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REVIEW ARTICLE

Meeting the Health Care Needs of Adolescents in Managed Care: A Background Paper

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Managed care is replacing traditional fee-for-service reimbursement as the dominant method of health care financing and service delivery for patients whose care is paid for by private health insurance or public programs such as Medicaid. This shift to managed care presents both opportunities and impediments as adolescent health care professionals work to meet the needs of adolescents. Adolescents present issues for managed care arrangements which are distinct from those of other age groups and populations. The needs of adolescents must be addressed as the shift to managed care occurs in both the private and public sectors. The overall goal in addressing these needs should be to improve health care access and quality of care for adolescents but, at minimum, adolescents' access must not be diminished.

See related article: pp. 278–292.

The Shift to Managed Care

The shift to prepaid managed care is occurring rapidly in both the private and public sectors. The growth in managed care in the private sector has been described as "explosive": the percentage of enrollees with such employment-based coverage doubled (from 27% to 54%) between 1987 and 1991 (1), for example, and by 1996, 77 million people were enrolled in health maintenance organizations (HMOs) (2). Estimates of percentages range even higher when the broadest definitions of "managed care" are used (3). The growth of managed care in the public sector has been equally rapid. In a single year, from 1993 to 1994, enrollment of Medicaid recipients rose 63% (4), and as of mid-1996, 35% of all Medicaid beneficiaries (13 million people) were enrolled in managed care (5).

The term "managed care" refers to a wide variety of organizations and mechanisms for financing and delivering health care services (6). Indeed, over the past few decades numerous different forms of managed care have been developed, such as HMOs, including staff, group, and network model HMOs as well as individual practice associations (IPAs); preferred provider organizations (PPOs) and point of service (POS) plans, which allow enrollees to use nonparticipating providers at reduced coverage; primary care case management, in which providers are paid on a fee-for-service basis with an additional fee to provide case management and gatekeeping functions; and targeted managed care, which is limited to a single service or a specific population group (6–8).

Although the term managed care is often used to refer to a method for financing health care and controlling costs, integrated managed care organizations, such as staff model HMOs, represent not only a way of financing health care services but also an approach to health services delivery (6). The conceptual underpinning for such organizations is that "health insurance coverage and the delivery of medical care are integrated into a single organization to facilitate access to care while at the same time

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removing financial incentives to provide 'extra' care to plan enrollees" (1). Integrated delivery systems may include not only staff model HMOs but also other types of organizations (9).

Financial arrangements and management structure can differ substantially even between care sites within the same general organization category. For example, health care organizations may be for-profit or non-profit entities, and may vary significantly in the degree to which decisions are made by clinical versus administrative staff. These factors may alter the organization's priorities which may be reflected in how care is delivered to patients, including adolescents (10,11).

Whatever the specific form they take, one of the key features of most, if not all, managed care arrangements is that they control the flow of patients to both primary care providers and specialists and limit patient choice of provider. This is one of the most significant differences between managed care and fee-for-service health insurance coverage, which allows patients a free choice among providers who are willing to serve them. In Medicaid, as well as private insurance, managed care enrollment may entail limitations on provider choice (12). However, even after recent legislation giving states more flexibility, federal law continues to provide significant protection for Medicaid beneficiaries' "freedom of choice" of provider, particularly for children and adolescents with special health care needs (12,13).

In managed care arrangements, enrollees' choice of providers is limited in at least two ways. First, they may be required to select a single primary care provider who acts as the point of entry into the health care system by functioning as the "gatekeeper," from whom a referral must be obtained prior to consulting with a specialist (14). Second, the choice of both primary care providers and specialists may be limited either to those who are members of the staff (as in staff model HMOs) or to those who are members of the managed care arrangement's network, unless express authorization is received from the managed care entity to go "out-of-plan" or "out-of-network" to obtain services or, as in point-of-service plans, unless the enrollee chooses a non-network provider and assumes a higher cost-sharing burden to do so (6).

Another key feature of many managed care arrangements is that the payment mechanism increasingly involves capitation and, thus, sharing of financial risk (15). Providers receive a fixed sum of money, monthly or annually, to provide a specified set of services to each enrolled member of the managed care plan. The agreements with providers usually allocate financial risk so that it is, to some extent, shared by the providers rather than borne entirely by the managed care entity. In addition, many contracts between managed care plans and health care providers include financial incentives that are intended to discourage excessive provision of services and unnecessary referrals (10,11,16–20). The managed care entity also frequently monitors the nature and extent of the referrals by each gatekeeper (21). This paper focuses primarily on managed care arrangements which are risk-based, regardless of whether or not they are fully capitated. Much of the discussion, however, is broader in scope and would also be valid for any situation in which an insurance company becomes involved in limiting or "managing" care for adolescents through prior authorization and utilization review procedures.

