ELIZABETH A. O'CONNOR, PhD
Senior Research Analyst

JACK F. HOLLIS, PhD
Associate Director

MICHAEL R. POLEN, MA
Senior Research Analyst

Kaiser Permanente Center for Health Research

EDWARD LICHTENSTEIN, PhD
Research Scientist

Oregon Research Institute
Eugene, Ore

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Adolescent Health Care Visits: Opportunities for Brief Prevention Messages

CONTEXT. It has been suggested that clinicians should increase efforts to modify and prevent risky behavior in adolescents. Professional organizations have proposed recommendations about access to care and preventive services, but it is difficult to know where and how to most effectively deliver such services.

PRACTICE PATTERN EXAMINED. Clinic visits among adolescent HMO members (14 to 17 years of age).

SETTING. Kaiser Permanente Northwest Division, a medium-sized, nonprofit, group-model HMO in the Pacific Northwest.

DATA SOURCES. Two administrative databases (one for membership and one for outpatient utilization).

RESULTS. A total of 22,626 adolescents who met the inclusion criteria were identified. Of these, 62% (more than 14,000 adolescents) were seen in a primary care clinic within 1 year; almost 83% (more than 18,000 adolescents) were seen within 2 years. There were several opportunities for follow-up for adolescents who had at least one visit in 1995: 60% had more than one visit during 1995, and 80% had more than one visit over the 2-year span of 1995 and 1996. The largest number of adolescent visits occurred in August through November, and most visits took place in the afternoon.

CONCLUSIONS. Primary care visits in an HMO present an excellent opportunity to reach many teenagers outside of a school setting. Short-term educational or prevention programs would be optimal during late summer and fall; additional staff members may be able to present these programs after school once school begins.

Adolescents need both primary health care services and effective education in disease prevention. The U.S. Congressional Office of Technology Assessment has estimated that one in five adolescents has a serious health problem and one in four is at high risk for school failure, delinquency, early unprotected sexual intercourse, or substance abuse.[1] It has been suggested that clinicians should increase efforts to modify and prevent risky behavior in adolescents.[2–5] Both the American Medical Association[6] and the Society for Adolescent Medicine[3, 4] have proposed recommendations about access to care and preventive services.

It is difficult to know where and how to most effectively deliver preventive services and education to adolescents. School-based health care clinics and classroom-based curricula have emerged as important settings for delivery of health behavior interventions. Classroom-based preventive health programs have had only modest effects,[7] however, and little research has been done on the effect of school-based clinics on changing or preventing high-risk behaviors, such as smoking.

An alternate setting for adolescent health promotion may be the traditional medical encounter. Although adolescence is a relatively healthy period, most teenagers

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do receive regular medical care. In the 1986 National Health Interview Survey, more than 70% of adolescents 10 to 18 years of age were seen by physicians annually and these persons made an average of three visits per year.[8] The data included all types of medical encounters, including those made in primary care practices, specialty care practices, and the emergency department. In the Child Health Supplement to the 1988 National Health Interview Survey, 77% of adolescents aged 11 to 17 years had had a preventive care visit in the previous 2 years.[9] Most adolescents in the sample reported receiving primary care from a provider in a private practice. Less is known about clinic visits made by adolescents in HMOs.

The purpose of our study is to describe adolescent outpatient health care visits and appointments in Kaiser Permanente Northwest Division, a medium-sized, nonprofit HMO in the Pacific Northwest. We first ascertained the percentage of adolescents in the HMO who were seen in primary care clinics. We then explored visit patterns to determine the ways in which preventive medicine campaigns could reach the most adolescents.

Methods

Participants

Information from the membership databases of Kaiser Permanente Northwest Division was used to identify all members who were 14 to 17 years of age on or before January 1, 1995, and were continuously enrolled in an HMO in 1995. Members were considered to be continuously enrolled if no gaps in enrollment were greater than 3 months. In our experience, gaps in enrollment that are shorter than 3 months usually result from administrative delays rather than actual lapses in medical coverage.

A total of 22,626 adolescents met the selection criteria. This sample represented 79% of all adolescents 14 to 17 years of age who were HMO members at any time in 1995. Fifty-two percent of the sample was female, and the sample was almost evenly divided among 14-, 15-, 16-, and 17-year-olds.

