

MAJOR ISSUES PERTAINING TO THE DELIVERY OF PRIMARY AND COMPREHENSIVE HEALTH SERVICES TO ADOLESCENTS

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MAJOR ISSUES PERTAINING TO THE DELIVERY OF PRIMARY AND COMPREHENSIVE HEALTH SERVICES TO ADOLESCENTS

Introduction

This chapter addresses several important issues in the delivery of primary health care services for adolescents in the United States.¹ It begins by presenting available data on adolescents' visits to private office-based physicians and then reviews a number of questions related to physicians' interest in and ability to care for adolescents. How welcome are adolescents in physicians' practices? How much time do office-based physicians spend with adolescent patients? Because adolescents may not have some of the kinds of physical health problems that typically bring younger or older individuals to the doctor, some physicians have suggested that professional time spent with adolescents be used to assess the presence of a variety of social and behavioral risk factors and morbidities (e.g., quality of family life, school performance, substance use, engagement in sex), and to provide assistance to adolescents on these issues (10). The need for appropriate attention to such issues by health care professionals and others who see adolescents is well documented in Volume II of this Report, "Background and the Effectiveness of Selected Prevention and Treatment Services." (Also see app. B to this volume, "Burden of Health Problems Among U.S. Adolescents.") But are primary care physicians and other health care professionals who come into contact with adolescents able to recognize and treat adolescent health problems? How competent are health care professionals in caring for adolescents?

The analysis in this chapter suggests that improvements in the training and education of physicians who see adolescents and the training of additional specialists in adolescent health care are needed. The analysis also cites evidence that the mainstream model of health service delivery—



Photo credit: Benjamin Smith, Washington, DC

Adolescents are commonly regarded as the healthiest of Americans, yet OTA's analysis suggests that adolescents do have health problems and problems gaining access to services.

which relies chiefly on the provision of care by private office-based physicians who wait for patients to seek them out²—does not fully meet the needs of U.S. adolescents. In recent years, *several* innovations in health service delivery have attempted to meet the needs of adolescents. The most prominent

¹A unified definition of primary care that clearly distinguishes it from specialty care does not exist (262,263). An early definition of primary care that was published in 1973 included the following elements: first contact care, comprehensive care, coordinated or integrated care, and care that is longitudinal over time rather than episodic (263). First contact care is the extent to which a patient contacts the source of care whenever he or she perceives a new need for care. Coordination of care entails a medical provider's ability to provide for continuity of information from visits to other providers (e.g., specialists and emergency facilities) as well as from earlier visits to him or herself. Longitudinality of care is the extent to which a provider serves as a source of care over time regardless of the presence or absence of a particular type of problem (263).

²The "waiting" stance in health care delivery, in which health care providers physically remain in a service system and wait for patients to seek them out, has been distinguished from the "seeking" model, in which health care providers make themselves more accessible to potential patients (2 19,308).

of these efforts—adolescent health care clinics, so-called “free” clinics, multiservice centers, school-linked health centers (SLHCs), and efforts to involve adolescents in health services planning and management—are described in this chapter. The chapter concludes with a discussion of possibilities for Federal action to improve the delivery of health services to U.S. adolescents.

Utilization of Ambulatory Care by U.S. Adolescents

Visits by Adolescents to Physicians

Data pertaining to the utilization of outpatient services by U.S. adolescents are quite limited. The 1985 National Ambulatory Medical Care Survey (NAMCS) conducted by the National Center for Health Statistics (NCHS) in the U.S. Department of Health and Human Services (DHHS) provides some data on *visits to non-Federal office-based physicians*, but the reader should keep in mind that NAMCS has numerous limitations.³ The chief limitation of NAMCS is that it is a survey of physicians rather than of patients. Because many racial and ethnic minorities and Medicaid recipients do not get their health care from private office-based physicians, their health care utilization is not accurately reflected in NAMCS data. Another limitation of NAMCS is that it excludes ambulatory visits to physicians in hospital-based outpatient departments; family planning clinics; government-operated clinics for sexually transmitted diseases, and maternal and child health; SLHCs; hospital emergency facilities; and other sources of care used by adolescents.

Further, at least some adolescents may not be willing to seek a private physician’s care for certain problems. One survey of suburban high school students found that the majority would not go to a private physician for their concerns about sexuality, substance abuse, or emotional upset and also would not be willing to seek care for these problems with their parents’ knowledge (175)!

Information about *physician contacts* is collected in another NCHS survey, the National Health Interview Survey (NHIS) (287).⁵ NHIS is a continuing nationwide survey of households, in which data about health status and some aspects of health services utilization, including physician contacts, are collected from a probability sample of the civilian noninstitutionalized population residing in the United States. The 1988 NHIS included a special focus on the health status of children and adolescents through age 17 (287), but information on children and adolescents under age 17 was collected from a proxy respondent (typically the mother). NHIS requests and reports information not just about office visits to physicians but about all physician *contacts*, whether in person or by telephone, for examination, diagnosis, treatment, or advice, although office and clinic visits are reported separately to some extent (287). With two exceptions—the exclusion of physician contacts with hospital inpatients and the exclusion of physician contacts for mass screenings (e.g., in a trailer)—physician contacts mentioned by NHIS respondents are not restricted by type of setting or funding source. As in NAMCS, a contact is considered to be a physician contact if the service is provided directly by the

³See ch. 6, “Chronic Physical Illnesses: Prevention and Services,” in Vol. II. In summary, NAMCS is a probability sample survey of office-based physicians, conducted annually from 1975 through 1981 and again in 1985 (286). The focus of the 1985 NAMCS is on office visits made within the coterminous United States (i.e., excluding Alaska and Hawaii) by ambulatory patients to nonfederally employed physicians who are principally engaged in office-based patient care practice, but not in the specialties of anesthesiology, pathology, or radiology. Telephone contacts and nonoffice visits are excluded from the NAMCS. The 1985 NAMCS physician universe included 276,430 doctors of medicine and 11,776 doctors of osteopathy; but the 1985 NAMCS eligible physician sample included 4,104 physicians, and only 2,879 physicians (70.2 percent of eligible sampled physicians, and 1 percent of physicians in the survey universe) actually participated in the survey. Responding physicians were asked to complete a survey instrument, following the NAMCS design, for a single week in the survey year. The 1985 NAMCS responding sample physicians completed a total of 71,594 patient records. Physicians are not requested to oversample for any particular patient populations (e.g., adolescents). NAMCS includes visits to private physicians’ offices; non-hospital-based, free-standing clinics; groups, partnerships; staff-model health maintenance organizations, neighborhood health centers, and privately operated clinics (except family planning clinics) (286). For purposes of NAMCS, an ‘office’ is defined as ‘premises identified by physicians as locations for their ambulatory practices, customarily including consultation, examination, or treatment spaces the patients associate with a particular physician’ (286). The 1985 survey design, and comparisons of 1985 findings with those for 1975 to 1981, are described more fully in the NCHS publication *The National Ambulatory Medical Care Survey: United States, 1975-81 and 1985 Trends* (286). However, as do many Federal publications, that publication typically disaggregate data for ages under 15 and 15 to 24 (see app. C, “Issues Related to the Lack of Information About Adolescent Health and Health and Related Services” in Vol. I of this Report).

⁴The mean age of these respondents was 15.4 years, 52 percent were female, and 95 percent were white. Most had ready access to medical care; 90 percent used a specific private physician. The sample included 649 students in grades 9 to 12.

⁵NHIS and data it collects on the health status of adolescents are described more fully in ch. 6, “Chronic Physical Illnesses: Prevention and Services,” in vol. II.

Table 15-1—Visits to Private Office-Based Physicians by U.S. Adolescents Ages 10 to 14 and 15 to 18, by Sex, 1985

Sex and age	Number of visits in thousands	Percentage distribution	Number of visits per person per year ^a
<i>Both sexes</i>			
Ages 10 to 18	50,218	100.070	1.6
10 to 14 years	23,852	47.5	1.4
15 to 18 years	26,366	52.5	1.8
Female			
Ages 10 to 18	27,041	53.8	1.7
10 to 14 years	11,974	23.8	1.4
15 to 18 years	15,067	30.0	2.1
<i>Male</i>			
Ages 10 to 18	23,177	46.2	1.4
10 to 14 years	11,878	23.7	1.4
15 to 18 years	11,299	22.5	1.5

^aRates are based on estimates of the civilian, noninstitutionalized adolescent population, excluding Alaska and Hawaii, as of July 1, 1985.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Center for Health Statistics, unpublished data from the 1985 National Ambulatory Medical Care Survey, Hyattsville, MD, 1989.

physician or by a nurse or other person acting under a physician's supervision.

NAMCS data show that the rate of visits to private office-based physicians by U.S. adolescents ages 10 through 18 in 1985 was 1.6 visits per person per year (see table 15-1)—far less than the nationwide average of 2.7 visits for all ages (285,286,288). Female adolescents made an average of 1.7 visits per person that year, while male adolescents made an average of 1.4 visits per person (288). Older female adolescents (ages 15 to 18) made more visits per person than either younger female adolescents (ages 10 to 14) or adolescent males of all ages. On average, female adolescents ages 15 to 18 saw a private office-based physician 2.1 times per year (288). There were no significant utilization differences between older and younger male adolescents (288).

Data from NHIS are not completely comparable to those from NAMCS; however, the 1988 NHIS also suggests that adolescents have among the lowest rates of physician contacts of any age groups

in the United States.⁶ Except for females ages 15 to 17, who would be expected to have a higher number of physician contacts due to pregnancies,⁷ adolescents ages 12 to 14 and 15 to 17 had the lowest rates of visits among those under age 18.⁸

Figure 15-1 shows NAMCS data on the distribution of visits to private office-based physician specialists who cared for adolescents in 1985 by physician specialty. NAMCS found that more than one-third of adolescent visits in 1985 were to general and family practice physicians (288). Another one-quarter of adolescent visits were to pediatricians. Adolescents ages 15 to 18 were much more likely than 10- to 14-year-olds to see dermatologists and obstetrician/gynecologists (288). More than 9 percent of older adolescents' visits were to dermatologists, as compared with 3.5 percent of the younger adolescents' visits. Visits to obstetrician/gynecologists accounted for 7.4 percent of older adolescents' visits but only 1.1 percent of younger adolescents' visits. These differences probably reflect the greater proportion of older adolescents who seek treatment

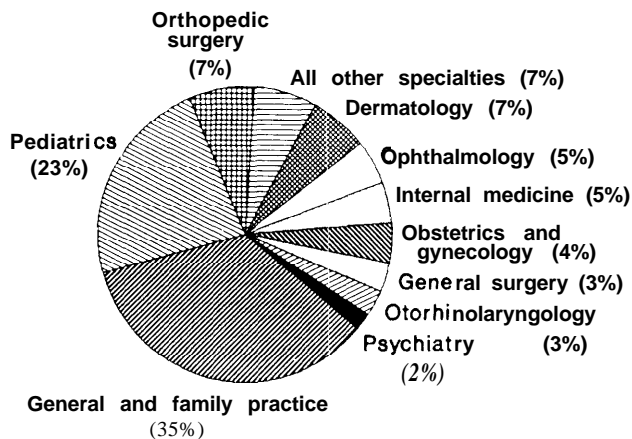
⁶NHIS found that persons ages 18 to 24 had the lowest rate of physician contacts.

⁷See ch. 6, "Chronic Physical Illness: Prevention and Services," in Vol. II, for a discussion of reasons for visits to office-based physicians.

⁸NCHS did not separate visits from telephone contacts, or visits by place separately for 12- to 17-year-old adolescents, but for 5- to 17-year-olds in the aggregate, the rate of visits to physicians' offices not located in a hospital, health maintenance organization (HMO), or clinic was 1.9 per person in 1988, lower than for all other age groups. Across all age groups, the number of office visits per person in 1988 was 3.2. Persons age 65 and over had the highest rate (5.1 for 65- to 74-year-olds, and 5.7 for those age 75 and over), followed by persons under 5 years (4.1), 45 to 64 (3.6), 25 to 44 (3.0), and 18 to 24 (2.1) (287). Similarly the rate of visits to physicians in hospitals (including emergency rooms, clinics, and doctor's offices located in a hospital (287)) (0.4 per person per year) and other sites (includes anyplace not classified into the other categories, including clinics and HMOs not located in hospitals (287)) (0.4 per person per year) was lower for 5- to 17-year-olds than for all other age groups (287). The rate of telephone contacts was also lowest for 5- to 17-year-olds compared to the other age groups shown by NCHS (287).

Figure 15-I-Visits to Private Office-Based Physicians by U.S. Adolescents Ages 10 to 18, by Physician Specialty, 1985^a

Estimated number of visits = 50,218,000



^aPercentages may not add up to 100 because of rounding.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Center for Health Statistics, unpublished data from the 1985 National Ambulatory Medical Care Survey, Hyattsville, MD, 1989.

for acne and the higher rates of sexual activity and pregnancy among older female adolescents.⁹

Another finding of NAMCS was that over half of the U.S. adolescents visiting a private office-based physician in 1985 had a diagnostic test or procedure (288). Blood pressure checks, urinalysis, blood tests, and other lab tests were the most common (see table 15-2).

According to NAMCS, more than one-fourth (28 percent) of the adolescents who visited private office-based physicians in 1985 received some type of nonmedication therapy (288). Ambulatory surgery and counseling (other than diet counseling, family planning, or psychotherapy) were the most common (see table 15-3).

Some type of followup was planned for most (82 percent) of the adolescents who visited a private office-based physician in 1985; nearly half (47 percent) required a return visit (288) (see figure 15-2). There were very few referrals to other health care providers, however.

According to NAMCS, most adolescents (62 percent) spent between 6 and 15 minutes during the course of a private office-based physician visit in 1985 (288) (see figure 15-3). Only 4 percent spent more than half an hour. Half of all visits (49 percent) took 10 minutes or less. The average length of a visit was 14 minutes, slightly less than the average length of a visit for persons of all ages (16.5 minutes (286)).