Effects of Managed Care

The research literature on the general effects of managed care on health care savings, access, and quality remains inconclusive (1,4,22). Even less is known about the ways in which managed care affects certain populations, particularly adolescents. Much of the research that has been done regarding managed health care has focused on adults. The few studies that have included adolescents usually did not consider them as a distinct population with unique characteristics and needs, but instead studied the effects of various insurance factors on the family unit or on children in general, including adolescents (1,4). Another problem is that research in managed health care has failed to keep pace with the rapid expansion in the types of managed care that are available today. For instance, from 1971 to the mid-1980's the RAND health insurance experiment provided a rich data set from which to make inferences about the impact of a number of specific insurance factors on health care utilization and outcomes (23). However, these studies were done at a time when there was far less variation in the types of managed care entities available, and they focused primarily on staff-model HMOs, which represent a small and diminishing portion of the managed care marketplace today. Despite the research that has been done, there is little conclusive evidence with respect to improvement in health status, quality, or cost-savings from the use of managed care (1,24).

The available research does suggest that specific features of the managed care system may have a significant effect on utilization, preventive health

care delivery, and patient satisfaction (25). Some factors reflect general trends that vary depending on the type of managed care arrangement involved. For instance, when free care was provided for patients in both fee-for-service and prepaid group-model HMO systems in the RAND health insurance experiment, the patients in the HMO received more preventive health visits and had lower hospitalization rates (26). Another study found that adult patients with depression were significantly less likely to be detected in a prepaid practice than patients in a fee-for-service system (27). The time physicians spend with patients during each visit also appears to vary by type of practice. In outpatient settings, prepaid physicians were found to spend less time with patients than physicians in fee-for-service practices (28). However, physicians in staff-model HMOs spent more time with hospitalized patients than physicians in fee-for-service group practice (28). More recent data suggest that for adult patients with chronic illness, HMOs offered a higher level of care coordination but a lower level of comprehensive care than fee-for-service systems (29).

Other factors influencing care may be present in a variety of different health care arrangements. For instance, in the RAND health insurance experiment, the amount of co-payment required significantly influenced outpatient health care utilization by families for preventive health care, as well as acute illness (30,31). The size of the practice also has been found to be associated with a number of factors, from waiting times to patient satisfaction. In general, patients appear to receive more individual attention from physicians and patient satisfaction appears higher when they are seeing a solo practitioner or going to a smaller group practice (32,33).

For the Medicaid population generally, managed care appears to have mixed results in terms of access to care. While quality of care in managed care plans may be comparable to that in fee-for-service Medicaid plans, not all the indicators are positive (4). Declines in the use of specialist services and emergency rooms have been observed; but the evidence is less conclusive with respect to the frequency of physician visits, the use of preventive services, and inpatient hospitalization (4). For example, despite the frequent argument that managed care promotes the use of preventive services, access to preventive care does not appear to increase in Medicaid managed care compared with fee-for-service programs (4). Similarly, studies have produced conflicting evidence with respect to cost savings in Medicaid managed care programs (4). To date, however, none of the data have focused specifically on the adolescent population enrolled in Medicaid managed care.

To appreciate their potential impact, research findings such as these need to be viewed within the context of adolescent health needs. For instance, the decrease in time spent during outpatient visits in staff-model HMOs, relative to fee-for-service systems, may be more important for adolescent health care than the increase in time spent with hospitalized patients, as adolescents are predominantly seen on an outpatient basis. The increase in preventive health visits in staff model HMOs may be an asset for adolescents, provided that age-appropriate anticipatory guidance and health risk screening are provided during these visits, and provided that this pattern carries over to managed care models other than the staff model HMO. Findings such as the differences in detection rates for adults with depression in prepaid and fee-for-service systems may have particular significance for adolescents, as mental health problems are a common source of morbidity and mortality in this age group. In all cases, research that specifically focuses on how adolescent health is influenced by factors within the vast array of managed care systems available today is sorely needed.

The Special Needs of Adolescents

An extensive body of literature has documented the health status of adolescents, their health care needs, and the limitations on their access to health care (34–38). Particular problems that characterize adolescents as a group include: a high incidence of health effects associated with the onset of risk-taking behaviors; a need to have service delivery adapted to reflect their age and their cognitive, psycho-social and developmental status; and a lack of adequate insurance coverage. Moreover, certain populations of adolescents have special health care issues that need to be addressed within the health care system, whether care is financed and delivered through managed care arrangements or other mechanisms.

While the age boundaries of adolescence have been variously defined, it is the position of the Society for Adolescent Medicine that the appropriate scope of adolescent medicine includes health care and research, as well as training for health professionals and advocacy, related to persons age 10 to 25 years (39). The age limits for health insurance coverage for adolescents have generally been less comprehensive, frequently ending at age 18 years or younger or, in the case of privately insured dependents who continue in school, at 23 years. To meet

adolescents' needs in a comprehensive way, however, health care coverage should continue for as long as possible throughout adolescence, particularly for young people who are not yet financially independent.