Utilization Data

Data were obtained from the HMO's electronic outpatient utilization databases for 1995 and 1996. Primary care visits were defined as those occurring during regular clinic hours in the pediatrics, family practice, internal medicine, and urgent care departments and in the health appraisal and minor injury clinics. For eligible adolescents, we examined the date of the appointment, the time of the appointment, the date that the appointment was made, and the department in which the appointment was scheduled; we also determined whether the appointment was kept. Visits to specialty providers were identified to determine which departments were used most frequently.

Results

Primary Care Visits

Figure 1 shows that most adolescents 14 to 17 years of age had a primary care visit during the study period. Sixty-three percent of the adolescents studied were seen for primary care visits in 1995, and 69% were seen in 1996; 83% were seen at least once during the 2-year interval. Eighty-five percent of girls were seen during the 2 years compared with 81% of boys. Visits were made by slightly fewer 14-year-olds (79%) than by 15-year-olds (85%), 16-year-olds (83%), or 17-year-olds (83%). Because some may wonder whether it is reasonable to expect brief preventive messages to take place during a visit for a minor injury or during an internal medicine visit, we repeated the analysis and included only visits made to pediatric and family practice physicians. As is shown in **Figure 1**, this restriction had little effect.

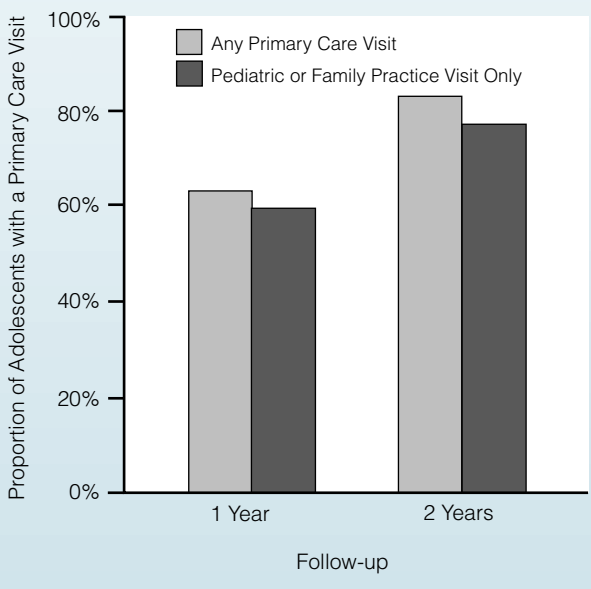

FIGURE 1. Proportion of all adolescents who had a primary care visit during 1-year and 2-year periods.

TABLE 1

Distribution of Clinic Visits among Adolescents Seen at Least Once in 1995

DEPARTMENT	PROPORTION OF 1995 VISITS	TEENAGERS SEEN, *n*	AVERAGE NUMBER OF VISITS PER TEENAGER, *n*
Pediatrics	51.1%	17,964	2
Family practice	36.9%	12,986	2
Minor injury clinic	8.0%	2815	1.4
Urgent care (during regular business hours)	2.0%	712	1.1
Internal medicine	1.1%	380	1.2
Health appraisal clinic	0.9%	320	1.1
Total	100%	35,177*	1.47†

**A teenager may be seen by >1 department.*
†Average of all departments.

Table 1 presents the number of visits made in 1995 in each of the primary care departments and the number of adolescents who made the visits. Pediatrics and family practice accounted for almost 90% of the visits. Many visits were provided through the minor injury clinic, but the other three clinics were not often used in our system. Visits unrelated to primary care included visits for mental health (4728 visits), optometry (4008 visits), orthopedics (3105 visits), obstetrics/gynecology (2407 visits), physical therapy (2262 visits), and dermatology (1962 visits).

Likelihood of Repeated Visits

Figure 2 shows the distribution of visits for adolescents in our sample for 1- and 2-year follow-up. Multiple visits, which were common, represent an opportunity for adolescents to receive follow-up support and monitoring for a preventive intervention, such as a program for behavioral change. Those who made primary care visits had a mean of 2.5 ± 2.0 primary care visits in 1995. Sixty percent had more than one visit during 1995, and 80% had more than one visit during 1995 and 1996. When we examined repeated visits by determining the number of adolescents who had another visit within 12 months of their first visit rather than by determining the number of visits made during entire calendar years, we found that 58% of adolescents who made visits in 1995 were seen again within 12 months.