As noted earlier, NAMCS data have limited use in examining utilization differences by race and ethnicity. Still, some interesting comparisons can be made. NAMCS found that black adolescents visited private office-based physicians in 1985 at about half the rate of white adolescents (0.9 v. 1.7 visits per person) (see table 15-4) (288). The majority (89.2 percent) of visits to private office-based physicians were made by white adolescents; black adolescents accounted for 8.7 percent of visits and Hispanics, 7.3 percent.¹⁰ The 1988 NHIS report on adolescents, which distinguished only between black and white adolescents, supported the NAMCS finding that nonwhite adolescents have less physician contact than do white adolescents (287). Black adolescents ages 12 to 17 averaged 2.2 physician contacts in 1988, as compared with 3.6 physician contacts for white adolescents ages 12 to 17 (287).¹¹

An important consideration in evaluating utilization of—and, by inference, access to—care among adolescents from racial and ethnic minorities is that differences in utilization may more accurately reflect socioeconomic status (and financial access) than racial and ethnic background.¹² It is not

⁹See ch. 6, "Chronic Physical Illnesses: Prevention and Services," in Vol. II, for further discussion of chronic physical illnesses and ch. 10, "Pregnancy and parenting: Prevention and Services," in Vol. II, for information on pregnancy and parenting among adolescents.

¹⁰Percentages do not add to 100 because individuals could be identified on the NAMCS patient record as both black/white and Hispanic/non-Hispanic (286). (Other racial categories are "Asian/Pacific Islander" and "American Indian/Alaska Native" (286).) The racial/ethnic distribution of the NAMCS adolescent patient population is almost identical to the all ages population in NAMCS: according to NAMCS, 90 percent of NAMCS patients were white, and 10 percent were "black and other" in 1985 (and in the years 1975 through 1981) (286). Further breakdowns for all ages are not provided in NAMCS publications (e.g., 286); they are available as unpublished data from NCHS, but often the numbers of nonwhite patients are too small to be statistically reliable, especially if further disaggregated by age groups (288).

¹¹As of July 1, 1988, approximately 81 percent of the adolescent population (ages 10 to 18) was white (both Hispanic and non-Hispanic); 16 percent was black (including Hispanic and non-Hispanic); and 10 percent was Hispanic (of any race).

¹²Issues in financial access to health services are discussed in ch. 16, "Financial Access to Health Services," in this volume. The relationship between poverty and racial and ethnic background, and nonfinancial issues in delivery of health and related services to poor adolescents and racial and ethnic minority adolescents, are discussed in ch. 18, "Issues in the Delivery of Services to Selected Groups of Adolescents," in this volume.

Table 15-2—Visits to Private Office-Based Physicians by U.S. Adolescents Ages 10 to 18, by Diagnostic Service and Sex, 1985

Diagnostic service	Number of visits in thousands	Both sexes ^a	Female adolescents	Male adolescents
None	22,751	45.3%	40.9%	50.4%
Blood pressure check	12,463	24.8	28.7	20.3
Urinalysis	7,130	14.2	17.0	10.9
Other lab test	5,887	11.7	14.1	8.9
Hematology	5,044	10.0	11.4	8.5
Glucose test	4,232	8.4	10.9	5.6
Other	4,083	8.1	7.8	8.4
Visual acuity	3,932	7.8	7.2	8.6
Radiology	4,379	8.8	7.2	10.5
Pelvic exam	2,813	5.6	10.4	—
Blood chemistry	2,014	4.0	3.4	4.7
Breast exam	1,809	3.6	6.5	0.2
Pap test	1,228	2.4	4.5	—
Rectal exam	1,118	2.2	3.5	0.7

^aPercentages may not total to 100 because some visits may have included more than one service.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control National Center for Health Statistics, unpublished data from the 1985 National Ambulatory Medical Care Survey, Hyattsville, MD, 1989.

Table 15-3—Visits to Private Office-Based Physicians by U.S. Adolescents Ages 10 to 18, by Nonmedication Therapy Ordered or Provided, 1985

Nonmedication therapy	Number of visits in thousands	Percentage ^a
None	36,016	71.7%
Ambulatory surgery	4,406	8.8
Other Counseling	4,293	8.5
Physiotherapy	1,935	3.8
Diet counseling	1,460	2.9
Family planning	1,070	2.1
Psychotherapy	998	2.0
Corrective lenses	842	1.7
Other	789	1.6

^aPercentages may not total to 100 because some visits may have included more than one therapy.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Center for Health Statistics, unpublished data from the 1985 National Ambulatory Medical Care Survey, Hyattsville, MD, 1989.

possible to analyze NAMCS data by patient socioeconomic status, and the 1988 NHIS did not present physician contact information by family income level for adolescents. NHIS did, however, present physician contact information by family income level for all children and adolescents under age 18 combined. NHIS found that children and adolescents in families with incomes between \$10,000 and

\$19,999 were the least likely of all children and adolescents to have had any physician contact (75.3 percent had at least one contact) and had the lowest number of contacts per person per year (3.5) (287). Children and adolescents in families with incomes below \$10,000 had slightly fewer physician contacts (4.4) than those with incomes between \$20,000 and \$34,999 (4.6), and even fewer than those with incomes of \$35,000 or more (5.2) (287a).

Adolescent Hospitalizations

Hospitalization is a fairly rare event for U.S. adolescents. NHIS found that only 2.2 percent of 12- to 14-year-olds and 4.7 percent of 15- to 17-year-olds (3.5 percent when hospitalizations for infant delivery were excluded for 15- to 17-year-olds) were reported as having been hospitalized in 1988 (287).¹³ These were the next to the lowest rates among all age groups shown in the NHIS report; only 5- to 11-year-olds had a lower hospitalization rate (287).^{14 15}

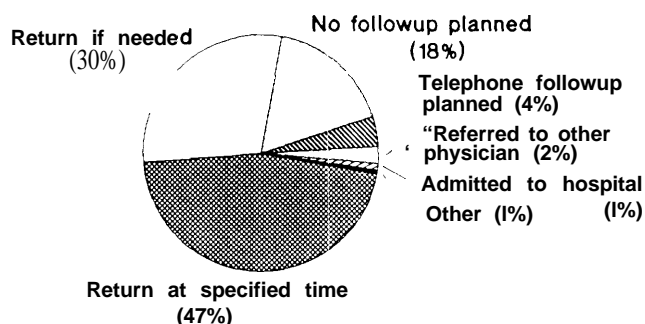
To some extent, the black-white differences found in physician contacts for ambulatory care are also found with respect to hospitalizations. According to the 1988 NHIS, 1.7 percent of black 12-to 14-year-

¹³In the NHIS definition, a hospitalization ('hospital episode' is 'any continuous period of stay of 1 night or more in a hospital as an inpatient except the period of stay of a well newborn infant' (287).

¹⁴The rates were 2.5 percent for 5- to 7-year-olds and 2.0 percent for 8- to 11-year-olds (287). Across all age groups, 5.4 percent of persons reported having been hospitalized in 1988; after age 18, the rate increased with age to 14.2 percent for those 75 and over (287).

¹⁵The leading reasons for hospitalization of 10- to 18-year-olds are discussed in ch. 6, "Chronic Physical Illnesses: prevention and Services," in Vol. II.

Figure 15-2—Visits to Private Office-Based Physicians by U.S. Adolescents Ages 10 to 18, by Disposition, 1985^a



^aPercentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Center for Health Statistics, unpublished data from the 1985 National Ambulatory Medical Care Survey, Hyattsville, MD, 1989.

olds and 3.5 percent of black 15- to 17-year-olds¹⁶ were reported hospitalized in 1988, as compared with 2.3 percent of white 12- to 14-year-olds, and 3.6 percent of white 15- to 17-year-olds¹⁷ (287). However, the lower the family income, the more likely children and adolescents are to be hospitalized, according to NHIS data (287).¹⁸

Guidelines for Screening and Well-Child Care Visits

Little is known about what health screening periodicity is most appropriate and effective for adolescents, especially those at high risk for the common morbidities of adolescence. The American Academy of Pediatrics recommends that, from ages 10 to 18, adolescents should be screened every 2 years (10). The U.S. Preventive Services Task Force concluded that, from ages 7¹ to 18, except for routine pap smears for sexually active females ages 13 to 18 and a tetanus-diphtheria booster for all adolescents between ages 14 and 16, the scheduling of additional visits and the frequency of individual preventive

¹⁶These figures exclude deliveries; with deliveries, 5.8 percent of black 15- to 17-year-olds were reported hospitalized.

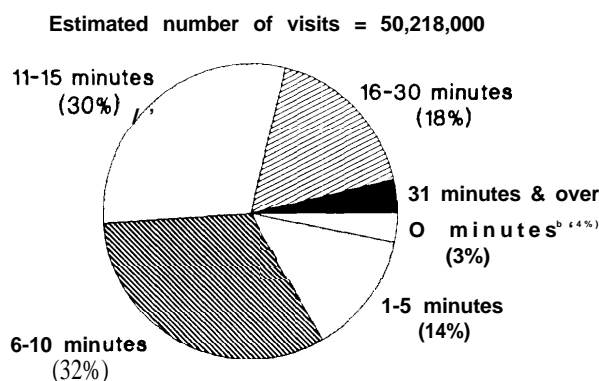
¹⁷These figures exclude deliveries; with deliveries, 4.5 percent of white 15- to 17-year-olds and 5.8 percent of black 15- to 17-year-olds were reported hospitalized. Racial differences in pregnancy and birth rates are discussed more fully in ch. 10, "Pregnancy and Parenting: Prevention and Services," in vol. II.

¹⁸According to NHIS, 5.8 percent of children and adolescents under age 18 with family incomes less than \$10,000 were hospitalized in 1988, compared to 4.0 percent with family incomes between \$10,000 and \$19,999, 3.4 percent with family incomes between \$20,000 and \$34,999, and 2.8 percent with family incomes of \$35,000 or more (287).

¹⁹The cost-effectiveness of well-child-care visits for younger children was examined by OTA in its 1988 report *Healthy Children: Investing in the Future* (274a).

²⁰Much of this section describes evidence that can be interpreted as somewhat critical of physicians', in particular pediatricians', interest in and ability to care for adolescents. A major reason the chapter discusses pediatricians in particular is that almost all information has been collected from and by pediatricians. Thus, this group has also taken the lead in examining its own abilities to care for adolescents.

Figure 15-3—Visits to Private Office-Based Physicians by U.S. Adolescents Ages 10 to 18, by Duration of Visit, 1985^a



^aPercentages may not add to 100 because of rounding.

^bRepresents office visits in which there was no face-to-face contact between the patient and the physician.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Center for Health Statistics, unpublished data from the 1985 National Ambulatory Medical Care Survey, Hyattsville, MD, 1989.

services should be left to clinical discretion because of lack of data and differing patient risk profiles (291).

Many physicians subscribe to the recommendation by some (e.g., 174) that adolescents should visit a physician for well-child care and anticipatory guidance at least once a year (28). OTA has not examined the efficacy of any recommended schedules for routine periodic screening of adolescents.¹⁹

Health Care Professionals' Interest in and Ability To Care for Adolescents²⁰

Attitudes of Pediatricians Toward Accepting Adolescents Into Their Practices

Since 1972, the American Academy of Pediatrics has officially endorsed pediatric care to continue until age 21 and even beyond 21 years for certain

Table 15-4-Visits to Private Office-Based Physicians by U.S. Adolescents Ages 10 to 18, by Patient's Race and Ethnicity, 1985

Patient's race and ethnicity	Number of visits in thousands	Percentage distribution	Number of visits per person per year ^a
All visits	50,218	100.0%	1.6
<i>Race</i>			
White	44,812	89.2	1.7
Black	4,365	8.7	0.9
Other	1,040	2.1	1.1
<i>Ethnicity</i>			
Hispanic	3,653	7.3	NA
Not Hispanic	46,564	92.7	NA

NA - Not available.

^aRates are based on estimates of the civilian noninstitutionalized population of the United States, excluding Alaska and Hawaii, as of July 1, 1990.

SOURCE: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Center for Health Statistics, unpublished data from the 1985 National Ambulatory Medical Care Survey, Hyattsville, MD, 1989.

young people with chronic illness or disability (15). A study of Midwestern physicians conducted in 1980 to 1981 found, however, that only 40 percent of pediatricians continued adolescent care to the age of 18 (226). Pediatricians' practice policies for cutoff ages differed for accepting new patients into their practices and continuing a professional relationship with established adolescent patients. Sixteen percent of pediatricians would not accept a new patient into their practices who had reached the age of 15, and 42 percent would not accept a new patient who had reached the age of 16. For adolescent patients already established in a pediatric practice, 7 percent of pediatricians would end their care by the time the patient reached 15 years, and 20 percent by the time the patient became 16 years old.

In general, the pediatricians participating in this study who had low self-assessed competence in handling traditional adolescent problems (especially in contraceptive needs and emotional problems) were more likely to use age cutoff policies than others (226). However, insufficient training in adolescent medicine and discomfort with adolescents were not usually given as reasons for pediatricians' use of an adolescent age cutoff policy (12 and 7 percent of responses, respectively). The most frequent reason cited for an age cutoff policy was a group practice's preestablished decision (37 percent of responses) rather than a decision made by an individual pediatrician participating in the survey.

This study also reported that almost 90 percent of pediatricians did not anticipate any further changes in their practices' age cutoff policies (226). More recent information concerning physician age cutoff policies is not available.

Midwestern physicians practicing general-family medicine, obstetrics/gynecology, pediatrics, internal medicine, and psychiatry have also been surveyed by mail (207). In general, these physicians were only moderately interested in adolescent health care, with only 28 percent of the sample expressing a definite interest. The return rate of this survey was only 34 percent; however, one can surmise that nonparticipating physicians were even less interested in adolescent health care than were respondents.

Time Spent With Adolescent Patients

How Much Time Do Office-Based Physicians Spend With Adolescent Patients?

As noted earlier, the 1985 NAMCS found that the most common amount of time that private office-based physicians spent with adolescent patients was between 6 and 10 minutes; the second most common amount of time was between 11 and 15 minutes (see figure 15-3).²¹ An earlier national study of pediatricians determined that, on average, the duration of visits was 11.0 minutes with younger adolescents (ages 10 to 14) and 11.6 minutes with *older* adolescents (ages 15 to 19). Pediatricians spent an

²¹It is interesting to note that length of visits to school-linked health centers (SLHCs) by adolescents is substantially longer. The Robert Wood Johnson Foundation has found that more than 80 percent of the visits to the 23 SLHCs that it supported in the 1988-89 and 1989-90 school years lasted more than 10 minutes and 46 percent lasted more than 20 minutes (see section below entitled "Innovations in the Delivery of Health and Related Services to Adolescents").

average of approximately 1 minute more with adolescents than they did with other noninfant patients (115).

