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SOCIETY FOR ADOLESCENT MEDICINE

Clinical Preventive Services for Adolescents:

Position Paper of the Society for Adolescent Medicine

Driven by health care reform and the ascendancy of managed care, an increasing emphasis is being placed on clinical preventive services as a means to both improve health and reduce medical costs. For adolescents, interest in prevention has been even more spirited. Since the most common causes of adolescent morbidities and mortality are *preventable* health conditions with predominantly behavioral, environmental, and social etiologies, many health professionals have come to believe that effective, cost-efficient, clinical preventive services for adolescents could, over time, represent substantial long-term savings in direct medical costs, indirect costs, and suffering.

The current interest in preventive services for adolescents has given rise to three formal practice guidelines released by the United States Public Health Service, the Adolescent Health Department of the American Medical Association (AMA), and the Maternal and Child Health Bureau in conjunction with the Medicaid Bureau of the Health Care Financing Administration. In addition, the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians (AAFP) have made less structured recommendations. Despite subtle differences, the content of these independent guidelines and recommendations are remarkably consistent. Rather than create yet another practice guideline, the Society for Adolescent Medicine calls for the widespread acceptance and implementation of clinical preventive services for adolescents.

There are a number of obstacles to the widespread deployment of adolescent preventive services. Foremost, a paradigm shift is required for providers and consumers alike, from a reactive acute-care orientation to a proactive view of health promotion and disease prevention. Clinicians, patients, and families all must acknowledge the value of preventive care and create a demand for these services. Health care providers must have adequate training to deliver these services confidently and effectively. Resource, financing, and reimbursement limitations must be resolved.

An infrastructure for the delivery of adolescent preventive services is lacking. Many adolescents do not have access to health care of any kind and will not know where or how to seek preventive care. Many clinical sites lack the tools, strategies, and commitment to offer comprehensive adolescent preventive services. While practice guidelines help define the content of preventive services, there is limited experience in the large-scale operationalization of the guidelines. Finally, a strong outcomes-oriented research agenda is required to evaluate the effectiveness of the guidelines when applied to different patient populations, in different settings, by different types of providers.

A renewed interest in health promotion and disease prevention, the growth of managed care, and the dissemination of authoritative guidelines for adolescent preventive services create an unparalleled opportunity to advocate for systemwide changes in support of preventive care for adolescents. The Society for Adolescent Medicine recommends the following.

Recommendation 1: Educational efforts should be developed to enhance public and professional recognition of the merit and value of adolescent preventive care.

Recommendation 2: Practice guidelines are endorsed as a means to standardize the content of adolescent preventive services, improve quality, and promote consistent delivery. They are designed as tools for health care professionals and are not meant

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to replace individual decision-making or practice styles.

Recommendation 3: Preventive services visits are recommended annually for adolescents to promote frequent, repetitive guidance, screening, and counseling about risk behaviors and healthy lifestyles.

Recommendation 4: Primary care clinicians and other health care providers should receive appropriate training and preparation to provide comprehensive adolescent preventive services confidently and effectively.

Recommendation 5: Adequate system financing and provider reimbursement are essential for the broad delivery of comprehensive adolescent preventive services.

Recommendation 6: The health outcomes and cost-effectiveness of adolescent preventive services and their individual components should be studied.

Recommendation 7: Adolescent preventive services should be widely available and easily accessible.

Recommendation 8: Comprehensive preventive services for adolescents should be delivered in a manner that meets the needs of adolescents and their families. Quality should be monitored to facilitate their timely and appropriate delivery and to ensure that they meet accepted standards.

Recommendation 9: Innovative approaches should be designed and tested to expand the capacity to deliver comprehensive, cost-effective preventive services.

Background

The 1990s have witnessed a major resurgence in preventive medicine, driven as much by structural changes in the health care system as by increasing interest in health promotion and disease prevention. Included in this recent shift have been specific efforts to promote the health and well-being of adolescents. The growing impetus to provide effective, cost-efficient, clinical preventive services to adolescents has resulted in formal practice guidelines released by the United States Public Health Service (1,2), the Adolescent Health Department of the AMA (3), and the Maternal and Child Health Bureau in conjunction with the Medicaid Bureau of the Health Care Financing Administration (4). The (AAP) (5) and the AAFP (6) have also published recommendations for preventive care. The Society for Adolescent Medicine calls for the widespread acceptance and implementation of clinical preventive services for adolescents. This article provides an overview of the available guidelines and presents the rationale for their support.