Health Status

Adolescents, as a group, need special care and attention in order to avoid preventable illness. Risk-taking behaviors are a major source of morbidity and mortality for this age group. The high cost of adolescent risk-taking, in physical and emotional impact as well as financial burden, has been well documented (34–38,40–43). Driving under the influence of alcohol is the primary cause of mortality for adolescents, resulting in the death of more than 3,000 adolescents aged 15–19 years each year (41). Homicide and suicide are the second and third leading causes of death for adolescents, respectively, after unintentional injury (42). Adolescents are increasingly becoming the witnesses and victims of violence, with the number of adolescent homicide victims aged 14 to 17 years more than doubling between 1984 and 1991 (44). One in 10 adolescent boys and nearly one in five adolescent girls have attempted suicide, comprising 400,000 attempts a year (41,45). Approximately one-fifth of adolescents suffer from diagnosable mental disorders (46).

While pregnancy rates are declining overall, high rates of adolescent pregnancy persist, resulting in over one million teen pregnancies a year in the United States (40). More than 80 percent of these pregnancies are unintended, and about half are terminated by abortion (47). Several sexually-transmitted diseases have higher rates among adolescents than any other age group, with 2.5 million adolescents contracting a sexually-transmitted disease every year (41). The rate of human immunodeficiency virus (HIV) infection in adolescents has reached disturbingly high levels and is increasing rapidly (48). In addition, given the latency period for the virus, it is likely that many of the young adults with AIDS were infected with HIV as adolescents (49).

While risk-taking behaviors and mental illness are potentially preventable sources of adolescent morbidity and mortality, they involve sensitive issues, requiring special skills on the part of health care providers to identify the problem and intervene effectively. Often a multi-disciplinary approach is most effective, drawing on the skills of care providers with special training in adolescent health care delivery. Research has indicated that teen-focused providers and comprehensive adolescent health care centers can increase adolescents' willingness to disclose sensitive information regarding their risk-taking behaviors and their level of emotional distress, so that timely intervention can occur (50,51), although these sites are not the only ones that can provide effective care to this age group.

Special Populations

While all adolescents can benefit from care delivered in a multi-disciplinary setting by providers who are sensitive to their developmental needs, certain subgroups within the adolescent population have particularly complex health needs, requiring intensive, coordinated, and specialized care. These include adolescents with chronic illness (34,52), adolescents who are infected with HIV (53), severely injured adolescents with rehabilitation needs, and adolescents who have chronic mental health problems with potential physical consequences such as eating disorders (54,55). Impoverished adolescents, as well as members of racial and ethnic minority groups, may also comprise a risk group needing special services, as they have greater difficulty than other youth in accessing health care for early treatment of acute illness and appropriate preventive care, and are more likely to be seriously impaired as a result of chronic illness (34,56,57). In addition, young people who are living apart from their families, such as homeless and runaway youth (58), adolescents in foster care, and incarcerated youth (59), not only experienced a higher incidence of certain health problems, but may experience severe access problems because of logistic complexities and their separation from families who are able or willing to facilitate their care (35,60). Other groups, such as undocumented and migrant adolescents, pregnant and parenting teens, and gay and lesbian youth, also present special challenges and require specialized support (60).

Service Needs

Adolescents need a broad array of preventive, diagnostic, and treatment services to respond to the diverse medical and psycho-social health problems affecting their age group. Numerous commissions, panels, and multi-disciplinary groups of experts have developed recommendations for the specific health services that should be available to adolescents. As early as 1981, The Select Panel for the

Promotion of Child Health recommended a comprehensive set of benefits "that should be fully available and accessible to . . . infants . . . preschool and school-aged children; and adolescents" (61). The overall thrust of this recommendation is embodied in more recent guidelines developed by professional organizations and governmentally sponsored panels as well as in requirements of the federal Medicaid program.

Federal law has set forth a minimum benefit package that must be available to children and adolescents who are eligible for Medicaid (62,63). This Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) benefit package includes periodic comprehensive physical and mental health assessments that must be provided on a schedule developed by states in consultation with professional child health organizations. There have been some problems with EPSDT implementation, including both a failure on the part of states to establish schedules for screening that are sufficiently frequent to meet adolescents' needs and a failure to adhere to the schedules that exist, inadequate as they are. Nevertheless, the EPSDT mandate is based on a comprehensive view of health, requiring that a child or adolescent be able to receive any Medicaid service that is medically necessary to treat an identified physical or mental problem, which would include, for example, "diagnostic, screening, preventive, and rehabilitative services, including any medical or remedial services . . . for the maximum reduction of physical or mental disability and restoration of an individual to the best possible functional level" (64).