How Much Anticipatory Guidance Do Adolescent Patients Receive?

An area of specific physician behavior that many believe could enhance adolescents' health is 'anticipatory guidance,' or counseling about topics important for health and well-being. The American Academy of Pediatrics recommends that pediatricians routinely address a range of topics with adolescent patients (10).²² Clearly, helpful discussion can be time-consuming. It should be noted, however, that very few pediatricians (fewer than 2 percent) stated that they had established age cutoffs for adolescent patients because of excessive time demands of this age group (226).

A direct observation study of office-based general pediatricians found that they spent an average of 7 seconds on anticipatory guidance for adolescent patients ages 13 to 18, 37 seconds for children ages 5 to 12, and 87 seconds for older infants (223). It should be noted that the pediatricians observed in this regional study contrasted with the physicians included in the national sample because those in the regional study averaged fewer minutes for total visit time with adolescent patients (8.4 minutes). However, this study also determined that younger physicians and those in group practice were more likely to spend more time with their patients in general, and that the mean proportion of visit time spent addressing anticipatory guidance issues was greater (223).

The content of physician-provided adolescent health counseling has been studied using three different designs. A direct observation study of pediatricians documented that 88 percent of anticipatory guidance time was divided between discussion of potential organic problems (54 percent) and immunizations (34 percent). Nutritional issues accounted for 2 percent, and development accounted for 4 percent of health counseling time. Behavioral issues, sex education, and safety issues were not addressed by this sample of pediatricians (223).

A second study surveyed a national sample of pediatricians to explore their practices and attitudes

toward efforts to prevent adult heart disease. It found that approximately 80 percent of pediatricians stated that they routinely discussed cigarette smoking, 78 percent discussed exercise, and 48 percent routinely discussed diet with their adolescent patients during health maintenance visits (191).

The third study that explored physicians' provision of health counseling to adolescents was a questionnaire survey of college freshmen. Its findings appear to contradict what physicians have stated to be their routine practices. The majority of this study's older adolescent respondents reported that they had received no health counseling from their physicians on the following subjects: cigarette smoking (76 percent), alcohol/drug use (80/82 percent), depression/suicide (82/90 percent), stress (69 percent), seat belt use (90 percent), contraception (81 percent), sexually transmitted diseases (79 percent), and heart disease prevention (81 percent). General nutrition counseling was not recalled by 46 percent of college freshmen. In general, internists were more likely to provide health counseling on cigarette use, substance use, and heart disease prevention than were pediatricians, and more likely than family/general practitioners to discuss cigarette use and alcohol use according to the students' recollections. Both internists and pediatricians were more likely to provide counseling on weight control and nutrition than were family/general practitioners. This study also found no correlation between the level of counseling provided and college students' reported involvement in health-compromising behaviors. The length of the doctor-patient relationship did not seem to influence the likelihood of physicians' provision of health counseling to their adolescent patients (130).

A study conducted in Canada asked adolescents ages 13 to 18 what issues they would like to discuss or have covered when they visit primary care physicians and how often the issues were actually discussed during a visit (170). The study is somewhat flawed in that both questions were asked simultaneously; the results would be more valid if the responses had been independent. In addition, the study was conducted in Canada and may not apply to the experience of U.S. adolescents. However,

²²The range of topics that can potentially be discussed by pediatricians is quite extensive (10). An official of the American Academy of Pediatrics notes that, in practice, physicians will generally lead with only a couple of basic questions (e.g., How are things going in school? How are things at home? How are things going with friends?). If "red flags" are raised during responses to these questions, the physician will pursue with the more pointed questions listed in the American Academy of Pediatrics' guidelines (240).

results of the study were consistent with previous studies that found diverging interests of health care providers and adolescents (see 170, for a review) and suggest that, at least from the adolescents' perspective, adolescents' real concerns are not being attended to by health care providers. In almost all cases, adolescents reported that discussion of issues of interest to them took place considerably less frequently than the adolescents desired.²³ As discussed in chapter 6 of this Report,²⁴ other studies have found that adolescents and health care providers often disagree on what are the adolescents' most important health care needs.

Physicians' Attitudes Toward Confidential Health Care for Adolescents

Another important area of physician behavior regarding adolescent health care is patient confidentiality. Concerns about confidentiality may limit adolescents' access to needed services.²⁵ A study in Canada found that adolescents expressed a preference for seeking contraceptive services from family planning clinics rather than from their family physicians because they believed that their confidentiality would be broken and their parents informed (309).

Two separate studies have explored physicians' attitudes toward confidential health care for adolescents.²⁶ The first study was a national survey of all physician members belonging to The Society for Adolescent Medicine and a random sample of pediatricians (166). This study found that 75 percent of the surveyed physicians strongly supported patient confidentiality, especially around sexuality issues and especially for adolescents who appeared mature. Physicians who spent more than 20 percent of their practice time with adolescent patients, physicians who had formally declared their special interest in adolescents through membership in The Society for Adolescent Medicine, and younger physicians (under age 44) were all more likely to support confidential health care for adolescents (166).

A more recent study, also conducted as a mail survey of practicing physicians, was a regional investigation of physicians' attitudes toward using deception to resolve difficult ethical problems (202). The sample was composed of general practitioners, surgeons, obstetricians, gynecologists, and internists. In this study, the majority of general practitioners, surgeons, and internists (61 percent overall) stated that they would inform the mother of a pregnant 15-year-old about her daughter's pregnancy, despite the adolescent strongly stated desire that the physician not break her confidence. The hypothetical adolescent was planning to seek termination of her pregnancy, despite her parents' disapproval. In contrast to other physician groups, the majority of obstetrician-gynecologists (63 percent) stated that they would withhold information about this patient's pregnancy from her mother. In addition, obstetrician-gynecologists were twice as likely as physicians from other groups to cite respect for confidentiality as their justification for not informing the adolescent's mother. Physician age appeared to be directly correlated with their decisions; the older the physician, the more likely he or she was to inform the parent of the adolescent's pregnancy (202). In Summary, it appears as though physicians who have child- and adolescent-oriented training backgrounds, physicians experienced in reproductive health care, and younger physicians are more likely to honor adolescent patients' requests for confidential health care.

Health Care Providers' Competence in Diagnosing and Treating Adolescents' Specific Problems

How Effectively Do Physicians Recognize Adolescent Problems?

A very small body of empirical work has explored how well primary care physicians recognize specific adolescent health problems. Most studies in this area have focused on the identification of mental health and substance abuse problems. Further, most studies have been conducted by and among pediatricians.

²³In order by level of interest, the topics were: physical fitness, nutrition, growth, sexually transmitted diseases, contraception, acne, fear of cancer, obesity, feelings of depression, lack of confidence. The discrepancies between adolescent interest and adolescent reports of physicians' having discussed the issue are given in ch. 6, "Chronic Physical Illnesses: Prevention and Services," in Vol. II.

²⁴"Chronic Physical Illnesses: prevention and Services," in Vol. II.

²⁵For further discussion see ch. 17, "Consent and Confidentiality in Adolescent Health Care Decisionmaking," in this volume.

²⁶See ch. 17, "Consent and Confidentiality in Adolescent Health Care Decisionmaking," in this volume for a discussion of professional ethical standards relevant to consent and confidentiality.

The performance of physicians practicing internal medicine or family practice is as yet untested. Little research has explored physicians' effectiveness in diagnosing or managing other problems common among adolescents.

Physicians' Identification of Emotional and Behavioral Problems--Primary care physicians appear to have difficulty in identifying children who have behavioral or emotional problems. Most of the studies cited in this section were performed on general pediatric populations or on preadolescent children. Data relevant to adolescents are specified.

The identification of mental health problems among children and adolescents is a controversial issue. A scheduled national study of the prevalence of mental health problems among children and adolescents is still in a pilot-study phase. Until that study is completed, comparisons of physician identification rates with overall prevalence rates based on epidemiologic studies should be viewed cautiously. The most recent studies suggest that between 18 and 22 percent of U.S. adolescents have mental health problems requiring treatment.²⁷ In contrast, a study of pediatricians practices found that only 7.9 percent of 10- to 18-year-olds were judged to have mental health problems (103). Several other studies have found that psychiatric diagnoses made by pediatricians in prepaid group practices (including health maintenance organizations) ranked from 2 to 10 percent among the enrolled populations, and between 3 and 12 percent for patients who actually used the facility's health care services (36,66,69, 124). A study of seven primary care facilities found that the proportion of children who were recognized as having behavioral, educational, or social problems varied between 5 and 15 percent by institution (265). This study appeared to use broader categories of problems than did other studies, which may explain its higher rates.

Thus, epidemiologic studies using standardized detailed assessment tools show a significantly higher proportion of children as having behavioral and emotional problems than do prevalence studies based on pediatricians' clinical assessments. However, this observation does not answer the question of how well pediatricians identify children with



Photo credit: Zacchaeus Medical Clinic, Washington, DC

Available evidence suggests that many primary care physicians do not feel comfortable treating adolescents and tend to underdiagnose certain types of problems in adolescents.

emotional and behavioral problems. Two separate studies specifically addressed this question. Each study compared pediatricians' reports with detailed, comprehensive psychiatric assessments that were made independently. The design of the first study was based on a psychiatrist's best estimate of a DSM-III diagnosis²⁸ in an individual child, synthesizing data from three sources: 1) direct interviews of parents, 2) direct interviews of children, and 3) standardized questionnaires (59). The children included in this study ranged between ages 6 and 17. Adolescent-based data were not analyzed separately, but the study sample must have contained a relatively large proportion of adolescents because its mean age was approximately 14 years. This study found very little correlation between pediatricians' reports of psychiatric and behavioral problems and assessments made by the psychiatrist and very little

²⁷ See ch.11, "Mental Health Problems: Prevention and Treatment," in Vol. II, for a discussion of the prevalence of adolescent mental health problems.

²⁸ A DSM-III diagnosis is a diagnosis of a mental disorder based on the criteria put forth in the American Psychiatric Association's *Diagnostic and Statistical Manual*, 3rd edition (23a).

correlation between pediatricians' reports and independent reports by the children and their parents. In addition, the study found, pediatricians underreported both major and less serious psychiatric problems. Overall sensitivity²⁹ of pediatricians' reports in this study was 38 percent using the psychiatrist's synthesis and judgment as the standard. For example, pediatricians identified only 7 (35 percent) of 20 depressed children.

The second study involved children ages 7 to 11 attending pediatric primary care clinics in a health maintenance organization (71). Pediatricians' judgments about the presence or absence of emotional and behavioral problems were compared with scores of two previously validated instruments: the "Child Behavior Checklist," which is a well-known parental questionnaire that screens for social competence and behavior problems, and the "Diagnostic Interview Schedule for Children," a set of two structured psychiatric interviews for children and their parents that are designed for use in epidemiologic studies. This study found that the standardized psychiatric assessment identified twice as many children (1 1.8 percent) as having problems as the pediatricians did (5.6 percent). Specific examples include pediatricians identifying one-third of the children independently diagnosed as having attention deficit disorder, 35 percent of the children with conduct disorder or oppositional disorder, and 21 percent of the children with anxiety disorder and phobias. Only one of the five children diagnosed as having depression was identified by a pediatrician. Overall, pediatricians failed to identify 83 percent of children with psychiatric problems. In contrast to the findings of the previously cited study (59), this study found pediatricians' diagnoses to be highly specific; that is, they correctly identified 84 percent of the psychologically healthy children (71).

There are several reasons why primary care physicians such as pediatricians may not identify emotional and behavioral problems very effectively. Short visits are a frequently mentioned barrier to the identification of such problems (58,136). It is clearly not possible to achieve knowledge and understanding of an individual's social and psychological functioning in brief amounts of time.

A second reason for primary care physicians' tendency to underdiagnose behavioral and emotional problems may be that some adolescents and their parents do not initiate discussion of emotional and behavioral issues with their primary care physicians (58). However, a study conducted in 1999 found that 12 percent of mothers attending a pediatric outpatient department in an urban teaching hospital generated spontaneous written concerns about their children's behavior or mental health (264). The same study reported that even when these concerns were written, physicians recorded their recognition of less than half. Physicians were more likely to document their awareness of mothers' written concerns about their children's somatic problems (78 percent recognition rate) than their concerns about behavioral issues (42 percent recognition rate).

The third major reason that may explain primary care physicians' tendency to underdiagnose behavioral and emotional problems is that many primary care physicians have not had much formal education and training in this area (136).

Physicians' Identification of Substance Abuse Problems³⁰—Although physicians believe that drug and alcohol use is a serious problem among adolescents and they report willingness to deal with adolescents' substance use problems, the available evidence does not suggest that physicians, as a group, are currently able to identify substance abuse problems very effectively.

A recent national study of 617 primary care practitioners conducted by the American Medical Association (AMA) found that physicians appeared willing to provide counseling for adolescents with alcohol problems, and to refer them for specialized substance abuse treatment (23). More than half (55 percent) of the surveyed physicians stated that the misuse of alcohol among adolescents is a very serious problem. Almost three-quarters (72 percent) of the responding physicians reported having seen or counseled at least one adolescent with an identified alcohol problem in their medical practices; the most common response was two adolescent patients. One-third of physicians had counseled between 1 and 5 adolescent patients for alcohol problems, and

²⁹**Sensitivity** is one measure of the validity (or accuracy) of a diagnostic or screening test: the percentage of all those who actually have the condition being tested for and who are correctly identified as positive by the test.

³⁰See ch. 12, "Alcohol, Tobacco, and Drug Abuse: Prevention and Services," in Vol. II for a discussion of the prevalence of drug and alcohol abuse among adolescents.

an additional 12 percent of physicians had counseled 6 to 10 adolescent patients for this problem. It should be noted that the average percentage of patients between ages 12 and 18 for this physician sample was 13.4 percent. More than one-third (36 percent) of the surveyed physicians' practices contained less than 10 percent adolescents, and only 15 percent of practices contained at least one-quarter adolescent patients. This published data set did not determine the relationship between percentage of adolescent patients in a practice and the likelihood of a physician's providing counseling for an alcohol problem. In addition, this study did not explore whether the physicians had actually independently identified adolescent patients with alcohol problems or had provided counseling for patients with previously known alcohol problems. Although this study included physicians from several different primary care specialties (family and general practice, pediatrics, internal medicine, obstetrics-gynecology), it did not categorize response by specialty.