Justification for Clinical Preventive Services

Over the past several decades, there has been a dramatic shift in the causes of morbidity and mortality in adolescents. Fewer adolescents succumb to "natural causes," and more suffer the consequences of the "new morbidities"—*preventable* health conditions with predominantly behavioral, environmental, and social etiologies (7). Given the increasing importance of preventable health conditions in the lives of adolescents and their families, many clinicians have long believed they should deliver more preventive services. Likewise, both parents (8,9) and adolescents (10–14) ask health care providers to address a wide range of preventive health issues during encounters. Nonetheless, adolescent preventive services continue to be delivered at low levels (15–17). The advent of managed care with its focus on health promotion and the dissemination of authoritative adolescent guidelines create a unique opportunity to provide a well-defined, comprehensive, annual preventive service "package" for adolescents (4,18).

Overview of Major Guidelines and Recommendations

The AMA, the Maternal and Child Health Bureau, and the U.S. Public Health Service have each developed special initiatives to define the type and periodicity of preventive services that should be offered to all adolescents. Similarly, both the AAP and the AAFP have made recommendations regarding health supervision for adolescents.

U.S. Preventive Services Task Force

The U.S. Preventive Services Task Force (USPSTF) was commissioned by the U.S. Public Health Service in 1984 to study the status of preventive medicine and to develop recommendations for improving the health of the public through primary and secondary preventive activities. The USPSTF reviewed 169 preventive interventions with the greatest potential to reduce the burden of suffering for the population. Recommendations reflected the strength of the evidence and the effectiveness of each intervention. Evidence was rated based on the methodologic design. Thus, data from randomized controlled clinical

trials provided stronger evidence than data from cohort or case-controlled studies. The USPSTF was unable to recommend either for or against interventions with inconclusive data. This was especially true for counseling designed to reduce adolescent involvement in health risk behaviors. In some instances, the USPSTF recommended an unproven intervention if the burden of suffering from the health condition was great. The final report, *Guide to Clinical Preventive Services,* was released in 1989 and contained 100 preventive service recommendations that targeted 60 topics (1). Thirty-five clinical interventions were recommended for adolescents between 13 and 18 years of age.

Following the release of the initial report, the USPSTF was reconstituted to reevaluate previous recommendations and to identify new recommendations for topics not previously examined. This effort culminated in the 1996 release of the *Guide to Clinical Preventive Services,* 2nd Edition (2). This report targets over 80 health conditions and recommends 25 interventions for adolescents aged 11–24 years. The recommendations are divided into three categories of preventive services: screening, counseling, and immunizations/chemoprophylaxis. No periodicity recommendation is made.

AMA's *Guidelines for Adolescent Preventive Services* (GAPS)

The AMA convened a scientific advisory board to develop a set of clinical preventive service recommendations for primary care health providers. The advisors included were experts in preventive medicine, adolescent development, health psychology, and adolescent health, and representatives of medical organizations including the Society for Adolescent Medicine. The recommendations, released in 1992 (3), are called AMA *Guidelines for Adolescent Preventive Services* (GAPS). Like the report of the USPSTF, the GAPS advisory group identified recommendations that targeted selected health conditions. The scientific review and expert opinion process used by the AMA falls between the evidence-based methodology used by the USPSTF and the clinical practice-based experience of individual experts.

The GAPS advisory board used data on adolescent morbidity and clinical interventions to identify 24 preventive service recommendations. Three relate to delivery health care; seven to health guidance for adolescents and parents; 13 to screening for biomedical, emotional, and behavioral health problems; and one to immunizations.

Annual preventive service visits are integral to GAPS. Early and middle adolescence is marked by rapidly increasing rates of health risk behaviors such as sexual intercourse and substance use. The AMA advisory board believed that youth must be seen frequently and predictably if primary care providers are to understand their health risk trajectory, identify early risk behaviors, and implement prompt interventions.

Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents

The Maternal and Child Health Bureau (MCHB) of the Health Resources and Services Administration, in association with the Medicaid Bureau of the Health Care Financing Administration, sponsored a review of health care supervision of children from birth through 21 years of age. Panels of nonfederal scientists were appointed to study the scientific evidence supporting health maintenance procedures for four developmental periods: infancy, early childhood, middle childhood (5–11 years), and adolescence (11–21 years). Panels were instructed to review causes of morbidity and mortality and to identify measures to promote health, prevent disease, and enhance subsequent development and maturation. The report of the panel deliberations, *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents (Bright Futures),* was released in 1994 (4).

Like GAPS, *Bright Futures* recommends that adolescents receive a preventive service visit annually. In distinction to other guidelines, *Bright Futures* explicitly views the child in the context of the family and the community. Improving health through prevention necessitates an awareness of environmental factors that affect individuals and families and requires participation of health, education, and human services providers. Optimally, these services are part of a seamless system that surrounds each family. A major strength of the *Bright Futures* effort is that health is conceptualized as a longitudinal process. This approach promotes continuity of health care and emphasizes a strong patient–parent–provider relationship.

Other Preventive Service Initiatives Affecting Adolescents

Both the AAFP and the AAP have recently revised their age-specific health supervision guidelines (5,6).

The guidelines are quite similar in the scope of counseling, screening, and immunization services. The AAFP directs their recommendations toward adolescents 13–18 years of age, while the AAP targets adolescents 11–21 years of age. The AAP recommends that adolescents receive preventive services annually. The AAFP does not make a recommendation for periodicity, suggesting instead that this decision be made tailored to the needs of individual adolescents.

Common Features of Major Preventive Services Guidelines

The practice guidelines offered by USPSTF, GAPS, and *Bright Futures* are more alike than they are different. Each recommends specific screening, general and targeted counseling, and essential immunizations. All three groups recommend that primary care providers offer injury prevention health guidance (e.g., counseling and/or anticipatory guidance) for adolescents. Data for these recommendations, in contrast to screening and immunization recommendations, are based almost exclusively on the magnitude of the burden of suffering. The *Bright Futures* guidelines, but not those from GAPS or the USPSTF, recommend that female adolescents be taught breast self-examination and that males be taught testicular self-examination. GAPS, *Bright Futures*, and the AAP recommend annual preventive service visits between the ages of 11 and 21 years. The USPSTF recommends an individualized periodicity schedule.

The methodology used by the USPSTF to rate preventive interventions relied almost exclusively on the proven ability of screening procedures and interventions to improve clinical outcomes. Thus, while the USPSTF recommendations may be the most evidence-based and rigorously evaluated, they may have omitted effective prevention strategies for which no evidence yet exists. Importantly, the AMA found few data from preventive service studies using adolescent subjects in clinical settings. Therefore, they relied on expert opinion to extrapolate these data from studies of either younger children or adults. The *Bright Futures* task force also depended heavily on expert opinion to justify their recommendations. As a result, both the AMA and *Bright Futures* delineate the specific health issues to include in performing a comprehensive risk assessment, while USPSTF endorsed screening only in the context of a generic procedure. Likewise, while the AMA and *Bright Futures* initiatives view the clinical interview as an important opportunity for screening, the USPSTF is silent on how adolescents ought best be screened for involvement in health risk behaviors.

Bright Futures also recommends anticipatory guidance for parents as well as adolescents. However, because of its strong developmental, family, and community, focus, *Bright Futures* goes on to recommend developmental surveillance, observation of parent–adolescent interaction, and assessment of school performance. Developmental stages of adolescence—early adolescence, middle adolescence, and late adolescence—are dealt with separately. Specific recommendations are provided for each developmental stage.

Although the differences among these three major practice guidelines for adolescent preventive services are subtle, the AMA advisory board, in distinction to the USPSTF and *Bright Futures* task forces, focused solely on the adolescent population. GAPS, therefore, includes a variety of recommendations related to the *delivery* of preventive services that were not addressed in the other guidelines. GAPS also specifically recommends a distinct role for parent involvement to occur at least twice during adolescence.