Scheduling and Timing of Visits

Fifty-seven percent of adolescent primary care visits were same-day appointments, and an additional 16% of visits were scheduled 1 day in advance. Thus, only 27% of appointments were scheduled 2 or more days in advance. Ninety-four percent of same-day appointments were kept; 81% of appointments scheduled 2 days in advance were kept.

The largest number of primary care visits occurred in August through November, and the smallest number occurred during January, June, and July. The number of adolescents seen each month ranged from 2004 adolescents having 2337 visits in January to 3201 adolescents having 3745 visits in November. Almost 60% more adolescents were seen in November than in January. Adolescents scheduled more appointments during afterschool hours; 31.4% of all daytime visits occurred between 3:30 p.m. and 5:30 p.m.

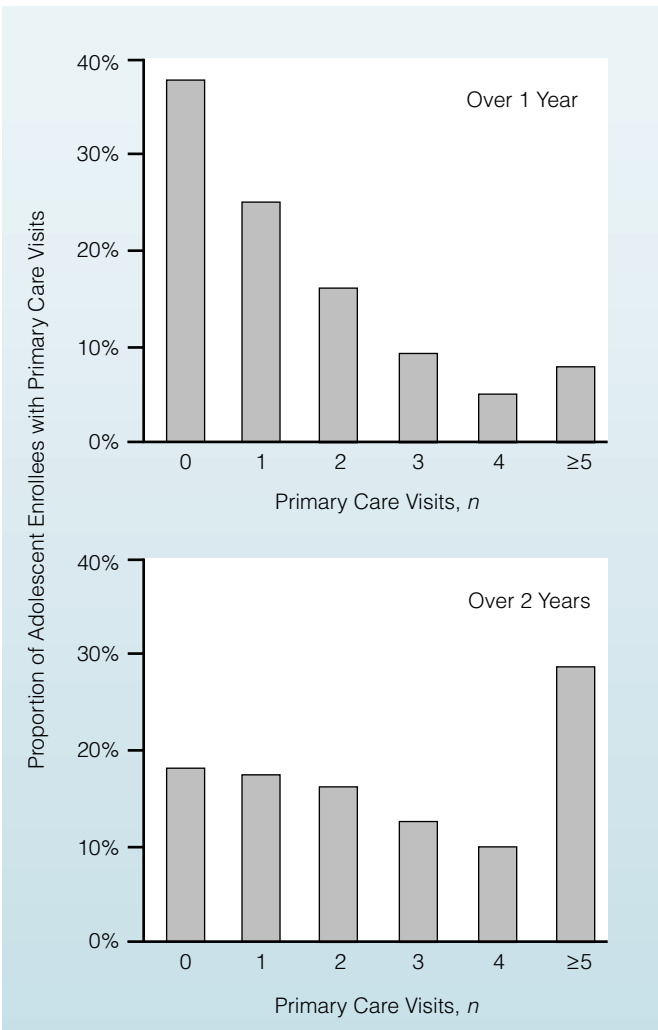

FIGURE 2. Distribution of adolescent primary care visits in Kaiser Permanente Northwest Division during 1995 (*top*) and 1995 and 1996 (*bottom*).

Discussion

Our investigation demonstrates that prevention messages communicated during routine primary care visits could reach many adolescents. Sixty-two percent of adolescent HMO members were seen in a primary care clinic within 1 year, and almost 83% were seen within 2 years. Among adolescents with at least one visit in 1995, 80% had follow-up visits during the 2-year interval.

Although classroom-based health curricula are important sources of health information for adolescents, the additional counseling opportunities afforded by a health care visit should not be overlooked. This may be a "teachable moment" for health information—a time when the adolescent may be seeking medical care for conditions exacerbated by health behaviors that are under his or her control. Such conditions as respiratory infections and asthma, for example, may provide an opening for messages about smoking cessation or prevention. The Office of Technology Assessment recommends that clinicians address pregnancy; sexually transmitted diseases (including HIV infection and AIDS); and use of tobacco, alcohol, anabolic steroids, and illicit drugs, all of which pose substantial risks to adolescent health. The U.S. Preventive Services Guidelines provide a more comprehensive list of recommendations.