The large majority of physicians (73 percent) in the AMA study stated that they had initiated discussion about alcohol use with their adolescent patients; fewer physicians (57 percent) had initiated discussion concerning alcohol use with their adolescent patients' parents. Almost 90 percent of surveyed physicians (89 percent) favored including counseling and treatment for alcohol use as part of their practices. The vast majority (99 percent) of surveyed physicians stated, however, that they would not treat adolescents with a serious alcohol problem by themselves, but they would include referral to a specialized treatment program for problem drinkers.

Despite physicians' willingness to treat minor problems related to substance use and appropriately refer more serious problems, it is probable that, as a group, physicians do not identify substance abuse problems very effectively. Supporting data are based on studies conducted in teaching hospitals. Even though these studies did not include office-based physicians, it is not likely that their group performance would be better, given that practicing physicians are the products of teaching hospitals, and that physician education and training in the area of substance abuse is a recent phenomenon (10,161).

The first study was conducted at the Johns Hopkins Hospital in Baltimore (187). Although it concerned the diagnosis of alcoholism in adult

patients, the study's findings probably reflect the issues relevant for adolescent patients. The purpose of this study was to determine how well physicians-in-training (i.e., residents) and physician faculty detected alcoholism in hospitalized patients. The large majority of patients were admitted to the hospital for problems other than alcoholism. The patients were screened independently for alcoholism by structured interview and questionnaire. Physicians were interviewed about individual patients to determine whether they had diagnosed any alcohol-related problems, how their diagnoses were determined, and what treatment plans had been made. It was found that house officers' and faculty physicians' detection rates varied between 0 and 66 percent depending on clinical specialty. In general, faculty physicians performed no better than their trainees, the resident physicians; in fact, the house officers (residents) of some specialty services were more successful than their faculty in identifying alcohol problems. Overall, psychiatrists performed better than other specialists; they correctly identified two-thirds of patients with alcohol-related problems. Internists successfully identified 35 to 52 percent of patients, surgeons identified only 20 to 27 percent of patients, and gynecologists were virtually unable to identify any patient as having an alcohol problem; their sensitivity was 0 to 7 percent (187).

A second study was conducted in the emergency department of an urban teaching hospital (58). This study reviewed the medical records of 346 motor vehicle accident patients to determine the surveillance of alcohol intoxication by surgical resident physicians. This study found that only 25 percent of these patients were tested for blood alcohol concentration even though current textbooks recommended routine testing of all trauma patients for alcohol use. A State law that was enacted during the course of the study allowed a hospital laboratory's analysis of patients' blood to be used to establish probable cause for drinking. This law did not affect the surgical residents' rates of determining patients' blood alcohol concentration levels. In addition, no patient was referred by these surgical residents for further evaluation or treatment of alcohol abuse (58). This study's findings of surgical residents' inattention to alcohol problems are similar to the earlier study's findings.

Two studies have attempted to assess physicians' detection of substance abuse problems in an adolescent patient population. In a study by Oelberg and

Finkelstein of the patient records of hospitalized adolescents, the majority of internal medicine and obstetric/gynecologic records contained documentation of a history of smoking and alcohol use; pediatric and surgical records did not contain such documentation (204). However, very few records from any specialty service contained information concerning illicit drug use.

In a more recent study, 54 new adolescent patients presenting for outpatient care in an urban teaching hospital's adolescent medicine program each completed a structured questionnaire designed especially to assess adolescent patients' involvement with drugs and alcohol (254). The responsible medical clinicians independently judged the likelihoods of their individual patients as having substance abuse problems. Thirty-seven percent of patients independently self-reported substance use at sufficiently high levels to be considered abusers. The sensitivity of medical providers' judgments was only 25 percent, and the positive predictive values (concordance between medical provider and patient's self-report on the presence of substance abuse) was only 46 percent, slightly worse than chance alone. In this study, as in others based on adult patient samples, medical providers greatly underestimated the presence of substance abuse problems (254).

There are several reasons for physicians' relatively poor performance in identifying substance abuse problems. First, historically, medical schools and residency training programs have not addressed the issue of substance abuse. Although this situation is changing, with both schools and individual training programs now incorporating substance abuse issues into their curricula, physicians who are already in practice will not be exposed to this body of knowledge. One study, conducted among medical students and resident physicians in 1986-87, found a strong relationship between trainees' perceived role responsibility regarding alcoholic patients, self-confidence in their skills, and their reported screening and referral practices (97). In particular, trainees with higher levels of self-confidence in their skills had enhanced perceptions of their role responsibili-

ties for screening patients for alcoholism and for providing interventions through referral. Physician resistance to caring for patients with substance abuse problems is thought to be related to their lack of formal learning and preparation (136).

A second barrier to physician identification of substance abuse problems is related to patient attitudes. Probably a majority of patients with substance abuse problems deny that they have such a problem and resist evaluation and intervention efforts (136). Adolescents may be particularly reluctant to admit substance use to a health professional when a parent is present during the visit. One survey of 54 substance-abusing adolescents found that 46 percent responded dishonestly to a physician's questions about alcohol or drug use, often because a parent was present (96). Even well-meaning physicians, if they lack appropriate assessment skills, may not be able to identify substance abuse problems.

The third major barrier to identification of substance abuse disorders is organizational. Assessment of substance abuse disorders is time-consuming, and in general, primary care practitioners may not be adequately reimbursed for time spent with and on behalf of patients with substance abuse problems (136). In addition, it may be difficult for physicians to gain access to treatment resources for their patients.³¹

Physicians' Identification of Physical Problems--For the most part, the ability of physicians to identify physical problems in adolescents has not been studied empirically (28). An example of a group of physical problems that has received some study—albeit minimally—is dermatological problems. Additionally, one study examined how well *hospitalized* adolescents are screened for a variety of physical problems.

*Primary Care Physicians' Ability To Identify Dermatological Problems--*Primary care physicians' identification of dermatological problems has been studied minimally; their ability to manage such problems has not been studied at all. Dermatological problems are a leading reason for adolescent visits to physicians.³² However, dermatologists provide care

³¹See ch. 16, "Financial Access to Health Services," in this volume, for a discussion of financial issues in adolescents' access to substance abuse treatment and ch. 12, "Alcohol, Tobacco, and Drug Abuse: Prevention and Services," in Vol. II, for a discussion of other issues in gaining access to substance abuse treatment services for adolescents.

³²See ch. 6, "Chronic Physical Illnesses: Prevention and Services," in Vol. II, for a discussion of common physical problems in adolescence. Also see "Health Care of MoleCents by Office-Based Physicians: National Ambulatory Medical Care Survey" (254).

for only 37 percent of dermatological problems overall; the remainder are largely seen by primary care physicians (132).

A study of 285 adult primary care providers (family and general practitioners and internists) found that, on the average, these physicians correctly identified only 54 percent of 20 commonly seen or serious dermatoses (dermatological problems) (218). The majority of these common skin problems are also seen in adolescent patients. Interestingly, acne, the dermatosis most prevalent in adolescents, was correctly identified by 94 percent of these primary care physicians (218). A similarly designed study evaluated how well pediatric residents are able to identify 20 common skin disorders (217). This study found that the residents' average score was 53 percent; level of training, had little effect on test score. Again, however, a relatively high percentage of residents (68 percent) correctly identified acne (217). However, these studies do not address whether dermatological problems were identified in the context of a visit not specifically related to dermatological problems.

No empirical study has addressed how effectively primary care physicians actually manage skin problems. The documented difficulty in diagnosis may imply that management is not optimal. It is not clear how frequently primary care physicians refer patients to dermatologists or how they decide which patients should be referred. Only 7 percent of dermatologists' patients overall are referred by other physicians (132). One can infer from a readership survey of a widely circulated journal, which pediatricians receive free of charge, that pediatricians make selective referrals to dermatologists (68). A majority of pediatricians (58 percent) responded that they have referred patients for dermatological care. This same survey found that approximately half (51 percent) of pediatricians "usually refer patients for psoriasis. In contrast, the readership survey found that patients with acne were referred only 13 percent of the time by pediatricians (68). This lower rate of referral may be consistent with pediatricians' higher rate of ability (68 percent) to diagnose acne accurately (217).

*Physicians' Collection of Information on Hospitalized Adolescents--*A single study examined how frequently physicians from different specialties col-

lect complete data on hospitalized adolescent patients (204). This study found that no hospital service, including pediatrics, internal medicine, obstetrics and gynecology, and surgery, collected complete historical information or documented growth parameters consistently on their adolescent patients.³³

Different patterns of strengths and weaknesses emerged for each specialty. The majority of records contained past medical histories and family medical histories. Pediatric records were more likely to contain perinatal, immunization, school, and social histories than were the medical records of other specialties. Only records from the obstetric/gynecologic service consistently recorded menstrual histories in female adolescents.

This study also suggests that adolescent anemia may be underdiagnosed (204). Complete blood counts were recorded for almost all patients in all specialties, so that the necessary laboratory data for a diagnosis of anemia were present. Although this study's authors did not provide the reference hematologic parameters by which they regarded anemia to be present, their personal chart review suggested that 37.6 percent of the hospitalized adolescents should have been diagnosed as anemic. However, anemia was actually documented as a problem in only 9.6 percent of the reviewed records.

How Do Health Care Professionals Perceive Their Competence To Provide Health Care to Adolescents?

Several recent studies have explored residents' and medical students' self-perceived interest and clinical efficacy in caring for adolescents. Several studies have phrased the question in terms of perceived deficiencies in training.

Self-Perceived Competence of Physicians-A 1981 study examined the perceptions of pediatric and internal medicine residents in a single teaching institution (255). Findings were reported for residents at the conclusion of their 3-year training programs. This study found that pediatric residents were more likely than internal medicine residents to consider various skills necessary to the practice of adolescent medicine as important. Furthermore, pediatric residents generally considered themselves more skilled than did internal medicine residents for

³³The failure to document that a topic was discussed does not necessarily indicate that the topic was not discussed (275).

this same set of tasks. When reproductive health issues were explored, however, both sets of residents were less apt to consider themselves skilled in providing specific contraceptive services (e.g., counseling, prescribing oral contraceptives, fitting patients for diaphragms, or inserting/removing intrauterine devices). The other major reproductive health issue considered by this study concerned counseling about and treatment for sexually transmitted diseases. In contrast to differences found in self-perceived contraceptive counseling skills, the large majority of both internal medicine and pediatric residents felt skilled in these two aspects of patient care for sexually transmitted diseases.

This study also tapped residents' willingness to become personally involved in the evaluation of adolescent patients with specific problems (255). The majority of graduating internal medicine and pediatric residents in the study planned to become involved in adolescent patient care. However, patient age was an important determining factor. In general, pediatric residents were more likely to refer older adolescent patients (study example: age 19) for evaluation of specific problems; conversely, internal medicine residents were more likely to refer younger adolescent patients (study example: age 15) for evaluation. In addition, residents were more likely to refer adolescents who presented with psychosocial problems (study examples: contraception, alcohol abuse, parental abuse) than with medical problems.

This study concluded that pediatric residents considered themselves better prepared than internal medicine residents for the care of adolescent patients. However, both groups of residents lacked confidence in their counseling and contraceptive skills. The study's author commented that the very problems for which many adolescents seek or need care may be the problems that primary care physicians choose not to manage (255).

A similar study, conducted during 1984, surveyed all residents enrolled in a single community teaching hospital's six training programs (107). The six residency programs studied included family practice, internal medicine, pediatrics, emergency medicine, obstetrics/gynecology, and combined internal medicine/pediatrics. The majority of surveyed residents expected to have clinical practice careers. Many of this study's findings were consistent with the previously cited study's findings: Residents considered themselves relatively unskilled in the

areas of sexuality, handicaps, endocrine problems, contraception, and psychosocial concerns. Residents from each training program identified specific areas of relative strength and weakness. Internal medicine residents were uncomfortable with gynecologic problems and contraception. Family practice residents, although confident about contraceptive and pregnancy issues, felt no more skilled than residents from other specialty groups in managing psychosocial issues. Emergency medicine residents assessed their skill levels as relatively high in managing adolescent crises and acute illnesses, problems that are likely to present at an emergency department. Residents in obstetrics/gynecology felt confident only for problems and issues that are classically considered within their expertise; they felt uncomfortable with medical problems and psychosocial problems other than sexual behavior and pregnancy. In contrast, pediatric residents did not feel skilled in gynecologic issues or in providing contraceptive care.

Pediatricians practicing in Los Angeles County were surveyed by mail (1%). Although these pediatricians felt competent in managing general medical issues of adolescence, they rated their efficacy, comfort, and training experiences as somewhat lower for psychosocial issues, and as significantly lower for issues concerning sexual activity and pelvic examination. They were also less likely to regard these latter two areas as important to their practices. However, more than one-third (37 percent) of these pediatricians declared their need for greater expertise in gynecology and pelvic examination. In addition, 25 percent wanted more training around psychosocial problems.

The Midwestern physicians practicing general-family medicine, obstetrics/gynecology, pediatrics, internal medicine, and psychiatry who were surveyed by mail about their interest in adolescent health care were also asked about their self-perceived competence in providing care to adolescents (207). Self-perceived competence varied by specialty, with no specialty feeling competent to address all problem areas included in this study. At least 50 percent of general-family practitioners felt competent to manage 8 of the 10 service areas listed by the study, and at least 50 percent of pediatricians felt competent to manage 5 areas. Internists, obstetricians-gynecologists, and psychiatrists had significantly narrower foci of perceived self-competence. The majority of physicians from medical specialties

did not perceive themselves competent in counseling. No specialty felt particularly confident about substance abuse issues, although approximately two-thirds of general-family practitioners (65 percent) and psychiatrists (68 percent) felt competent in this area. Approximately half of pediatricians (54 percent) and psychiatrists (50 percent) and only 41 percent of internists felt competent to address sexual concerns with regard to (adolescents, although the large majority of general-family practitioners (89 percent) and obstetrician-gynecologists (96 percent) felt comfortable in this area. Consistent with this finding were the low levels of self-perceived expertise in family planning perceived by physicians in specialties other than general-family practice and obstetrics-gynecology. In contrast, pediatricians (75 percent) and internists (62 percent) felt more prepared to address adolescent patients with chronic illness than did general-family practitioners (54 percent).