Implementation

Research to date offers no studies that specifically address barriers to providing adolescent preventive services. However, research on the delivery of adult preventive services has demonstrated consistent factors that probably apply to adolescents as well (19–28). These factors fall into three categories: predisposing, enabling, and reinforcing factors (29). Predisposing factors include clinician and patient perceptions, attitudes, values, and beliefs. Enabling factors are those resources needed to carry out the behaviors such as skills, time, systems, money, and technology. Reinforcing factors are those that occur or are anticipated to occur in response to providing preventive services such as feedback from patients and colleagues or change in revenues. Reinforcing factors determine whether a behavior that is motivated and enabled will occur or persist once it has been contemplated or tried. Inherent in this model is a natural sequence in which these factors are optimally addressed. The balance of predisposing factors—the motivation to proceed—must be sufficiently favorable before enabling or reinforcing factors have true relevance.

Implementation: Policy Issues

Consumer and Professional Attitudes

Recent statements from national medical organizations assert the importance of the primary care clinician as an agent for adolescent health promotion (4,7,18,30). However, a new paradigm will be required for this to occur on a widespread basis. The health care system must be shift from a traditional disease/intervention model to preventive/health promotion model of care. Inherent in this shift is a willingness to examine social/behavioral issues as biomedical problems.

Yet, little is known about clinician values regarding adolescent preventive services. For example, how do clinicians perceive their roles relative to health promotion? What are clinicians' views of the appropriateness and effectiveness of discussing patient behavior or lifestyle in medical settings? In many ways, comprehensive adolescent preventive services are an extension of the established tradition of well-child care, and adolescent health counseling is a natural extension of anticipatory guidance. Although clinicians perceive adolescents to be at risk for problems such as sexually transmitted diseases, HIV infection, substance abuse, or suicide, they view their own patients as being at lower risk (31). A recent survey of pediatric residents revealed that they anticipated being less willing and able to address adolescent health concerns than more traditional pediatric issues (32). Wechsler (19) reported that 90% of primary care physicians said it was their responsibility to educate patients about health-related risk factors, yet only 54% and 14% thought it was their responsibility to intervene in personal and family problems. Clinician age, gender, training, and practice setting are undoubtedly associated with comfort and willingness to manage adolescents' concerns. It is also likely that clinicians with expertise in adolescent health perceive their role differently from general pediatricians, internists, or family physicians.

Clinician pessimism about the effectiveness of preventive health counseling appears to be one motivational barrier to the provision of adolescent preventive services (33). Some providers believe that preventive health counseling in general is unsuccessful, while others believe that adolescents in particular do not change behavior in response to counseling (34). In addition, some providers lack the comfort or confidence to engage adolescents productively in health promotion discussions. Unfortunately, these sentiments run counter to evidence documenting adolescents regard health care providers as credible and valuable sources of health information (14).

Brief office-based counseling for adults has been demonstrated to increase smoking cessation rates (35), reduce inappropriate use of alcohol (36,37), and improve exercise patterns (38). Injury prevention counseling by pediatricians reduces the likelihood of unintentional injury (39). Comprehensive, developmentally appropriate reproductive health counseling enhances adherence to contraceptive regimens by adolescents (40). Fewer college freshman initiate cigarette smoking after completing a comprehensive health risk appraisal questionnaire and receiving individualized feedback (41). However, the effectiveness for many of the proposed interventions in GAPS, *Bright Futures,* and the USPSTF report are thus far unproved, difficult to measure, and influenced by factors other than health care. Even if counseling is effective on a population basis, its impact on the individual patient may be hard to discern.

Disease-oriented treatment often provides visible, short-term results that are satisfying to the clinician, the patient, and the parent alike. Because most medical conditions of childhood and adolescence are minor and self-limited, their favorable natural history and the symptomatic relief of treatment interact to be powerfully and immediately reinforcing. Preventive services are much less likely to provide such positive feedback and reinforcement. The clinician is much more likely to learn about prevention *failures* such as an unplanned pregnancy or a sexually transmitted infection than about prevention *successes* such as when a teen makes a healthy decision based on the health counseling provided during an office visit three months earlier. It is hard for the clinician providing preventive care to adolescents to know that their efforts make a difference without some system to provide clinical feedback.