Several governmental bodies and professional organizations (e.g., the federal Maternal and Child Health Bureau, the American Medical Association, the American Academy of Pediatrics, the U.S. Preventive Services Task Force, and the American Academy of Family Physicians) have issued recommendations regarding health services for adolescents, especially for preventive care (65–69). These recent recommendations share several features (70). They emphasize preventive care, recommending annual visits to ensure that adolescents are regularly assessed for involvement in behaviors, such as substance use or sexual activity, which potentially could lead to health problems. The guidelines acknowledge the major importance of psycho-social issues in adolescent health and include advice on the developmentally appropriate way to assess these problems throughout the stages of adolescence. The importance of a separate confidential interview time between the physician and adolescent also is emphasized. Certain organizations have issued more detailed supporting documentation regarding confidentiality, such as the AMA's "Policy Compendium on Confidential Health Services for Adolescents," the AMA's Council Report on Confidential Health Services for Adolescents, and the recent Society for Adolescent Medicine's position paper on confidentiality (71–73).

Costs and Benefits of Adolescent Health Services

Because the major causes of mortality and many of the causes of morbidity in the adolescent age group are preventable, health screening for risk-taking behaviors, anticipatory guidance, prevention, and early treatment form the keystones of comprehensive adolescent health care. Evidence suggests that in addition to alleviating human suffering and decreasing long-term disability, this approach could be cost-effective as well. It is estimated that at least 33.5 billion dollars are spent each year on adolescent health problems that could potentially be prevented (74). This amounts to approximately $859 per adolescent per year, by conservative estimates (74). In contrast, the cost of preventive clinical care provided according to the GAPS recommendations (66) is estimated to be $130 per year for the average adolescent in a fee-for-service system (74), although this figure does not include the cost of all the necessary follow up care for issues identified in preventive visits.

While estimating the savings from avoiding preventable illness is an area that has only begun to receive the attention it deserves, limited data that are already available suggest that substantial savings might result if managed care entities were to make effective preventive care for adolescents a priority. For instance, in a staff-model HMO in Seattle that emphasized a variety of preventive health programs, smoking among adults decreased from 25% to 17% between 1985 and 1994, immunization rates for two-year-old children rose to 89 percent by 1994, and the use of bicycle safety helmets by children increased from 4% to 48% between 1987 and 1992 and was accompanied by a 67% decrease in bicycle-related head injuries (75). Data such as these highlight the potential savings that, in both humanitarian and economic terms, are possible when managed care entities are actively involved in establishing effective preventive health interventions for their members. Nevertheless, numerous reports from health care providers suggest that not all insurers, including some managed care organizations, are willing to pay

for the full range of preventive services adolescents need (12).

Delivery Systems

In addition to needing a broad array of preventive, acute, and chronic care services, adolescents need health care which is delivered in ways that take into account the special access problems encountered by their age group. In the position paper "Access to health care for adolescents," the Society for Adolescent Medicine urges that health care services for adolescents be available; visible; confidential; affordable; coordinated; of reasonable quality; and sensitive to adolescents' cultural, ethnic, and social diversity (76).

A variety of innovative health care delivery systems have been established to facilitate access to care for adolescents and address issues such as those raised in the Society for Adolescent Medicine's Position Paper on access. These include school-based and school-linked health clinics, which have expanded to over 600 sites in recent years (77). School-affiliated clinics have facilitated access, particularly for poor and minority adolescents, as these clinics have been established primarily in areas where youth living in high-risk social circumstances are concentrated (78,79). Even adolescents who have insurance to cover care through other providers, including managed care and fee-for-service physicians, still frequently use school-based clinics, citing reasons of easy access and trust in the providers (80). Comprehensive teen clinics represent another significant advance in facilitating adolescents' access to care. These clinics provide a variety of adolescent-focused services through a single, conveniently located site, and are often staffed by individuals with specific interest and training in adolescent health issues (81,82).

While these special types of adolescent-focused clinics have made it easier for many youth to access care, most adolescents still receive their care in traditional settings. These sites include private physicians' offices, public and private hospital outpatient and inpatient departments, adolescent medicine training programs at teaching hospitals, family planning clinics, public health clinics, and community health centers. General and family practitioners see the majority of adolescents for routine care and acute illnesses, with pediatricians also seeing many youth, particularly early in their adolescent years (83).

Data suggest that adolescents may choose different sites for care depending on the type of problem they are experiencing. For example, studies of high school students have revealed that many adolescents were willing to see their regular physician for a physical illness but would not go to that provider for issues such as pregnancy, drug abuse, AIDS, or emotional problems (84,85). Some adolescents who are unwilling to see their regular physician about sensitive issues do not receive care from any source, although many seek care from community sites in which free or low-cost care is provided to them in a setting that they perceive as being more confidential than their regular source of care. These safety-net providers may be an important option for youth who would not otherwise seek help for their health concerns (86). They also may represent the only source of care available to youth without health insurance. Family planning clinics are a popular source of reproductive health care for youth, regardless of family income (87). Public clinics or health centers are also used by many youth, particularly from lower socioeconomic backgrounds. Approximately one in seven adolescents aged 12 to 17 years receives routine medical care from public hospital outpatient clinics, hospital emergency rooms, walk-in or emergency care centers, or other public health clinics or health centers (88).