This study also explored physicians' perceived training needs by determining their interests in specific continuing medical education topics (207). The most popular topics for hypothetical continuing medical education included substance abuse, counseling, learning problems, and eating disorders. In general, physicians desired further education in areas where they already reported self-competence. The exceptions to this observation included pediatricians and general-family practitioners. Greater proportions of pediatricians with lower self-perceived competence v. positively rated competence desired continuing education in counseling, substance abuse, and family planning. At least 30 percent of pediatricians wanted to learn more about each of the 10 service topic areas listed on the survey. Similarly, general-family practitioners who did not perceive themselves as knowledgeable in chronic illness desired more education in this area. Overall, more than 30 percent of general-family practitioners were interested in further education in 8 of the 10 listed areas. The other specialists, including internists, psychiatrists, and obstetrician-gynecologists, were more focused in their interests in continuing medical education in topics relevant to adolescent medicine (207).

Robert Blum and his colleagues have also addressed the issue of self-perceived competence among health care providers (40,41,42). A national mail survey of primary care physicians, including pediatricians, internists, and family practitioners,

assessed practicing physicians' needs in adolescent care (40,41). Areas of perceived training deficit relevant to adolescent care varied by specialty. Of the 19 problem areas listed in this study, at least 50 percent of all responding physicians reported having received insufficient training in 10 areas. Eight of these 10 areas of self-perceived weaknesses pertained to psychosocial, behavioral, and mental health problems; more than 45 percent of physicians felt deficient in these areas. The large majority of internists (at least 74 percent) reported training deficiencies for all 19 areas. In contrast, greater proportions of family practitioners and pediatricians perceived having received adequate training. There were seven topic areas for which at least 50 percent of family practitioners felt insufficiently trained to handle, and similarly, eight topic areas for pediatricians. Six of the seven topic areas for family practitioners, and six of the eight topic areas for pediatricians, consisted of psychosocial, behavioral, and mental health concerns.

Despite the high rates of acknowledged deficits among these primary care physicians, relatively few expressed a desire to upgrade their skills. Overall, no more than 30 percent of physicians who had self-identified deficiencies desired to increase their proficiency in any of the 19 topic areas. Interest was particularly low for internists; between 0 and 8 percent of those with self-perceived deficiency wanted further training in any given topic relevant to adolescent care. The percentage ranges for interested pediatricians were 10 to 36 percent and for family practitioners, 7 to 42 percent. However, this study did not present data describing the overall interest of physicians in attending educational courses relevant to adolescent care.

Self-Perceived Competence of Nonphysician Health Care Providers-Less is known about the knowledge base of health care professionals who are not physicians regarding adolescent care. The same survey by Blum and his colleagues that was directed to physicians (40,41) was also sent to professionals in nursing, social work, psychology, and nutrition (40,42).

The study drew representative samples from national organizations or sections of organizations that are youth-focused. Nutritionists were the only group that was randomly selected from a general organization that did not necessarily focus on children or adolescents. However, 42 percent of

responding nutritionists described the population group with which they primarily worked as being younger than age 19 (40).

In general, many health professionals, across the disciplines, felt inadequately trained to deal with critical adolescent health problems (see table 15-5) (42). More than 40 percent of the surveyed professionals in at least three of these five disciplines reported significant shortcomings in their training related to anorexia and bulimia, alcohol and drug use, homosexuality (i.e., conflict about sexual orientation), and chronic illness. In contrast with physicians, however, professionals from nutrition, psychology, and social work appeared relatively enthusiastic about enhancing their knowledge on topic areas for which they had self-identified deficiencies (40). Yet, a sizable proportion of health professionals in each discipline reported that they would not pursue continuing education or training to expand their clinical competencies (see table 15-6) (42). Physicians were the least interested among the surveyed disciplines in improving their reported training deficits (32 percent), followed by psychologists (40 percent).

What Personal Characteristics Do Effective Adolescent Health Care Professionals Have?

Many observers believe that health care professionals' ability to interact with adolescents is an extremely important factor in initiating and maintaining adolescents' use of health services. In general, however, the subject of health care professionals' ability to interact with adolescents—regardless of the specific problem that an adolescent may have—has received very little empirical investigation.

As discussed elsewhere in this Report,³⁴ the issue has received some attention with respect to providers' abilities to maintain adolescent involvement in treatment for sexually transmitted diseases. Attitudinal studies of adolescents that compared the importance of clinician gender with other clinician characteristics have suggested that clinician friendliness, understanding, and willingness to take their time are more important than gender (27, 165). Patients who expressed satisfaction have been found to keep

future medical appointments more consistently than patients who were dissatisfied (165), and clinicians who were skilled in interacting with adolescents promoted better patient compliance (27).

A study of residents explored the influences of their own adolescent risk-taking experiences and religious and political conservatism on their attitudes toward and their hypothetical professional behavior regarding adolescent patients (95). In general, more conservative residents, who also had lower risk-taking scores, rated themselves as less skilled in recognizing adolescent substance abuse, less skilled in discussing sexually transmitted diseases with an adolescent patient, and less likely to prescribe birth control pills to a sexually active adolescent without parental consent, compared with residents with higher risk-taking scores. This study emphasizes the potential important influences that individual physicians' backgrounds have on their professional behavior. These influences may become especially significant in controversial or sensitive clinical situations.

Specialized Training in Adolescent Health Care

What Is the Availability of Specialists Trained in Adolescent Health Care?

The majority of U.S. adolescents receive their health and medical care from health care providers who have not received subspecialty training in adolescent health and who have not declared special interest in adolescent health through memberships in professional organizations devoted to this age group (e.g., 83). Unfortunately, comprehensive data describing the numbers of adolescent health specialists, the nature of their training, and their activities do not exist. There are some data on clinical psychologists specializing in the care of adolescents, and those data are summarized below. Otherwise, this section is limited to a brief review of physician specialists in adolescent medicine. (Data on nurses, social workers, and nutritionists who specialize in the care of adolescents are not available.³⁵)

How Many Psychologists Specialize in the Clinical Care of Adolescents?—Although the number is not known, many psychologists and other

³⁴See ch. 9, "AIDS and Other Sexually Transmitted Diseases: Prevention and Services," in Vol. II.

³⁵The American Board of Examiners in Clinical Social Work (ABECSW) estimates that 80 percent of their 17,000 diplomats report that they serve adolescents (43a) (adolescents are listed as one of four possible age groups in the ABECSW survey of diplomats), but the extent to which diplomats have a primary or exclusive interest in adolescent care, or special training in adolescent care, has not been determined.

Table 15-5-Number and Percentage of Surveyed Health Professionals Who Perceive Themselves To Be Insufficiently Trained To Manage Adolescents' Health Issues, by Respondents' Professional Discipline

Area of insufficient training	Respondents' professional discipline									
	Medicine (N = 352)		Nursing (N = 445)		Nutrition (N = 549)		Psychology (N = 460)		Social work (N = 403)	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Growth/development problems (physical and social/psychological)	78	22.6	58	13.0	NA	NA	22	4.7	54	13.4
Obesity	60	17.0	81	18.2	104	18.9	268	58.3	NA	NA
Anorexia/bulimia	192	54.5	118	26.5	268	48.8	287	62.4	269	66.7
Pregnancy	38	10.8	90	20.2	109	19.9	236	51.3	192	47.6
Alcohol/drug abuse	134	38.1	178	40.0	294	46.3	253	55.0	182	45.1
Homosexuality	190	54.0	220	49.4	NA	NA	233	50.6	190	47.1
Family conflicts	109	31.0	122	27.4	NA	NA	30	6.5	54	13.4
Suicide risk	151	42.9	171	38.4	NA	NA	124	27.0	142	35.2
School-based learning and behavior problems	147	41.8	157	35.3	NA	NA	40	8.7	124	30.8
Chronic illness	176	50.0	167	37.5	NA	NA	296	64.3	270	67.0
Depression	142	40.3	195	43.8	NA	NA	73	15.9	118	29.3
Psychosomatic complaints	55	15.6	133	30.0	319	58.1	123	26.7	170	42.2
Delinquency	194	55.1	224	50.3	NA	NA	143	31.1	96	23.8
Sports injuries/health problems	124	35.2	188	42.2	292	53.2	NA	NA	NA	NA
Sexually transmitted diseases	56	16.0	91	20.4	NA	NA	NA	NA	225	55.8
Family planning	79	22.4	100	22.0	NA	NA	NA	NA	128	31.8

NA. Not applicable.

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Table 15-6-Number and Percentage of Surveyed Health Professionals Who Want Additional Training in Areas in Which They Reported Insufficient Training^a

Area of insufficient training	Respondents' professional discipline							
	Medicine ^a		Nutrition ^a		Psychology ^a		Social work ^a	
	n	Percent	n	Percent	n	Percent	n	Percent
Growth/development problems (physical and social/psychological)	28	35.9	NA	NA	14	63.6	30	55.6
Obesity	20	33.3	71	68.3	82	30.1	NA	NA
Anorexia/bulimia	49	25.5	141	52.6	98	34.1	128	47.6
Pregnancy	5	20.0	48	44.0	56	23.7	46	24.0
Alcohol/drug abuse	50	37.6	130	44.2	80	31.6	108	59.3
Homosexuality	50	26.5	NA	NA	85	35.0	87	45.8
Family conflicts	42	47.7	NA	NA	20	66.1	43	79.6
Suicide risk	45	30.0	NA	NA	62	50.0	93	65.5
School-based learning and behavior problems	52	36.6	NA	NA	17	42.5	78	62.9
Chronic illness	34	19.3	NA	NA	94	31.8	77	28.5
Depression	51	36.2	NA	NA	13	31.7	85	72.0
Psychosomatic complaints	16	38.1	89	27.9	73	59.5	99	58.2
Delinquency	49	25.4	NA	NA	35	24.5	44	45.5
Sports injuries/health problems	51	38.3	182	75.2	NA	NA	NA	NA
Sexually transmitted diseases	18	32.1	NA	NA	NA	NA	93	42.3
Family planning	19	30.6	57	20.9	NA	NA	46	35.9

NA = Not applicable.

^aFor the number of surveyed professionals who reported insufficient training, see table 15-5.

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health care providers (clinical social workers, nurses, health educators, nutritionists) encounter and care for adolescents in their clinical practices, in schools, residential institutions, and other settings. The only available data on psychologists who specialize in adolescence comes from the membership files of the American Psychological Association. In 1989, 1,487 psychologists reported to the association that their primary professional interest was adolescents; this number represented 2.2 percent of the American Psychological Association's total membership and 4.4 percent of members who are clinical psychologists (24). Their interests included developmental adolescence, clinical-adolescent therapy, and clinical-juvenile delinquency.

How Many Physicians Specialize in Adolescent Medicine? —Until recently, adolescent medicine was not a certified medical subspecialty.³⁶ Thus, there are no definitive data on the number of physicians specializing in adolescent medicine. Nonetheless, statistics provided by The Society for Adolescent Medicine (SAM), American Academy of Pediatrics, AMA, and other membership societies are useful indicators of the number of physicians with a special interest in adolescent medicine (see table 15-7).³⁷ The available data make clear that the number of physicians who dedicate their practices to adolescent medicine is quite small.

SAM was established in 1968 and, as of 1989, included 1,034 members from multiple disciplines (including nonphysicians), although the vast majority (82 percent) are pediatricians (261).³⁸ The training backgrounds of physician members include pediatrics (84 percent), family practice (7 percent), internal medicine (5 percent), obstetrics-gynecology (3 percent), and psychiatry (1 percent) (261).

The American Academy of Pediatrics formed a Section on Adolescent Health in 1978, in response to pediatrician members' requests for a special interest group. By 1989, this section was the third largest of the academy's 32 sections for practicing

Table 15-7—Estimates of the Number of Physicians Specializing in Adolescent Medicine

Source of data	Number of physicians expressing interest in adolescent medicine ^a
<i>Primary care specialties</i>	
Society for Adolescent Medicine	
1989 membership statistics.....	1,034
American Academy of Pediatrics' Section on Adolescent Health	
1989 membership statistics.....	547 ^b
American Medical Association	
1988 Physician Masterfile.....	1,420 total
Adolescent medicine is primary or secondary specialty.....	1,261
Adolescent medicine is third specialty.....	159
<i>Other specialties</i>	
North American Society of Pediatric and Adolescent Gynecology	370
American Society for Adolescent Psychiatry	1,500

^aNote that estimates overlap and cannot be summed.

^bA_e estimated 500 of the 547 are also members of the Society for Adolescent Medicine (64).

SOURCE: Office of Technology Assessment, 1991.

pediatricians and contained 547 members, or slightly more than 2 percent of the American Academy of Pediatrics' total membership. The extent of overlap between this group and SAM is not known, but it is estimated that the vast majority (about 500) of the American Academy of Pediatrics' special section are also members of SAM (64).

The AMA formally established adolescent medicine as a separate specialty in 1977 (33). The AMA's physician masterfile updates its information on individual physicians (including nonmembers) through a structured mail survey using a 4-year rotating cycle, so that each responding physician completes a questionnaire every 4 years. Of the almost 800,000 physicians who listed a primary or secondary specialty in the 1988 data set, only 1,261 selected adolescent medicine from the predesignated specialty categories (86). Of the 39,000 physicians who listed a third specialty, an additional

³⁶As this Report went to press, an application to formally establish adolescent medicine as a subspecialty of pediatrics was approved by the American Board of Medical Specialties (152).

³⁷Specialists are physicians who have completed 1 to 5 years of additional training in a specialty area. Such training is not required for medical licensure, but physicians who have specialty training may be eligible to become certified by a specialty board. Even if they have not received specialty training or been board-certified, however, physicians may designate themselves specialists (275). In addition to offering a general certification, several boards offer certificates in subspecialty areas.

³⁸Note also that more than four out of five physicians trained in adolescent medicine between 1974 and 1984 were pediatricians; the remainder were internists, family practitioners, or other primary care specialists (220). Most recently, of the 60 physicians in adolescent medicine fellowships in January 1990, 47 had pediatric backgrounds, 6 had completed residencies in family practice, 3 were internists, and 2 had completed combined training in internal medicine and pediatrics (12 1).

159 selected adolescent medicine. Overall, a total of 1,420 physicians in the AMA masterfile (0.2 percent of all U.S. physicians) declared a formal interest in adolescent medicine. Yet only about one-third (32 percent) of responding physicians practicing adolescent medicine perceived it to be their primary area of practice.