Just as provider attitudes can affect their willingness to offer preventive services, so, too, can consumer attitudes affect the demand created for these services. For many adolescents and for families, preventive services may seem unfamiliar and unnecessary. Some adolescents and families will not view the time spent on preventive services as a priority. Presently, only about 50% of adolescents receive a health maintenance visit in any year, and for those who do, it is sometimes a mechanistic interaction whose centerpiece is a cursory physical examination and completion of a required form. Adolescents report low rates of having discussed sexuality with their physicians, despite reporting that it would be

helpful to do so (42). In one observational study of physician–patient communication, an average of 7 *seconds* was spent providing anticipatory guidance to adolescent patients (15). Despite this, adolescents (10–14) and parents (8,9) generally want health care providers to address preventive health issues. Different patient populations may have varying expectations of their providers, and clinicians' knowledge of these expectations clearly will (and should) influence clinician behavior. Little is known, however, about how expectations for preventive services vary among adolescents by age, socioeconomic status, culture, or religion.

Recommendation 1: Educational Efforts Should Assist Both Health Professionals and Consumers in Recognizing the Merit and Value of Adolescent Preventive Care

- Consumers (i.e., adolescents and families) should become sufficiently informed to expect these services from providers and health insurance coverage for these services from third-party payers and employers.
- Providers should recognize the value of adolescent preventive services and should be trained to provide them routinely.
- Surveillance of adolescent health-risk behavior should be a part of primary care and should be used by providers to tailor services to individual and population needs.

Practice Guidelines

The currently available practice guidelines for adolescent preventive services are more alike than they are different. Each provides an acceptable framework for delivering a "package" of comprehensive preventive health services to adolescents. There is not sufficient outcomes-based research to definitively adjudicate the specific content differences among the three existing guidelines.

There is a need to develop a consensus model of effective health counseling. Comprehensive adolescent clinical preventive services are dependent, in part, on the availability of effective counseling to prevent or interrupt health-compromising behaviors. While there is evidence that these interventions can be effective, no single model has emerged as superior. The adoption of a simple but flexible counseling model will enhance clinician comfort, competence, and efficacy in addressing important and potentially dangerous health-risk behaviors. Moreover, such a model will facilitate clinician training and outcomes evaluation.

To better evaluate adolescent preventive services, there is a need to obtain comprehensive national baseline data against which to measure progress. The use and evaluation of guidelines will require continuous surveillance and periodic refinement. Recommendations should be based on the burden of suffering from targeted conditions and behaviors as well as cost/effectiveness of the interventions.

Recommendation 2: Accepted Practice Guidelines Are Endorsed as a Means to Standardize the Content of Adolescent Preventive Services, Improve Quality, and Promote Consistent Delivery. They Are Designed as Tools to Assist Health Care Professionals and Are Not Meant to Replace Individual Decision-Making or Practice Styles

- Current practice guidelines, despite limitations in outcomes-based support, still offer the best framework for delivering adolescent preventive services.
- A consensus model of counseling should be developed to facilitate provider training, patient care, and outcome evaluation.
- Outcomes research should shape the evolution of practice guidelines for adolescent preventive services.

Annual Visits

Annual preventive services visits are specifically recommended by two of the three formal practice guidelines and are consistent with the recommendations of the third (2–4). The AAP also specifically recommends annual preventive visits (5), while the AAFP recommends an individualized visit schedule (6). Participation in health-risk behaviors can begin at any age, and it is impossible to predict *a priori* at what age a given adolescent will become most susceptible to risk-taking activities. Similarly, for adolescents already involved in health-risk behaviors, it is impossible to predict how and when low intensity experimentation will escalate to health-threatening involvement. Annual preventive services visits foster early as well as predictably regular screening, counseling and intervention. Annual visits also provide the opportunity to monitor growth and development, support psychological and emotional well-being, and encourage healthy lifestyles.

Recommendation 3: Annual Preventive Services Visits Are Recommended to Allow Guidance, Screening, and Counseling of Adolescents With Sufficient Frequency to Help Limit Their Involvement in Health-Risk Behaviors and to Promote Healthy Lifestyles

- Guidance, screening, and counseling should be the focus of annual preventive services visits.
- Frequency of additional visits should be individualized to meet the needs of adolescents and their families.