The ongoing success of these and other models of service delivery for adolescents will depend on their successful integration into systems of health care financing which can provide stable sources of funding on a long-term basis. Currently, however, the financing for adolescent health care is precarious. Categorical programs that fund services used by adolescents are suffering severe budget cuts. Many adolescents are uninsured and underinsured. Poor, near-poor, and minority adolescents are at the greatest risk among those in their age group for lack of health insurance coverage (89), but adolescents from all income categories are, as a group, uninsured at a high rate. In 1989, 15% of adolescents or 4.7 million youth aged 10–18 years had no insurance coverage and one in three adolescents living below the federal poverty level were not covered under either private insurance or Medicaid (89,35). Moreover, the number of uninsured older adolescents, ages 19–21 years, has been increasing very rapidly (90). Both the budget reconciliation legislation passed by Congress and vetoed by President Clinton in late 1995 (91) and a 1996 proposal from the National Governors Association (92) that was seriously considered by Congress, but not enacted, would have resulted in the elimination of any mandate for states to phase in coverage of all poor adolescents in the Medicaid program. In

addition, both fee-for-service and prepaid managed care coverage often fail to include many of the services needed for comprehensive adolescent health care (86,93,94). However, legislation enacted in 1997 makes federal funds available to states to expand health insurance for children (95). The new law allows states to use the funds to cover adolescents in families with incomes under 200% of the federal poverty level up through age 18 years and to provide them with a generous benefit package, either through an expansion of Medicaid or through a separate state program (96).

Regardless of the type of health coverage available to adolescents (e.g., public or private, managed care or fee-for-service) the following have been identified as important features in designing a health insurance or financing system that will meet the basic needs of all adolescents: universal coverage, simple enrollment procedures, independent access, protection for confidentiality, comprehensive benefits, and access to primary care providers and specialists with expertise in and sensitivity to their special needs (60,97). To the extent that, in the shift to managed care, renewed attention is paid to these issues as well as the important elements of access previously identified by the Society for Adolescent Medicine, adolescents could be well served.

Potential Benefits for Adolescents in Managed Care

Adolescents potentially could benefit in numerous ways from the shift to managed care. The traditional fee-for-service system is plagued by inflationary tendencies and fragmentation of services, as well as claims that some services are overutilized (98). Poor children have encountered difficulties gaining access to providers who will accept Medicaid's low payment rates (99). With its emphasis on cost control and preventive care, and on using primary care physicians as gatekeepers to triage patients in need of higher levels of service, managed care offers the health care sector a possible solution to these problems. Moreover, capitated managed care offers greater budget predictability to purchasers of health care, both public and private, although whether this ultimately will translate into improved services and access for adolescents remains to be demonstrated.

The use of primary care providers and gatekeepers can create a medical home for many adolescents who might not otherwise identify themselves as a patient of any particular provider or clinic. Ideally this would enhance continuity of care and facilitate referral to specialty care services when needed (100,101). While research to substantiate this is lacking, the hope is that greater continuity of care will eventually lead to improved health outcomes for these adolescents. Particularly in integrated managed care organizations, the increased potential for case management and care coordination (29) offers the possibility of important benefits for adolescents whose care is customarily fragmented in the existing health care financing and delivery systems. Some capitated group model HMOs have facilitated care by establishing policies that allow independent access for enrolled teens to confidential services at no cost, without parental consent or notification, following an initial visit to the clinic accompanied by a parent (51). Not all HMOs have followed this pattern, however: an HMO in one state recently established a policy that they would provide sexually-transmitted disease (STD) care to adolescents only if parents could be notified (102). Whether managed care arrangements succeed in providing medical homes for adolescents will depend on many factors, including whether adolescents are able to select primary care providers separate from those selected by other members of their families, so that they can benefit from adolescent-focused services that are available within the plan.

The underlying philosophy of managed care includes an emphasis on prevention as a major tool for reducing costs and improving health status. Some managed care arrangements include better coverage for preventive services than fee-for-service plans do (24) and are more likely to screen members using procedures demonstrated to be important for adult health, such as mammography and screening for colonic and cervical cancers (75,103–106). To the extent that managed care entities include coverage for preventive services that are important for adolescents, and deliver those services in a way that is accessible to teens, the shift to managed care could provide a significant benefit. A number of well-established managed care groups have recognized the important and cost-effective role of comprehensive adolescent health services in preventing the short and long-term health problems associated with adolescent risk-taking behaviors. For instance, the Kaiser Permanente Medical Group has established adolescent-focused clinics at a number of sites (107). These clinics have had documented success at increasing adolescents' likelihood of disclosing sensitive information about risk-taking behaviors and emotional problems to their primary provider (51).

