≈4,000/yr). This Socioeconomic Monitoring System Survey is conducted annually by the American Medical Association. The 1985 and 1993 data were compared. The studies have an average response rate between 60-70%.

    **Major findings:**

    - Increases in managed care penetration were associated with increases in primary care physician incomes. Between 1985 and 1993, there was a 6% average increase in real income for primary care physicians.
    - Income changes for medical and surgical subspecialists were not significantly related to managed care penetration.
    - Income for radiologists, anesthesiologists, and pathologists declined significantly with managed care penetration.
    - The physician labor market is responding to the trends in managed care income, with a significant increase in primary care residencies being filled, a significant decline in the number of radiology, pathology, and especially anesthesiology residencies being filled, and no change in the number of general surgery and surgical subspecialty residencies being filled, based on data from the National Residency Matching Program.

18. **Simon SR, Pan RJD, Sullivan AM, Clark-Chiarelli N, Connelly MT, Peters AS, Singer JD, Inui TS, and Block SD. Views of Managed Care: A Survey of Students, Residents, Faculty and Deans of Medical Schools in the United States.** ***The New England Journal of Medicine.*** **Vol. 340, No. 12, 928-936, 1999.**

    **Methodology:** Telephone survey of a national sample of medical students (N=506), residents (494), faculty members (728), department chairs (186), directors of residency training in pediatrics and internal medicine (143), and deans (105), totaling 2,162. The survey to obtain perspectives of managed care versus fee-for-service care was conducted in 1997 by the Center for Survey Research of the University of Massachusetts. The overall response rate was 80%.

    **Major findings:**

    - Attitudes toward managed care were negative among all sampled; residents had the most negative views.
    - Respondents ranked fee-for-service better than managed care on several measures: access to care (80% vs. 8%), minimizing ethical conflicts (75% vs. 5%), doctor-patient relationships (71% vs. 4%), continuity of care (52% vs. 29%), and care of chronic illness (42% vs. 31%).
    - The majority of faculty members, directors of residency programs, department chairs, and deans indicated that managed care had decreased their time for research and teaching. Other adverse effects reported by more than half of the academic medicine respondents were that income had decreased, job security had diminished, and collegial relationships had deteriorated.
    - Greater exposure to managed care was associated with higher levels of dissatisfaction.
    - Specialists were more negative than primary care physicians about the effects of managed care.

19. **St. Peter RF, Reed MC, Kemper P, and Blumenthal D. Changes in the Scope of Care Provided by Primary Care Physicians.** ***The New England Journal of Medicine.*** **Vol. 341, No. 26, 1980-5, 1999.**

    **Methodology:** Telephone survey with a nationally representative random sample of 12,107 physicians providing direct patient care for at least 2 years and who were not employed by the federal government, with an oversampling of primary care physicians. The survey to assess changes in the scope of primary care was conducted by the Center for Studying Health Systems Change as part of its 1996-97 Community Tracking Study. The response rate was 65%.

    **Major findings:**

    - Thirty percent of primary care physicians and 50% of specialists reported that the scope of care provided by primary care physicians had increased during the past 2 years. (Scope of care was defined in terms of complexity or severity of conditions for which primary care physicians provide care without referral to specialists).

- While the majority of primary care physicians reported that the current scope of care that they were expected to provide was about right, 24% of primary care physicians felt that the scope of care expected was greater than it should be. More than a third of specialists believed that the scope of care provided by primary care physicians was greater than it should be. Significant community variation was found (among the 12 sites that had sufficiently large samples) with respect to the proportion of primary care physicians reporting that the scope of care was greater than it should be. Orange County, CA; Newark, NJ; and Miami, FL reported the highest levels of discomfort with scope of care, and Boston, MA and Indianapolis IN reported the lowest levels of discomfort with scope of care.
- General internists and pediatricians were more likely than family physicians or general practitioners to be concerned about the appropriateness of the scope of primary care expected.
- Capitation and gatekeeping responsibilities were associated with an increased concern about the appropriateness of the scope of care expected. Primary care physicians receiving less than 75% of their revenues from capitation were significantly more likely to report concern than those with no capitated revenues. This relation with concern was not statistically significant in practices receiving more than 75% of revenues from capitation.

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