Professional Training

Health professionals are likely to undertake and complete health services with which they are comfortable. They are likely to avoid activities that they believe exceed their capabilities (43). Appropriate preventive care for adolescents involves screening and caring for problems related to injury, violence, sexuality, mental health, family dysfunction, substance use, and other behavior-related issues. Clinicians with inadequate preparation and experience with these issues may feel that asking the questions is akin to opening Pandora's box. Although physicians commonly report knowledge and skill deficiencies in important areas of adolescent preventive care, few desire additional training (44). The factors underlying this apparent paradox need to be elucidated and may be related to negative attitudes about adolescents in general, clinician discomfort with issues such as sexuality or substance use in particular, or doubt about the effectiveness of preventive health counseling. Physicians most interested in continuing medical education are those already most confident with adolescent issues (31). Clearly, health care providers require adequate preparation and training to provide adolescents with appropriate screening, counseling, and other preventive health services.

Recommendation 4: Primary Care Clinicians and Other Health Care Providers Should Receive ppropriate Training and Preparation to Provide Comprehensive Adolescent Preventive Services Confidently and Effectively

- Training in the general principles of preventive medicine as it applies to adolescents should be supported in medical schools; in residency programs of pediatrics, internal medicine, family medicine, and obstetrics/gynecology; and in the schools and training programs of nursing, social work, psychology, and other health professions.
- Training in adolescent preventive services should be offered as continuing medical education to practicing primary care clinicians and other health professionals.

Financing of Preventive Services

The health risks targeted by preventive services recommendations represent enormous potential costs to the health care system and to society. Apart from the expected improvements in adolescent health and reduction of the burden of suffering, clinical preventive services for adolescents are also projected to yield significant savings in direct medical costs. Conservative projections of clinical cost and resource savings support the notion that even limited success in risk identification, behavioral change, and morbidity reduction will have profound and significant effects on adolescent health and costs. One analysis calculated that over $850/adolescent per year is spent on selected adolescent morbidities, while the average cost of clinical preventive services (including required immunizations) in a fee-for-service system would have been $130/adolescent per year. From these estimates, prevention services become cost-effective even if only 15% effective (45).

From the provider standpoint, cost and time constraints are frequently cited as major barriers to the provision of preventive services, even when clinicians are otherwise predisposed to provide such services (46). For example, more than 70% of Indiana physicians listed reimbursement issues as a barrier to providing adolescent care (31). Preventive services visits such as GAPS visits may take 30–45 min for low-risk teens and longer if multiple problems are identified. Data from the Rand Health Insurance Experiment suggests that adequate reimbursement for preventive services may be a necessary, but not sufficient, condition for full implementation of preventive services recommendations (47). Even when preventive services are fully reimbursed, the delivery of preventive services such as immunizations and cervical cancer screening examinations is found to be low. When preventive services are not adequately reimbursed, performance of preventive services is likely to be even lower. Yet, reimbursement for a 45-min visit with a 14-year-old, noncommunicative, depressed teen may be comparable to that for a 10-min well-child check of a 2-month-old infant. In some systems, the capitation rate for care of adolescents may be the same (or less) than that for younger children, despite substantially greater morbidity.

Fair reimbursement is a prerequisite for the delivery of comprehensive adolescent preventive services.

Recommendation 5: Adequate System Financing and Provider Reimbursement Are Essential for the Broad Delivery of Comprehensive Adolescent Preventive Services

- Because preventive services are likely to be cost-effective, they should be provided to all adolescents through indemnity insurance plans, managed care plans, or publicly funded health insurance (including EPSDT programs).
- Reimbursement and capitation rates should be adequate to enable providers to annually deliver the full range of preventive services specified in the accepted national practice guidelines.
- Within managed care programs, risk adjustment should be available for at-risk youth, youth with chronic health conditions, and those with exceptional health needs (e.g., HIV-positive youth).
- Disincentives should be eliminated so that providers are not at unfair financial risk from identifying and managing adolescent health issues.

Prevention Research

Few studies to date strongly suggest that preventive services are cost-effective (45). However, additional research providing definitive evidence for the efficiency and effectiveness of preventive health services is sorely needed. Unfortunately, directly evaluating the effectiveness of comprehensive office-based preventive services is problematic. Klein (48) reported that the sample sizes needed (presuming an estimated effectiveness to influence behavior of approximately 5% of individuals) would be so large that such studies may not be feasible. Similarly, efficacy of preventive services may be difficult to document if relevant outcomes are not examined, outcome measurement is insensitive, or if the duration of follow-up is inadequate. Still, given the urgency of adolescent health problems, and the potential savings in dollars and human suffering, implementing the recommendations for preventive health services should not await long-term documentation. True evaluation of preventive services awaits suitable surveillance systems and the analysis of long-term data from adolescents who have received them.