Another major advantage of managed care ar-

rangements is that the benefits package can be tailored and targeted to the needs of particular groups. For example, some state Medicaid agencies have implemented managed care programs targeted to substance-abusing high-risk pregnant women and persons with severe spinal cord injuries, many of whom are adolescents (108). While the scope of benefits offered in Medicaid managed care plans for children is determined by federal and state law, the scope of benefits in private, employer-based plans is determined by the purchaser, i.e. the employer. Thus it is essential that federal and state policy makers and private purchasers of health insurance understand the importance of providing a full scope of benefits, including both preventive services and certain specialized services, to the adolescent age group, and are aware of any financial savings that may accrue as a result of providing such services.

Equally important, the delivery and financing of services through managed care arrangements offers increased opportunities for measuring the quality of care and monitoring the performance of providers (109–113). The use of uniform, integrated data and tracking systems could introduce the capacity to monitor and measure adolescents' service patterns and health care status over time. This information could provide the foundation needed to better estimate the long-term savings that result from timely early intervention in adolescent health risk behaviors. It could also provide the documentation needed to establish appropriate capitation rates and, if necessary, risk adjustments to those rates. Making information on quality of care available to researchers and the public could also encourage greater accountability on the part of managed care plans to consumers, including adolescents and their families. The success of this approach depends upon the inclusion of quality measures which are relevant to the adolescent age group and upon uniform gathering and reporting of adolescent-specific data by managed care entities.

Potential Problems for Adolescents in Managed Care

Notwithstanding the potential benefits for adolescents that may result from the shift to managed care, professional groups concerned with the care of this population have urged caution in designing and implementing managed care arrangements, citing a broad range of potential problems and pitfalls (100). Problems for adolescents include limits on important benefits, inadequate staffing or provider networks associated with managed care arrangements, the lack of integration of adolescent-focused safety-net providers into managed care arrangements, and financial and administrative systems that could impede access to needed services. Moreover, some groups of adolescents are characterized by a need for services in greater quantity or of greater intensity than those needed by other youth. For these young people in particular, the financing and delivery of services through managed care arrangements can pose problems (16,114–116).

Benefit Limits

As has been the case in the fee-for-service system (86,93), managed care arrangements often do not include coverage for many of the services needed for comprehensive adolescent health care (94,117). Services that tend to be most affected by these limitations include, at least in the fee-for-service arena, psychologic counseling, preventive care, health education, reproductive care, and treatment for drug and alcohol abuse (86,118). Limits may be direct, as when services are not covered at all, or indirect, as when restrictive medical necessity criteria are used (119). In the Medicaid context, services used by adolescents, such as family planning services, HIV testing, mental health care, or services for chronic illness or disability sometimes are "carved out" of the managed care system and left to fee-for-service providers (120), or the managed care plans may not contract to provide the full range of preventive care services required under EPSDT (117–119,121–123). Without aggressive care coordination and outreach in these situations, the carved-out services may be lost (124).

Providers

Managed care arrangements also typically limit the number and types of providers available to enrollees. While no data are yet available on how this will affect adolescents' utilization of health services, these limitations are cause for concern.

Continuity of care can be disrupted (125) and quality of health care delivery may decline when provider choice is limited. When families join a new plan, adolescents may not be able to continue seeing physicians with whom they have had a long-standing relationship, unless those providers are part of the new health plan's network. Plans may fail to include an adequate range of specialists in their referral networks. In particular, providers who spe-

cialize in the treatment of pediatric and adolescent health issues may be omitted. In a national study by the American Academy of Pediatrics, 20% of pediatricians experienced denials by the patient's managed care plan of specialty referrals they had recommended (126). In many cases, these pediatricians were unable to refer patients who needed care because the appropriate pediatric or adolescent subspecialists were not available or accessible within the patient's managed care plan.

The exclusion of adolescent primary care providers and specialists fails to recognize the importance of the substantial body of expertise developed by these providers over the past several decades. Often providers who lack adolescent-specific training do not have the experience needed to provide many of the services required by an adolescent population or to do so in a developmentally appropriate manner (127–130). When this is the case, adolescents may not receive the preventive services and treatment required for optimal health. In addition, managed care plans may fail to engage in the care coordination needed to ensure that referral appointments to specialists are kept (124). Concerns also have been raised that plans exclude minority providers in an effort to avoid these providers' high-risk minority patients (131).