The American Academy of Child and Adolescent Psychiatry estimates that 5,000 child- and adolescent-trained psychiatrists are currently available in the United States (276). The American Society for Adolescent Psychiatry has 1,500 members, and the North American Society for Pediatric and Adolescent Gynecology has 370 members (49,298).

Although many members of the American Academy of Family Physicians and the American College of Physicians care for adolescent patients, how many actually specialize in adolescent health is unknown. Neither organization keeps track of members with a special interest in adolescent medicine (189,256). It should be noted, however, that subspecialization in any particular age group is contrary to the discipline of family practice, which emphasizes the importance of comprehensive patient and family medical care(1).

What Are the Training Opportunities in Adolescent Medicine?

Some physicians may get some general experience in adolescent health care while being trained in primary care specialties such as pediatrics, family practice, or internal medicine. Physicians who specialize in adolescent medicine receive the most intensive and advanced training in adolescent medicine as a medical subspecialty. Specialty training in psychiatry or obstetrics/gynecology may also include experience in adolescent health care.

Primary Care Training—In January 1990, the Pediatric Residency Review Committee of the Accreditation Council for Graduate Medical Education significantly expanded its requirements for pediatric residency training experience in adolescent medicine (83). Accredited pediatric residencies must now incorporate a structured adolescent medicine experience that includes health maintenance exami-

nations, family planning, sexually transmitted diseases, and gynecology (1).³⁹ Experiences in chemical dependency treatment, sports medicine, health needs of incarcerated youth, and college health issues are also strongly recommended. The requirements further specify that a separate adolescent medicine clinic is desirable. Exposure to adolescent medicine must be both didactic and clinical and must take place in inpatient and outpatient settings. However, the training requirements do not specify an age range for adolescent patients. Further, a specific time duration for experience in adolescent medicine is not required.

Accredited residency programs in family practice are required to include a 4- to 5-month structured educational experience in pediatrics, but there are no specific requirements for exposure to adolescents (4). Family practice residents may take an elective in adolescent medicine in a department of pediatrics; it is not known how many actually do. A recent survey of family practice residency programs found that 40 percent of training programs included adolescence as a specific component of the curriculum (250). Of the 154 programs reporting the number of adolescent patients that a trainee followed as part of his or her ‘practice,’ more than half (54 percent) estimated 20 patients or less. Only about 40 percent of the responding family practice programs had either trainees or faculty members with specific interests in adolescent medicine, and only 6 percent of responding programs offered at least 1 month’s dedicated experience in adolescent medicine (250).

Although the guidelines for accredited residency training programs in **internal medicine** stipulate that residents should gain experience in caring for adolescent patients, they do not call for any specific curricula in adolescent medicine nor do they specify any age range for adolescent patients or time duration for experience in adolescent medicine (3).

Subspecialty Training—The majority of physicians who devote a significant portion of their time to practicing adolescent medicine have received subspecialty fellowship training (260).⁴⁰ The first fellowship program in adolescent medicine was

³⁹A study in 1978 found that two-thirds (66 percent) of surveyed pediatricians believed their residency training had *not* prepared them adequately for the care of adolescents (16). Later, the residency experience in adolescent medicine appears to have improved, so that pediatricians who had completed their residencies after 1974 were less likely to rate their training as **insufficient** in adolescent medicine, compared with pediatricians who had completed their residencies during earlier years

⁴⁰Subspecialty training occurs after completion of a residency training program in a certified specialty. It is important to note that not all subspecialties, including adolescent medicine, are certified by the American Board of Medical Specialties,

organized in 1956 at Children's Hospital Medical Center in Boston and since then an estimated 750 physicians have been trained in adolescent medicine (121,222). Most adolescent medicine fellowship programs accept trainees who have completed residencies in either pediatrics, internal medicine, or family practice.

Training opportunities in adolescent medicine are few in number and typically are located only in teaching hospitals in major metropolitan areas (261). As of January 1990, there were 39 adolescent medicine physician fellowship programs in the United States, with 60 active fellows (121).⁴¹ The programs are small; 20 of the 39 fellowships train only one fellow at a time, and most of the others have the capacity to train only two.

Postdoctoral fellows in adolescent medicine are distributed fairly evenly by gender: 46 percent of fellows enrolled in training during 1988-89 were women.

Adolescent medicine subspecialty training programs vary in curriculum and duration. Now that adolescent medicine has been established as a formal pediatric subspecialty, programs should become more uniform. Official curriculum standards for fellowships in adolescent medicine will be established. Currently, the fellowship training guidelines published by SAM are voluntary and no one knows how many programs adhere to them. SAM recommends that 1-year adolescent fellowship programs emphasize clinical training; 2-year programs provide additional skills in clinical research and/or program administration in adolescent health care; and 3-year programs enable the fellow to function as an independent investigator (258). It is, therefore, not surprising to find that physicians who have completed 1-year training programs are more likely to be in full-time private practice with less time devoted solely to adolescent medicine (220,221). Surveys of physicians who have completed adolescent medicine fellowship programs have found that 2-year fellows are significantly more likely than others to have full-time academic careers and to devote 75 to 100 percent of their time to adolescent medicine (both academic and clinical) (220,221).

Eight basic areas of skill and knowledge are emphasized by the SAM program training guide-



Photo credit: © Peter Byron, Mom's Plains, NJ

Training opportunities in adolescent medicine are few in number and typically are found only in teaching hospitals in major metropolitan areas.

lines: interviewing skills, growth and development, sexuality, medical problems, psychological and social problems, preventive health care, academic and research skills, and management and health care delivery (258). The guidelines also stress that training programs embody a team approach which includes at a minimum a social worker, mental health specialist, and nurse—all with established experience in adolescent health care. A psychologist and/or psychiatrist; nutritionist, nurse practitioner and/or physicians' assistant; teachers; and physical, recreational, and occupational therapists are also recommended.

The duration of adolescent medicine subspecialty training has increased since the fellowships were first established. Only 22 percent of those who

⁴¹In addition, there were **two** programs in Canada and one in Puerto Rico.

completed their training between 1974 and 1979 were in 2-year programs; the vast majority of trainees, during that period, participated in 1-year fellowships (221). From 1979 through 1984, the proportion of 2-year trainees increased to more than one-third (34 percent) (221). The trend toward longer training continues; in 1984, 35 percent of all programs offered 1-year fellowships; by 1990, 59 percent of all fellowships required 2 years of training and only 8 percent allowed 1 year.

What Do Physicians Trained in Adolescent Medicine Do?

Limited information is available concerning the current activities of adolescent medicine specialists. Recent data from a 1989 SAM membership survey are useful, but, because it is chiefly pediatricians who have elected to become members of SAM, SAM data principally reflect the activities of pediatricians specializing in adolescent medicine and do not include the family practitioners, internists, psychiatrists, and others with a special interest in adolescent health. Ninety percent of the respondents to the 1989 SAM membership survey were physicians, and more than half (57 percent) of the responding physician members had completed a formal postdoctoral fellowship in adolescent medicine (260). Overall, SAM members (including nonphysicians) tend to be involved in academic medicine. That is, more than one-third (37 percent) of SAMs members have a full-time appointment to a university or medical school, and an additional 44 percent carry an adjunct or clinical appointment. Only 30 percent of the 1989 SAM survey respondents devote all of their time to adolescent medicine activities, including time involved in clinical work, teaching, research, and administrative responsibilities.

The SAM survey also found that adolescent medicine specialists were more likely to spend their time in outpatient or office-based patient care than in inpatient care. Eighty-seven percent of respondents spent less than 25 percent of their time on inpatient care (260).

How Effective Is Specialized Training in Adolescent Health Care?

Only two published studies have attempted to evaluate the effectiveness of specialized training in

adolescent medicine. Both have methodological limitations. Only one included an objective evaluation of physicians' skills (197). Neither included ratings by adolescent patients of physicians' skills.⁴²

Neinstein and his colleagues assessed the impact of an adolescent medicine rotation on the attitudes and skills of advanced medical students and pediatric residents (197). Important findings included an increased liking of adolescents by residents as well as significantly improved pelvic examination skills by trainees at the conclusion of the rotation, compared with prerotation scores, and with scores of residents who did not select the rotation. These changes appeared to persist across a 1-year time interval. The validity of this study's findings may have been limited by a potential subject-selection bias. The adolescent medicine rotation was not required, and residents were not assigned to it on a random basis; residents could select it or another rotation. The majority of residents, however, did select the rotation. In addition, residents served as their own controls and had two measurement points prior to starting the rotation in adolescent medicine. If this study's findings are valid, it appears that rotational experience through an adolescent medicine service can help both to modify trainees' attitudes about adolescents and to enhance their clinical skills.

Chastain and colleagues' more recent study of a national sample of pediatricians compared pediatricians who had formally declared their interest in adolescent medicine through membership in the American Academy of Pediatrics Section on Adolescent Health with other randomly selected pediatricians (60). Twenty-nine percent of the group with formally declared interest in adolescent medicine had elected to receive advanced training in adolescent medicine through postdoctoral fellowships; overall, however, 50 percent of this group had undergone formal training in adolescent medicine at some point in their careers. About 30 percent of the randomly selected pediatricians had also received formal exposure to adolescent medicine teaching, usually through residency experience. As would be expected, the pediatricians with a formally declared interest in adolescent medicine rated their self-perceived skills across the spectrum of common adolescent problems as significantly higher than the other pediatricians did. These differences were

⁴²In a previous study, OTA found that patients' ratings were a valid indicator of some aspects of quality of care (275).

especially pronounced in their self-perceived abilities to diagnose and manage psychosocial problems, substance abuse, eating disorders, and sexually transmitted infections; to perform pelvic examinations; and to provide contraceptive counseling.

When Chastain and colleagues examined training issues across time, the following findings emerged (60). Even though the percentage of pediatricians who have received formal training in adolescent medicine has increased over the past two decades, only slightly more than one-third (35 percent) of all pediatricians participating in the survey had received formal instruction in adolescent medicine as part of their residency during the decade 1976 to 1985, 7 years of which followed the Task Force on Pediatric Education's 1978 recommendation that all pediatric training routinely include training in adolescent medicine (16). Among pediatricians without a designated formal interest in adolescent medicine, those who had graduated from medical school since 1976 felt less adequately trained than did those who had graduated during the preceding decade, 1966 to 1975. Each successive cohort of these more recent graduates, however, felt more competent than did their older colleagues in several classical areas of adolescent medicine, including substance abuse, sexually transmitted diseases, pelvic examinations, and contraceptive counseling. However, the trend of heightened self-perceived efficacy for more recent pediatric graduates was not sustained for some content areas of adolescent medicine, including general medical problems, general psychosocial problems, sports medicine and orthopedic problems, and eating disorders (60).

What Is the Federal Government's Role in Support of Training in Adolescent Health Care?

The Federal Government began to support interdisciplinary training programs in adolescent health in 1968, but its role in training and education for adolescent health care specialists has been very limited. The Bureau of Maternal and Child Health in the Health Resources and Services Administration of DHHS currently funds six interdisciplinary training programs in adolescent health, a reduction from nine programs in fiscal year 1981 (212). The programs are located in metropolitan medical centers in Baltimore, Birmingham (Alabama), Cincin-

Table 15-8-Federal Funding for Interdisciplinary Training Programs in Adolescent Health, Fiscal Years 1986-90

Fiscal year	Total funding
1986	\$1,644,000
1987	1,677,000
1988	1,700,000
1989	1,776,000
1990	1,779,000

SOURCE: J. Papai, Chief, Research and Training Branch, Bureau of Maternal and Child Health, Health Resources and Services Administration, Public Health Service, U.S. Department of Health and Human Services, Rockville, MD, Sept. 16, 1990.

nati, Minneapolis, Seattle, and San Francisco. The programs are noteworthy for their multidisciplinary and comprehensive approaches to training; trainees include not only physicians but also psychologists, social workers, nurses, nutritionists, and others. From 1979 through 1990, these programs trained 625 individuals. Total funding for the programs was \$1.8 million in 1990 and has not changed substantially in the last 5 years (see table 15-8) (212).

In general, little is known about past participants in the federally funded interdisciplinary programs and the role the trainees eventually play in providing health care to adolescents. A 1987-88 survey of trainees from these programs found that most (85 percent) were employed in adolescent health services in settings that included universities (26 percent), hospitals (24 percent), self-employment (8 percent), social services agencies (8 percent), mental health agencies (8 percent), and public health departments and community health programs (13 percent) (258).⁴³ Most graduates were employed in the States in which they were trained.

There has been no explicit Federal support of training in adolescent health for health professionals, such as family practitioners, pediatricians, internists, psychologists, nurse practitioners, and others, who are already actively involved in adolescent health care and who may seek advanced training.

Innovations in the Delivery of Health and Related Services to Adolescents

Efforts to improve the delivery of health and related services to adolescents have spawned several innovations. One innovation is comprehensive

⁴³This survey was conducted in 1987 and 1988 by the Division of Adolescent Medicine, Child Development Center, University of Washington and was targeted to 283 individuals who had completed their training in the previous 5 years. The response rate was 55 percent.

health centers for adolescents. Comprehensive health centers for adolescents take a variety of organizational forms, ranging from community-based adolescent health care clinics to school-linked health centers (SLHCs). Another innovation, which might be considered an alternative to the provision of comprehensive services at a single site, is to use case management and other methods to integrate services in the community for adolescents. A third innovation, and one used by OTA in the preparation of this assessment, is for organizations involved in the delivery of services to seek adolescents' advice on how to become more responsive to their needs.

Comprehensive Health Centers for Adolescents

Comprehensive health centers for adolescents typically offer adolescents a variety of health and related services in a single site and have a team of staff members who are knowledgeable about and committed to helping adolescents (192). Such centers, which take a variety of forms described further below, are an alternative to the traditional model of health care delivery that typically takes place in physicians' offices.

Many of the comprehensive programs described below were developed in response to specific communities' needs, so their organizational structures and the services they offer vary widely. Some of the programs developed their structural foundations de novo (independently); others incorporated their services into the functioning of existing organizations.