Recommendation 6: The Health Outcomes and Cost-effectiveness of Adolescent Preventive Services and Their Individual Components Should Be Studied

- Health care providers, third-party payers, managed care organizations, and governmental agencies should collaborate in outcomes-based research to investigate the effectiveness of adolescent preventive services.
- Both short-term and long-term outcomes should be followed and studied. The effectiveness of adolescent preventive services in improving long-term health outcomes should receive special attention.

Implementation: Clinical Issues

Access to Preventive Services

Ready access to adolescent preventive services is often limited by service-site location, scheduling difficulties, and concerns about confidentiality. Ideally, preventive services should be available close to the home, school, and recreational activities of adolescents. Current access to preventive services requires out-of-pocket expenses for travel and transportation, as well as a significant investment of time to get to and from the visit. Appropriate resources must be available and accessible for adolescents who are found to be at risk. Preventive services providers will be justifiably reluctant to commit substantial effort in screening if suitable interventions are not readily available.

Even if adolescents can make it to and from preventive services visits, scheduling can be a challenge given their involvement in multiple other activities resulting in high no-show rates (49). Without the urgency of acute medical problems, school, sports, or camp physicals may be the only opportunities for care. Regular visits made by adolescents with chronic health conditions such as asthma, diabetes mellitus, or seizure disorders may provide other opportunities to deliver comprehensive preventive services. All clinical contacts must be viewed as opportunities for preventive services. These visits can then be reframed in a broader context which would include identifying physical or emotional disorders, screening for and counseling about health-risk behaviors, and providing and reinforcing health promotion messages.

Confidentiality and consent issues may also limit access to care. From the adolescent's point of view, health care may not be sought if it is perceived that privacy may be breached in the process. Providers must be aware of the importance adolescents place on confidentiality, must have policies which respect adolescent privacy, and must make these policies clear to the adolescents and families who seek their

services. Within confidential clinician–patient relationships, reimbursement is sometimes complicated and may require special flexibility (50).

Recommendation 7: Adolescent Preventive Services Should Be Widely Available and Easily Accessible

- All health care providers who serve adolescents should provide preventive services that adhere to nationally recognized practice guidelines.
- Preventive services visits should be integrated into the health care already provided to adolescents; providers should make best use of all visits and opportunities to provide preventive services.
- Providers and health care organizations should design their office practices to minimize barriers to adolescents seeking preventive services.
- Because adolescents seek care in multiple settings (e.g., school-based clinics, public health clinics), strategies should be developed to integrate and coordinate the delivery of these services.
- Providers and health care organizations should have policies which recognize and respect the importance of confidentiality in the delivery of health services to adolescents.
- The reimbursement procedures established by insurers and managed care providers should be designed so as not to breach the confidentiality expected by some adolescent patients.
- Adolescent medicine specialists, appropriate referral networks, mental health services, outreach, and support services (e.g., nutrition, social work) should be available within health care organizations and communities to ensure that at-risk adolescents have access to and engage necessary resources.

Ensuring Quality

The delivery and receipt of clinical preventive services for adolescents require standardized documentation and monitoring. Systems should be designed to track appointments made and appointments kept. Adolescents who are due for preventive services visits should be notified when it is time for their annual appointment; doing so signals the importance that the provider places on the preventive services visit. Actual performance of screening, counseling, immunizations, specific interventions, and completed referrals should all be tracked in a format that facilitates and maximizes appropriate service delivery. Documented compliance with recognized preventive services guidelines should be benchmarked as part of national accreditation processes. Clinical outcomes should also be followed over time with appropriate standardized surveillance systems. Clinicians thus receive direct feedback on the consequences of having implemented preventive services visits into their practices. Aggregate data should become the basis of more rigorous outcomes research.

Clinician forgetfulness has been noted to be a major contributor to the low rates of preventive services provided. Manual and computerized prompting systems have been shown to increase preventive services (51). Adaptation of critical path analysis to health care facilities has been used to identify potential systems barriers to providing preventive services and possible solutions unique to individual practice settings (52). Screening questionnaires (53), computerized health assessments (54), and developing specific health promotion roles for office staff (50) are all strategies that have been shown to improve preventive services delivery.