Trust in the providers is a major reason why adolescents choose particular sites for care (80). Given the influence of peers during adolescence, informal networks of peers may be important channels through which adolescents choose providers. When provider choice is limited by their insurance coverage, adolescents may not feel comfortable visiting providers or sites that have not been recommended to them by peers or other people in whom they confide. In particular, adolescents may be reluctant to visit their designated primary care provider for sensitive concerns such as family planning, depression, or possible sexually transmitted infections (84) and may not receive the care they need unless other sites are available.

At this time, safety-net providers, sometimes referred to as essential community providers, that frequently serve the adolescent population, have not been well integrated into managed care systems. These providers, including teen clinics, family planning clinics, school-based health services, mental health and substance abuse service providers, community and migrant clinics, Indian Health programs, and children's hospitals, often serve as the point of entry for adolescents to the health care system. Their community-based location often make them the place of easiest access for adolescents needing ongoing care, as well.

Concern over issues of access has prompted alliances between managed care arrangements and community providers at various sites throughout the nation (132–134). Some managed care plans have been willing to contract with safety net providers that offer comprehensive primary care services, but those that offer less than a comprehensive package of services for the most part have been bypassed (121,135). While initial reports indicate that there have been some successful collaborations, including some that have involved school-based health centers (136,137), concern remains regarding the viability of publicly supported sites as larger proportions of the population are enrolled in managed care systems (135).

The capitation and financial risk requirements in managed care arrangements may limit contracting with many key adolescent health care providers such as community clinics, school-based clinics, or academic teaching centers. Capitation amounts may be inadequate to cover the providers' costs, a problem that may be exacerbated by adolescents' low rates of service utilization (121) or by failure to document services they do use. In other situations the entities involved may be unable safely to assume the required financial risk (135). In particular, certain specialized providers (such as family planning programs, school-based health clinics, or sexually-transmitted disease clinics) are often the smallest and least well-funded of the safety-net providers. They would also be at the greatest financial risk if managed care plans did subcontract with them (135). Safeguards to ensure long-term viability may need to be established if safety-net providers are to become essential elements in the provision of care to adolescents who are enrolled in large managed care systems (136,137).

Financial Incentives

Almost all managed care plans use financial incentives in their contracts with providers. These may include capitation payments and/or financial bonuses or "withholds" tied to the amount of specialty, drug, or other therapeutic care that is rendered (15,138,139). To the extent that managed care contracts with providers include financial incentives to discourage excessive use of services and unnecessary referrals, extraneous expenses can be shaved from system expenditures. However, those same incentives can affect the quality of care if they operate to

discourage use of services and referrals that are necessary to adolescents (15,16,140). Moreover, even in the absence of such financial incentives in provider contracts, without disease-adjusted premiums or alternative compensation arrangements, capitated systems and individual providers have a strong incentive not to take adolescent patients who may have complex and expensive health care needs (15,141–143).

The operation of financial incentives may affect not only adolescents with well-defined special needs such as a chronic illness or disability, but any adolescent who may occasionally have a need for services of increased intensity. For example, at the most basic level, adolescents' need for longer appointments or a series of short appointments, so that all appropriate anticipatory guidance topics can be covered (144), may not fit well with the incentive structure in many managed care arrangements. In addition, to the extent that the standard of care for responding to a variety of problems which are common to many adolescents requires the use of psychiatric, social, nutritional, and rehabilitative as well as medical services, the incentive structure may operate to discourage referral to those services (145,146).

Administrative Procedures

In addition to the problems associated with financial structure, the administrative procedures involved in some managed care arrangements may also create barriers, "slowing and controlling the use of services by impeding, inconveniencing, and confusing providers and consumers alike" (147). Administrative barriers may be particularly problematic for adolescents, who are less experienced in navigating the health care system. Operating hours may not be convenient for teens, location of provider sites may be geographically inaccessible, and there may be inordinate delays associated with appointment scheduling and the prior authorization procedures which are standard in virtually all managed care arrangements (29,119). To the extent that enrolled adolescents are members of linguistic minority groups, managed care arrangements need to include not only health care professionals but also administrative staff who are multilingual (148). Overall, whatever the administrative structure of the managed care arrangement, adolescents need information on how to successfully navigate the system and obtain covered services, which could be provided either through face-to-face orientation sessions, direct mailings to teens, or a well-publicized, toll-free telephone number. To be effective, these messages need to be repeated.

Confidentiality and Cost-Sharing

From an administrative perspective, one of the major challenges for managed care arrangements in meeting adolescents' needs is ensuring confidentiality. Without careful attention to various ways in which confidentiality issues may arise, confidentiality can easily be breached, inadvertently as well as with intent (73). For example, if notices listing services received by enrolled family members are routinely sent to families, adolescents' privacy in using sensitive services is compromised. Thus, the way communications are handled and management information systems are structured in managed care arrangements will be critical to adolescents' willingness to use the services (71,73,80).