Nonetheless, each described program is responsive to the specific needs of adolescents (e.g., for free care or use of sliding-fee scales, evening and weekend hours of operation, and confidentiality of services).⁴⁴

Staff members who work in comprehensive health programs for adolescents generally choose to work there because they are committed to and enjoy helping adolescents. They are knowledgeable about adolescent development, behavior, and health and social problems. They frequently perceive themselves as advocates for their adolescent clients and may actually serve as formal case managers to work together with individual adolescents to coordinate



Photo credit: Katherine Criss, New York, NY

Comprehensive health centers for adolescents attempt to provide services that address the range of problems many adolescents face. Such services include care for acute physical illnesses, general medical exams, reproductive health care, mental health counseling, family counseling, vocational training, recreational opportunity, and child care services.

their programs of care (292). This set of personal attributes of staff members may be one of the most cogent characteristics that separates comprehensive care programs from more traditional health services.

Very little formal evaluation of comprehensive care programs for adolescents has been conducted. Although the staff who operate these programs are convinced that their approaches are successful, limited funding, budgetary constraints, and other factors (e.g., diversity of mission) have precluded objective assessments of how effectively comprehensive health centers for adolescents are accomplishing their missions. More than a decade ago, the Institute of Medicine's Conference on Adolescent Behavior and Health urged that model programs be evaluated because the assumptions that have been made about preferred program structure are not grounded in empirical data (192). Impressions of highly visible programs may be regarded as documented fact, so that opportunities may be missed to determine which approaches work most effectively for different groups of adolescents.

Most types of comprehensive health care programs for adolescents share the same problem of survival: financial support for these programs is frequently difficult to secure, and finding sources of

⁴⁴Financial barriers that impede adolescents' access to health services are discussed in ch. 16, "Financial Access to Health Services," in this volume. Laws pertaining to consent and confidentiality are discussed in ch. 17, "Consent and Confidentiality in Adolescent Health Care Decisionmaking," in this volume.

income and funding is an ongoing challenge. In general, hospital-based programs supported by teaching hospitals are an exception to concerns about a stable source of funding. As discussed further below, however, hospital-based programs face other problems that may impede the delivery of appropriate care to adolescents.

The comprehensive programs described below include adolescent health care clinics, a free clinic, a multiservice center, and SLHCs. The programs described are examples of more widespread models of innovative attempts to deliver health and related services to adolescents. In general, little information is available concerning similar programs that have been established in various communities across the United States. The number of such programs is known to be quite low, however.

Adolescent Health Care Clinics

Some hospitals, at least one health maintenance organization (HMO), and several groups of physicians acting on their own at the request of their community have established programs of medical care specifically for adolescents. The precise number of adolescent health care clinics of this type is not known. Hospital-based adolescent health care clinics are more widespread than programs initiated by groups of physicians, and hospitals with residency training programs are probably more likely to have developed such programs than hospitals without residency programs. The HMO-based and community-based adolescent health care clinics were initiated by faculty or graduates of nearby adolescent medicine training programs. In addition to providing clinical services, many of the hospital-based programs also serve as training sites for young physicians (176). Given the fact that teaching hospitals and their affiliated community health centers are frequently located in socioeconomically depressed neighborhoods, it is likely that a large proportion of adolescents who receive their health and medical care from such programs come from poor or near-poor families.⁴⁵

There is no formal prototype for adolescent health care clinics. The majority of hospital-, HMO-, and community-based adolescent health care clinics, however, probably conform to the following general description:

- They are able to provide primary and secondary level care for adolescents with a variety of problems.
- They have a nuclear cadre of staff organized by a physician who specializes in the field of adolescent medicine and who is likely to hold a faculty appointment at a local medical school.
- They schedule adolescents' visits for a broad array of concerns, usually by appointment.
- Although they may use a "team" approach, a physician or nurse practitioner (working under a physician's supervision) is the focal provider, directs management of the patients' needs, and decides when referral resources are indicated.
- * The focus of these programs, given their institutional locations and the source of their leadership, is primarily on adolescents' physical health, but the programs also attempt to identify and to provide intervention for adolescents with mental health problems. Identification of adolescents at risk for mental health problems is usually accomplished through screening. That is, a psychosocial profile is completed for every patient seen for the first time, regardless of the presenting problem. This screening may take place by interview or by questionnaire. The majority of programs have developed independent strategies to conduct these assessments. Screening interviews may be done by the primary medical clinician (physician or nurse practitioner), a nurse who coordinates the program, or a social worker. Depending on the issues that are disclosed by patients or their families, the physician or nurse practitioner may decide to ask other professional personnel to become involved in the care of an individual patient, depending on institutional resources. For example, a patient could be referred to a mental health professional (psychiatrist, psychologist, or clinical social worker), a substance abuse counselor, a vocational counselor, or a nutritionist.
- There are usually close working relationships with other medical and surgical subspecialty programs, so that adolescents can easily be referred for specific problems that may require assessment or management that is beyond the purview of an adolescent medicine practitioner.

⁴⁵ For a discussion of the health problems of adolescents living in poor and near-poor families, see ch. 18, "Issues in the Delivery of Services to Selected Groups of Adolescents," in this volume.

- These programs may also have ties with other agencies, so that occasional patients may be referred to independent institutions, especially if internal resources (e.g., mental health resources) are limited.

Although no programmatic data are available, it is suspected that the majority of hospital- and community-based adolescent health care clinics, although they encourage parental involvement, provide confidential care to adolescents for their reproductive health needs. The costs for such confidential services may be compensated by public moneys (e.g., family planning funds under Title X of the Public Health Service Act, Medicaid funds, and local revenues), or may be borne by a larger institution that is committed to providing a full array of adolescent-oriented services. Some institutions arrange for their adolescent patients to pay for their own care using a sliding-scale fee structure.

Issues Concerning Hospital-Based Adolescent Health Care Clinics-When evaluating the effectiveness of most of the adolescent health care clinics set in the organizational structure of much larger institutions, it is important to bear in mind three major issues. One issue is that adolescents may have limited access to these programs. Hospital-based clinics are frequently located in inner-city areas that require skill in negotiating a city's public transportation system or access to an automobile. Adolescents and families of adolescents who live in more socially prosperous areas may be reluctant to use health care facilities that are known to serve impoverished populations or are in areas perceived as unsafe. Access may also be limited by a program's placement within a large complex of buildings. Finding one's way in a hospital can be intimidating. The registration process for institution-bound adolescent health care programs may be constrained by the rules of the larger institution and may not be 'user-friendly.' Thus, for example, an institution may not permit appointments to be scheduled in the late afternoon or early evening, times that are desirable for adolescent patients to prevent interference with school attendance. The institution may require that all patients register for their clinical care in a centralized area, prior to proceeding to patient care areas. In addition to the potential for time spent waiting in line, such a practice may violate standards for discreet provision of confidential care for sensitive health care problems. Adolescents may be required to disclose the purpose for their visits in

front of other patients who have also been waiting in line. Such internal bureaucratic obstacles may in fact limit adolescents' perceived access to these specialized programs.

A second issue confronting hospital-based adolescent health care clinics is related to their mission to provide training to young professionals such as medical students, resident physicians, and nursing, psychology, and social work students. The goals of teaching trainees how to engage and work with adolescent patients and how to evaluate and manage adolescents health and medical problems are extremely important. It is difficult for clinicians to develop these skills without practical experience. There is inherent tension, however, between the two goals of providing comprehensive yet efficient evaluation and treatment services, and teaching trainees. Overall, less experienced physicians and medical students are not able to work as quickly as experienced physicians. In addition, trainees require individual supervision for each patient that they see, during the time of the actual visits. These facts may mean that patient flow is apt to be slower for less experienced clinicians. In addition, continuity of patient care may be compromised in a teaching setting. That is, consistent clinical care across time for an individual patient (longitudinality of care) is difficult to arrange when a physician trainee is assigned to see a patient at a particular visit. In general, residents and medical students may be assigned to an adolescent health care clinic for one to two sessions, or for no longer than a month's block of time, before they are rotated to a different clinical experience. Although no known study has measured actual quality of interpersonal interaction between provider and adolescent patient, or overall quality of patient care vis-à-vis clinician's experience level, it is hypothesized that clinicians who are more experienced in working with adolescent patients perform better than do less experienced clinicians.

One measure of quality of the interaction between adolescent patients and clinician is based on patient satisfaction with the visit. A small study conducted in an adolescent health care clinic found that 75 percent of surveyed adolescent patients who had been seen by a senior physician trainee (postdoctoral fellow in adolescent medicine) were satisfied with their visits, and that only 39 percent of patients who have been seen by a resident or medical student were satisfied (165). This finding suggests that adolescent patient care programs in teaching institutions need to

develop interfactual strategies that help to compensate for trainees weaknesses during the learning process. It also suggests that more attention should be focused on developing structured curricula that can teach trainees the interfactual and knowledge-based skills that are essential for working with adolescents.

A final issue that concerns hospital-based adolescent health care clinics is evidence for their effectiveness. How successful are such clinics in identifying adolescents' problems, in providing interventions, and in improving the health status of their adolescent patients? Relatively little information is available to answer these questions. Recently, however, formal evaluation of a foundation-supported national demonstration program has explored these issues.

In 1982, the Robert Wood Johnson Foundation awarded twenty 4-year grants to teaching hospitals working in concert with 54 community-based agencies as part of its Program To Consolidate Health Services for High-Risk Young People (84,157,158, 267). The overall goal of this national program was to improve the health status of adolescents and young adults who lived in communities served by the individual funded projects. The four program objectives were as follows: 1) to increase health services to youth at risk for serious socioeconomic and medical problems, 2) to train health professionals in the care of youth, 3) to consolidate health services into comprehensive care centers, and 4) to secure long-term financial support for adolescent health services (157,158). Formal evaluation of this national program consisted of a longitudinal (two-wave) survey conducted over a 12-month interval of a cohort of youths receiving clinical services from seven of the funded sites and from three that included adolescents as part of their service populations but offered neither specialized services for this age group nor training programs in adolescent medicine. The funded and nonfunded clinics were similar in that they were all located in major public medical centers in their respective cities and were accessible to indigent patients (84).

Overall, more than 2,000 adolescent 13- to 18-year-old patients were interviewed twice and had their medical records reviewed as part of the evaluation process (84,267). The adolescents served by these clinical programs were at risk for serious health and behavior problems, as documented dur-

ing the first wave of interviews. For example, 23 percent had a chronic illness, 79 percent were sexually active, 47 percent of interviewed adolescent females had been pregnant, 20 percent of the patients had had significant recent depressive symptoms, 25 percent engaged in illicit substance use, and 26 percent had been in physical fights (267).

Two important findings emerged from this evaluation (84). One was that adolescents attending the funded clinical service programs that were specifically geared toward adolescents were significantly more likely to disclose behavioral and lifestyle problems to their clinical providers than were adolescents attending the comparison programs (84). Consequently, larger proportions of adolescents attending the specialized adolescent programs received care (usually on site, but occasionally through referral) for these specific problems than did adolescents attending the comparison programs. In general, the funded adolescent health care programs demonstrated more extensive documentation of health problems, including behavioral and lifestyle concerns, than did the general programs. However, adolescents in both funded and nonfunded clinics were more likely to inform their medical providers of clear-cut medical problems (e.g., asthma, injury, sexually transmitted diseases) and of need for contraception than of other behavioral and lifestyle problems.

A second important finding of this evaluation was that despite their better identification and treatment capabilities for adolescent problems, the funded adolescent health care programs were not able to effect greater improvement in selected health problems, including persistent depressive symptoms, unmet contraceptive needs, and heavy alcohol or drug use, than the comparison programs (84). At the time of their second interviews, relatively similar smaller percentages of adolescents attending each type of program reported having depressive symptoms and unmet contraceptive needs than reported these problems at their initial interviews. Regardless of program type, however, virtually no changes in self-reported heavy alcohol or drug use occurred across the year interval between interviews (84).

Earls and his colleagues have suggested three reasons for the failure of the specialized adolescent-oriented programs to demonstrate differences in health outcomes for adolescents. First, the followup period of 12 months may have been too short an

interval. Second, more time may be needed to test the impact of specialized primary health care for adolescents, given the newness of this field. Third, it may be inherently difficult for medical clinics alone to improve the behavioral and lifestyle problems of adolescents who attend these clinical programs because the adolescents' difficulties are so deeply embedded in the socioeconomic contexts of their environments (84).

It is a useful exercise to discuss adolescent health care clinics in the context of the attributes outlined by Schorr in her discussion of "interventions that work" for high-risk adolescents (246). Schorr based her conclusions about the nature of successful interventions on case studies of selected intervention programs. In Schorr's view, successful intervention programs offer a broad spectrum of services, cross traditional professional and bureaucratic boundaries, and remain flexible in approaches to problem solving. Successful programs also view the adolescent in the context of family, and the family in the context of its environment. In addition to their professional skills, staff members affiliated with successful programs possess commitment to and caring and respect for their clients. Structurally, successful programs' services are coherent and easy to use. Such programs attempt to reduce the possible barriers that clients may face in attempting to utilize offered services. If necessary, program staff circumvent traditional professional and bureaucratic limitations, in order to meet the needs of their clients. Schorr summarized the necessary characteristics of successful intervention programs as intensity and comprehensiveness of services, and flexibility and respectful commitment by staff (246).

Many adolescent health care clinics situated in teaching or community hospitals certainly strive to attain many of the functions and characteristics that Schorr outlined. Overall, their professional staff could be described as skilled and committed. Trainees who rotate through these programs as part of their learning experiences, however, may lack either the necessary background knowledge or the commitment to and caring about adolescents that appear so important to a successful program. Clinic staff may attempt to compensate for their trainees' weaknesses, but this issue requires continuous monitoring. It is possible that hospital-based adolescent health care clinics are not able to provide sufficient breadth or intensity of services for their patients, no matter how hard they try, given their structural

limitations. In general, they operate on the campuses of large institutions. Patients may be seen for medical issues on a regular basis on site; although quarterly visits would not be considered unusual, relatively few adolescents are seen by medical clinicians as frequently as every week or every month on an ongoing basis. Mental health professionals may establish weekly or even twice weekly appointments with their adolescent clients. However, neither the medical nor the mental health interventions may provide adequate intensity of service for certain adolescents. After all, 2 hours a week of professional time, no matter how skilled, cannot realistically be expected to countermand the influences of the events taking place in the remaining 166 hours of the week of an adolescent who is experiencing major behavioral and lifestyle problems. Finally, adolescent health care clinics usually function in the context of the bureaucracy of a larger institution. Although program staff may successfully negotiate with the institution's administration for policies that lower barriers to care (e.g., issues requiring the need for parental consent and payment for services), they are still frequently constrained by institutional rules, and by the large imposing buildings in which their clinical space is often located.