Although interactive health guidance with adolescents is more time consuming than simply providing factual information, it is substantially more effective. Health care providers should be skillful in the identification of health risks and health-risk behavior and be able to engage adolescents in weighing the negative consequences of their behavior in a style that is both productive and nonthreatening. Providers willing to negotiate with their adolescent patients to reach consensus on health goals may be more successful in working with adolescents to achieve these goals. At all times, clinicians must be respectful of their adolescent patients and should strive to be nonjudgmental in their clinical interactions. The same is true for office staff; the very best clinician may be unknowingly undermined by staff members who make adolescent patients uncomfortable. Again, ensuring confidentiality plays an important role in creating an adolescent-friendly clinical environment. Additional resources necessary to deliver effective preventive services include adequate and well-trained staff, sufficient adolescent-oriented space, and developmentally appropriate educational materials (55).

Recommendation 8: Comprehensive Preventive Services for Adolescents Should Be Delivered in a Manner That Meets the Needs of Adolescents and Their Families. Quality Should Be Monitored to Facilitate Their Timely and Appropriate Delivery, and to Ensure That They Meet Accepted Standards

- Preventive services for adolescents should be adolescent-friendly: comprehensive, confidential, respectful, developmentally appropriate, and interactive.
- Systems should be developed to track visits, delivery and results of specific screening, counseling and guidance, interventions, referrals, and outcomes. Such a system should be clinically useful, should provide direct feedback to clinicians, and have a standard format to assist outcomes-based research.
- Sufficient resources (space, staff, policies, systems, educational materials) should be available in practice settings and health care organizations to meet the need for adolescent preventive services.
- Preventive health care should be integrated and coordinated with other health services.
- National accreditation and quality assurance programs (e.g., NCQA, HEDIS) should include standards for the delivery of adolescent preventive services based on nationally recognized practice guidelines.

Innovation in Delivering Preventive Services

Innovative expansions to the health care system may be required to deliver comprehensive services cost-effectively. Educational technology, better use of allied health professionals such as nurse specialists and health educators, and the increasing use of paraprofessionals, may contribute to expanding our capacity to deliver the full range of prevention services to larger numbers of adolescents. Peer-based strategies, while anecdotally successful, are as yet unproved. Timely screening, careful risk assessment, early detection of higher risk youth, and personalized interventions will remain the cornerstones of successfully managing the most urgent adolescent health concerns. Therefore, providers must be prepared to shift focus from prevention to intervention when the situation demands it. On the other hand, more routine health guidance may be just as effectively offered with a variety of alternative methods and media, e.g., group health education, printed materials, audiovisual materials, or computer-based interactive multimedia. These approaches should be actively developed and systematically evaluated with the aim of further improving the cost–benefit ratio of adolescent preventive care.

Recommendation 9: Innovative Approaches Should Be Designed and Tested to Expand the Capacity to Deliver Comprehensive, Cost-effective Preventive Services

- New technologies such as computerized health screening and interactive health simulations should be pilot-tested and evaluated.
- Peer education and peer counseling should be critically examined and formally evaluated.
- Parents, families, peers, schools, communities, and other professionals should be enlisted to create, design, endorse, and reinforce prevention messages.

Conclusion

To enhance adolescents' access to high-quality, comprehensive preventive services, efforts should be individualized to address the specific needs of individual clinicians, practice settings, or health care organizations. For those not already predisposed to providing preventive services, this motivational balance—the balance of predisposing factors—needs to be the main focus. For those who already believe in the value of clinical adolescent preventive services but lack sufficient training, office systems, or infrastructure, technical support and/or additional resources will be most helpful.

Although prevention may be perceived as too costly or too burdensome by consumers, clinicians, managed care organizations, and other third-party payers in the current health care climate, the results of *not* providing preventive services may be more costly. Unfortunately, for many clinicians, the current balance of predisposing and reinforcing factors favors *not* providing comprehensive preventive services. Compared with providing acute care, clinicians receive less positive feedback for providing adolescent preventive care from their patients, third-party payers, and the community. However, managed care, now emerging as the dominant organizing force in health care, is more aligned with prevention and preventive services than traditional fee-for-service medicine. The dramatic changes currently under way in the health care system create a unique and fertile opportunity to redesign a system that will enable the health care community to better serve adolescents and improve the health status of this vulnerable population.

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