The application of cost-sharing and co-payments by managed care arrangements can create additional barriers to confidential and affordable health care for adolescents. Currently, federal law prohibits most co-payments for services for women and children enrolled in Medicaid (148), so that Medicaid eligible adolescents are able to obtain important services without charge. Free or very low cost services are obtained from a range of safety-net providers by many adolescents who have coverage under private fee-for-service plans, particularly for confidential issues, such as treatment for sexually-transmitted infections or counseling for sexual abuse (149). However, as greater proportions of the population enroll in managed care, either voluntarily or pursuant to policy changes in Medicaid and employer-based health insurance, these safety-net providers may no longer be able to provide the same level of care for adolescents unless there is an increase in funding or an alteration in financing arrangements (135).

Some managed care arrangements have been able to offer their enrollees reduced cost-sharing when compared with most fee-for-service health insurance plans (24). However, a number of managed care arrangements require co-payments. Although studies of middle class adolescents indicate that they would be willing to pay a limited amount to receive confidential services (150), co-payments in general have been found to decrease health care utilization for acute and preventive services. This may be a particular problem when adolescents need confidential services but are unable to afford the co-payment without help from parents or friends.

Medical Necessity

Significant problems for adolescents also may result from inconsistent or non-existent administrative protocols regarding coverage of medically necessary services, inappropriate practice guidelines, and managed care personnel who are not responsive to their needs (92). Definitions of medical necessity used by managed care arrangements often vary among plans and frequently do not address the psycho-social and developmental, as well as the physical, needs of children and adolescents (151). For example, some plans define medically necessary services as those which are necessary to treat an illness or injury, whereas federal law defines medically necessary services for children in the Medicaid program more broadly as those which are necessary "to correct or ameliorate defects and physical and mental illnesses and conditions" (64).

The criteria or practice guidelines used for evaluating authorization requests may not be adequate to meet the standard of care for many adolescent problems. For example, the elements included in recent professional recommendations for the care of adolescents (65–69) may not be part of the practice guidelines for managed care plans, which are frequently based on actuarially determined criteria, such as those contained in Milliman and Robertson's Health Care Management Guidelines (152). Where these problems exist, they serve to exacerbate underlying limitations in benefit packages which fail to include a number of the services which are important in meeting the needs of the adolescent age group, for varied reasons including the unwillingness of purchasers to pay for them. Failure to understand the importance of these services for certain adolescent problems or treating them as "second tier" services, by covering them only in a limited way, increases the difficulty of securing authorization for the services at all.

Similarly, the personnel involved in prior authorization and utilization review may lack the training, experience, or expertise to respond appropriately to make treatment decisions regarding the care of adolescents (153). In most cases, initial utilization reviews are not performed by physicians (154). Physician reviewers may become involved in more complex cases or in situations in which the initial decision is appealed. Generally, reviewers on all levels lack adolescent-specific training, and may make decisions that are not in the best interest of patients. In particular, these reviewers may lack the training needed to understand the long-term health implications and costs associated with problems that are inadequately treated during adolescence (153).

Quality

Finally, there is concern that managed care may not live up to its quality assurances (155). To date, governmental entities have been slow to hold managed care plans to uniformly high standards of quality assurance, despite the General Accounting Office's caution that managed care plans too often are being permitted to rely on self-regulation (156). The private sector, most notably the National Committee for Quality Assurance (NCQA), has developed accreditation standards, which are voluntary for plans, and has placed emphasis on developing "report cards," uniform performance measures to allow comparison of plans (110,110a,111). However, refined managed care report cards may take years to develop. Moreover, the report cards developed either by NCQA or the plans themselves thus far have failed to include significant information regarding plans' performance in serving enrolled adolescents. Similarly, Medicaid HEDIS and the HEDIS 3.0, voluntary reporting systems for managed care plans originally developed by employers and managed care plans for the private sector and recently adapted to the Medicaid environment, include only a few indicators that are specific to adolescents. Finally, the importance of consumer involvement in managed care planning and delivery and consumer satisfaction surveying is recognized, but the methodology to implement and assess these factors is undeveloped. With the evolution of managed care occurring so rapidly, this lack of ability to measure, and confusion regarding, quality is particularly troublesome (152).

Conclusion

To ensure that the health care needs of adolescents are met in managed care arrangements, four key criteria must be satisfied. First, adolescents should have access to comprehensive, coordinated care on a continuous basis. Second, the managed care system should be structured to ensure access to age-appropriate, adolescent-focused services. Third, financing mechanisms should be adequate to support provision of necessary services. Fourth, quality goals and indicators that are adolescent-specific should be implemented for monitoring managed care arrangements. These criteria are more fully specified in the Position Paper of the Society for Adolescent Medi-

cine (157). Meeting these goals presents a major challenge for managed care organizations, insurers, public and private purchasers of health care and insurance coverage, health care providers, consumers, and policy makers.

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