With so many demands, how can busy clinicians effectively address prevention? Clinicians could periodically assess risk and provide brief advice on selected prevention topics. To take full advantage of a teachable moment, adolescents with risk factors could receive additional information during a brief visit with a clinic nurse, counselor, or other members of support staff. These encounters would need to be appropriate to the patient's stage of change[10] and could include brief education, motivational interviewing, videotapes, or interactive computer interventions. All interventions should respect the patient's confidentiality and take into account the patient's willingness to change, self-efficacy, and perceived barriers to and benefits of change. Appropriate follow-up by telephone or through face-to-face interviews or referrals for more intensive intervention could be part of the medical care delivery infrastructure.

Most teenagers surveyed about preventive counseling in outpatient settings believe that it is the clinician's job to discuss health-risk behaviors,[5] but many feel uncomfortable, at least initially, discussing sensitive issues with physicians. Steiner and Gest[5] found that only approximately 20% of teenagers reported wanting to discuss drug, alcohol, or cigarette use with their physician; approximately 40% were interested in discussing sex; and approximately 50% were interested in discussing diet or exercise. Those who had discussed a topic previously, however, were more likely to want to talk about it again, which suggests that brief discussions at repeated visits may increase trust and openness. Assurance of confidentiality by clinicians also increased willingness to discuss such sensitive topics as sexuality, substance abuse, and mental health.[11]

Counseling during routine care requires overcoming numerous logistic and staffing challenges. For example, adolescents tend to rely on same-day and next-day appointments for most of their health care. Only 27% of kept appointments were made more than 1 day in advance. Therefore, it may not be efficient to assign nurses or health counselors to specific teenagers on the basis of scheduled appointments. In larger facilities, it would be more practical for clinicians to briefly initiate discussions and then refer teenagers to nurses or health counselors for brief, "on-demand" counseling or education as part of the visit.[12, 13] Brief intervention during routine visits would be optimal during the peak months of late summer and fall; extra staff members may be able to offer such interventions during after-school hours once school begins. Most visits were made in the afternoon, but many visits also occurred in the morning.

Limitations

One limitation of our study is that we have little information about the length of or reason for the visits, although we believe that relatively few visits involved such severe injury or illness that preventive counseling would be inappropriate. Another limitation is that we do not know whether the adolescents who are at highest risk and in the greatest need of preventive counseling are coming into the clinic. The 17% of teenagers who were never seen for a primary care visit over the course of 2 years may be the teenagers who are most in need of preventive counseling. We do not know the risk profiles of the teenagers we examined in this study. Finally, our results were obtained from a mostly white sample served by a well-established group-model HMO. Utilization patterns in other settings may differ.

Future Research

Although primary care is a potentially powerful context for providing health information to most adolescents, two important challenges remain: 1) identifying suitable, practical, and effective interventions in this context and 2) altering the paradigm of medicine[14] to include effective health behavior intervention. Future research

should focus on identifying such interventions; determining the effect of preventive messages delivered in a primary care setting; and exploring whether characteristics of providers (specialty training, sex, and age), appointment type (acute vs. nonacute), or treatment settings (clinic location and size of the clinic population) influence the effectiveness of preventive counseling.

Take-Home Points

- **Although researchers have urged that adolescents be given messages to modify and prevent risky behavior, it is unclear where these messages should be communicated.**
- **To determine whether the traditional medical encounter is a viable option, we examined the proportion of adolescents enrolled in Kaiser Permanente Northwest Division who had clinic visits.**
- **More than 60% of adolescents were seen in a primary care department during a 1-year period, and more than 80% were seen during a 2-year period.**
- **Primary care visits present an excellent opportunity to reach many teenagers outside of school, particularly during the late summer and fall.**
- **It is not known whether the teenagers who are most likely to engage in risky behavior are among those who make regular clinic visits.**

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Correspondence

Elizabeth A. O'Connor, PhD, Kaiser Permanente, Center for Health Research, 3800 North Interstate Avenue, Portland, OR 97227-1098; telephone: 503-335-6680; fax: 503-335-2424; e-mail: elizabeth.o'connor@kp.org.