Community- and HMO-Based Adolescent Health Care Clinics--In some suburban communities, health care professionals trained in adolescent health care have developed special adolescent health care centers that are not formally affiliated with hospitals. Two examples are described in box 15-A. One center was developed in response to community concerns by adolescent medicine faculty physicians based at a teaching hospital in a suburban Long Island, New York, community (92,175). Another, the Teen and Young Adult Health Center, is part of the Kaiser Permanence HMO, and is situated at Kaiser's Granada Hills, California, location (135,146).

Free Clinics

Free clinics developed approximately two decades ago in this country in response to the needs of substance-using youth, many of whom were alienated from society at large and were unable or unwilling to receive medical care from traditional sources. Free clinics do not set eligibility requirements or charge fees for service, although they do accept donations from their clients. In general, free clinic services are provided by volunteers, with agency activities coordinated by a core of paid staff.

Box 15-A—A Community-Based and an HMO-Based Adolescent Health Care Clinic

In recent years, health care professionals trained in adolescent health care have developed adolescent health care programs that are *not* formally affiliated with hospitals. Two examples, both in suburban communities, are described below.

A Community-Based Adolescent Health Care Clinic in Long Island, NY

A comprehensive adolescent health care service that was developed for a suburban Long Island community by adolescent medicine faculty physicians based at a teaching hospital is described by Fisher, Marks, and Trieller (92). This program was established in 1980 in response to the request of a group of civic leaders living in a middle- to upper-class suburb. A survey of the community's junior and senior high school students was conducted as part of program planning. In general, although significant proportions of students disclosed regular illicit substance use (20 percent), sexual activity (24 percent), and concern about a self-perceived weight problem (38 percent), very few students (1 percent, 4 percent, and 10 percent, respectively) had actually sought care for these matters. Despite their ready access to private office-based physicians (90 percent had a specific doctor, and 93 percent had visited a doctor within the previous year), the majority of students stated that they would not choose to use a private physician for reproductive health care, substance abuse, or emotional problems, and furthermore, that they would not be willing to seek care for these problems with their parents' knowledge (175). Thus, even in a middle-class community that is well-supplied by private physicians, adolescents perceived the need for an alternative resource for their reproductive health care and other sensitive problems.

The Long Island community-based adolescent health clinic is located in a building shared with a substance abuse counseling agency. It is staffed by a nurse coordinator (who also is a master's prepared counselor), and pediatricians specializing in adolescent medicine. The nurse coordinator performs basic medical and psychological counseling, as well as program administration and outreach. Although confidential health care is provided for sexuality-related matters, adolescents younger than age 18 must have parental consent in order to receive care for other problems.

Funding for the program comes primarily from the New York State Department of Health but also from local funding sources. Although adolescent patients were seen free of charge during the first 2 years of the program's operation (92), fees were later instituted at the request of the State funding agency after a survey of registered patients was conducted. The majority of these patients affirmed that they would be personally able and willing to pay for services without help from their parents (93). From 1982 until recently, adolescents were charged no more than \$25.00 for an initial visit and \$15.00 for a followup visit. Patients were asked to pay as much as they could at the times of their visits; no bills were sent home. The overall collection rate, based on total accrued charges, has been 73 percent. Only 16 percent of patients have not been able to pay even a portion of their bills (92). Recently, however, a cut in State funding has caused the program to curtail its operations to approximately half-time for the nurse coordinator and to 6 hours a week of physician time. In addition, the program has raised its fee schedule to \$40.00 for a first visit and \$25.00 for a followup visit (91a). No information is available concerning the effect of the increased fees on collection rates.

Eighty-two percent of the first 1,000 adolescents and young adults who registered for clinical care over the first 6 years of the program's operation were female. Almost three-quarters (72 percent) of the initial visits by adolescents residing in this middle-class suburban community were for reproductive health care, including contraception, pregnancy determination, and sexually transmitted infections. Over time, 67 percent were for reproductive health care. An additional 27 percent of visits were for other medical problems and for preventive care (e.g., immunizations, nutrition concerns, dermatologic and orthopedic problems). Only 6 percent of visits were for emotional concerns or substance abuse (92), despite the overall higher community prevalence rates of these problems that had been reported in the student survey preceding the opening of the program (175). Data reported from the Long Island program indicate that it has filled a void in the reproductive health care needs of adolescents.

The Kaiser Permanence Teen and Young Adult Health Center in Granola Hills, CA

The philosophy of the Kaiser Teen and Young Adult Health Center is based on that of the adolescent medicine program in the Children's Hospital Medical Center in Los Angeles (147). The Kaiser Teen and Young Adult Center attempts to have its multidisciplinary staff, many of whom have been specifically trained to work with adolescents, work in an interdisciplinary manner to meet the diverse needs of their adolescent clients. An innovative feature

Continued on next page

Box 15-A—A Community-Based and an HMO-Based Adolescent Health Care Clinic-Continued

of the Teen and Young Adult Health Centers' approach is the use of a team of "Teen Advisors. The rationale for having a special adolescent program within the HMO is to deliver health services to adolescents in a proactive and preventive, rather than a reactive, manner (146). In that spirit the Center also produces and distributes its own newsletter, *The Kaiser Advisor*.

Staff and Services-The Center staff consists of a multidisciplinary team of professionals, including doctors in adolescent medicine and obstetrics-gynecology, health educators, a part-time social worker, a part-time psychiatrist, and a full-time project coordinator. Adolescents served at the Center are interviewed by their health care providers to identify potential or existing problems of depression, suicide, unwanted pregnancy, substance abuse, eating disorders, and other problems. In addition to this comprehensive psychosocial assessment the Center provides comprehensive health services, which they have defined to include:

- **Primary medical care** (general health care; routine physicals and health assessment treatment for acute and chronic illnesses; routine gynecological care; family planning services; pregnancy testing, diagnosis and referral; STD [sexually transmitted disease] diagnosis and treatment; contraceptive decisionmaking and education);
- **Obstetrical care** for adolescents (prenatal care, postpartum care, prenatal education, childbirth classes, parenting classes, nutrition counseling, and social services assistance and counseling);
- **Health education services** (printed materials, audio-visual programs, interactive health education computer programs, other group and individual health educational activities); and
- **Social and psychological services** (counseling and education regarding grief, family problems, substance abuse, sexual concerns, relationships, pregnancy, depression, and low self-esteem) (146).

In order to help expand the network of referrals to and from the Center and coordinate services with other departments, the Center project coordinator and physicians hold outreach meetings with other Kaiser Permanente departments on an ongoing basis (146)

Teen Advisors--The "Teen Advisors" area group of volunteers, ages 15 to 20, who meet regularly at the Center, and attempt to help the Center better serve its adolescent clients by acting as a sounding board for the Center staff. The *Teen Advisors review films* and educational materials, and advise the Center's staff on how to work effectively with teenagers (134,135).

Program Effectiveness-No information on the effectiveness of Kaiser's Teen and Young Adult Health Center has yet been published, but an evaluation to determine "if the current Center model provides cost-effective, comprehensive physical and psychosocial health care services to adolescents and young adults in a manner that fulfills their needs and expectations, maintains and enhances their health, and encourages them to continue as health plan members in the future" (146) is under way.

SOURCE: Office of **Technology Assessment**, 1991.

Today, it is estimated that roughly 80 free clinics exist across the United States (112). Such clinics are more likely to be found on the west coast than in the Northeast or Midwest. Because free clinics developed in response to the needs of their home communities, they tend to serve different ethnic populations. For example, free clinics in the Southwest tend to be oriented toward Hispanic groups, and free clinics in some parts of California are apt to serve Southeast Asian refugees. In general, free clinics can offer only a finite range of health services, given their budget and staffing constraints. They can offer a relatively fast and partial solution to a community's otherwise unmet health care needs, but the directors of free clinics do not view them as being able to provide comprehensive

solutions to their communities' health care problems (see box 15-B).

Little published information is available that describes the characteristics of adolescents who use free clinics. Also, very few published studies have compared the characteristics of adolescents who use free clinics with those who use other sites for their health and medical care.

Multiservice Centers That Offer Comprehensive Health and Other Services to Adolescents

Multiservice centers for adolescents operate on a model of adolescent health care delivery that recognizes adolescents' broad and varying need for services beyond traditional medical care. One multi-

Box 15-B—The Free Medical Clinic of Greater Cleveland

The Free Medical Clinic of Greater Cleveland is the third largest free clinic in the country in terms of budget and patient flow. The Free Clinic opened in 1970 to provide services to patients of all ages. Thus, many of its services are available to patients other than adolescents. In 1987, the Free Clinic provided medical services to almost 14,000 people. Visits by adolescents accounted for more than a quarter (29 percent) of all patient visits. More than 75 percent of all adolescent visits for medical services were for contraception, pregnancy testing, and treatment for sexually transmitted diseases (STDs). In 1989, the Free Clinic joined with a large tertiary care facility to establish an adolescent clinic. This and other Free Clinic services used by adolescents are described further below.

Overview—Since 1970, the Free Clinic has offered acute ambulatory medical care and drug and mental health treatment to patients of all ages. These two programs were enhanced by a hot line and a patient advocacy service that helped to direct patients to other community resources if the Free Clinic was unable to provide direct assistance. Several other programs were added over the next 7 years: an emergency dental service, a runaway shelter, a hypertension clinic, and a legal service. Recently, the Free Clinic established an anonymous human immunodeficiency virus (HIV) testing program and a medical monitoring project, which provides long-term continuity of care for individuals who are HIV-positive but lack clinically apparent symptoms.

The Free Clinic owns its current physical facilities. Five years after it opened, the Free Clinic was evicted from its original site and moved to its current location at the border of the cities of Cleveland and East Cleveland. The clinic's current location is close to the campus of Case Western Reserve University, Cleveland's largest private university. Several years after moving to its present location, the Free Clinic was able to purchase and to renovate its building and facilities through a grant based on a 9:1 Stat-to-private match from the State of Ohio.

Services Used by Adolescents—In the fall of 1989, the Free Clinic established an adolescent *clinic in* partnership with Rainbow Babies and Children's Hospital, a large tertiary care facility located approximately 1 mile from the clinic. Physician staffing is provided by the hospital, and the Free Clinic supplies the physical space, staff coordination, laboratory, and medical and pharmaceutical supplies. Patient care statistics for this specific program mirror the Free Clinic's general statistics for adolescents. Half of patients seen in the adolescent clinic are females seeking contraceptive services or pregnancy testing. Another 26 percent of adolescents are seeking treatment of an STD. Various programs offered by the Free Clinic are utilized by adolescents. *Safe Space* is the Free Clinic's runaway shelter and is located next door. It provides services consistent with the regulations of the National Youth Runaway Act (Public Law 93-415) to almost 600 minors a year.¹ It is one of the very few runaway shelters in the country that is able to offer medical and legal services to its adolescent clients. Approximately 30 percent of adolescents seeking refuge at *Safe Space* request or are perceived to need medical care, which is available to them at the Free Clinic. Common reasons given by adolescents for needing medical care include documentation of physical abuse and reproductive health concerns. *Safe Space* retains its own attorney on salary in order to represent its adolescent clients to the judicial system. The attorney handles approximately 30 to 40 cases each month.

Other Free Clinic services used by adolescents include ambulatory medical care and general counseling and outpatient drug abuse treatment services. The Free Clinic sponsors the *Adolescent Sexual Offender Project* and an *Incest Survivors' Group*. For general issues, master's prepared mental health professionals include adolescents as part of their individual caseloads. The Adolescent Sexual Offender Project, which started in 1986, is largely funded through a contract with the county's Juvenile Court. It has a capacity of 20 clients and includes family members in its treatment services. The Free Clinic's dental service is very small and provides emergency care for less than 100 patients a year. Very few adolescents use this service.

Staff—The Free Clinic's staff includes 42 paid employees and more than 400 volunteers. In the medical services division, five paid coordinators provide supervision as well as direct patient care. The physician medical director provides direct patient care and supervises one to four family practice residents per month. Licensed medical volunteers at the practitioner level include 30 physicians, 22 dentists, 6 nurse practitioners, and 6 physician assistants. In addition, 80 to 90 medical students volunteer at the Free Clinic each year.

The mental health staff consists of four part-time counselors for the Adolescent Sexual Offenders' Project and 4.5 full-time master's prepared counselors to provide general mental health and substance abuse treatment services. Approximately 50 volunteer therapists also maintain active caseloads of clients.

¹See ch. 14, "Homelessness: Prevention and Services," in Vol. II, for a discussion of Federal laws pertaining to homeless and runaway adolescents.

Continued on next page

Box 15-B—The Free Medical Clinic of Greater Cleveland-Continued

Legal services are staffed by 15 volunteer attorneys, who provide advice and referral by telephone.

Budget and Funding--The Free Clinic's annual budget, including operation of its runaway shelter, is \$1.2 million. The funding mix is 60 percent public and 40 percent private moneys.

The largest proportions of public moneys are from the Ohio State Department of Health for STD control and HIV testing and from the County Drug Board. Federal funds for family planning services made available under from Title X of the U.S. Public Health Service Act help to support the Free Clinic's family planning program.²The Free Clinic does not bill Medicaid or private insurance companies for patients who maybe eligible for these benefits.

Private resources come from foundations, corporations, individual contributions, and other sources. The privately funded portion of the budget is generally less restricted than the portion from categorical government grants and contracts. One observer has noted that it is highly unusual for integrated health services programs to have such a high proportion of unrestricted funds available and that such unrestricted support is important to the long-term viability of integrated programs (128a). Foundation grants have remained quite stable since the Free Clinic's inception and support its general operating costs. This arrangement is quite unusual, given that foundations frequently prefer to support demonstration projects. Corporate contributions are assuming an increasingly important role in the overall budget, as the Free Clinic's Board of Trustees becomes more active in fundraising. Although individual contributions made up 37 percent of the 1990 budget's private resources, such contributions are regarded as the budget's least stable section. The Free Clinic's annual individual fundraising campaign goal is partially determined by its anticipated budget deficit; the funds generated through individual fundraising are used to offset these expenses. In addition the Free Clinic's staff sponsor at least one special fundraising event each year (e.g., rock concert) that raises approximately \$25,000. The Free Clinic also operates a Thrift Store, which breaks even financially each year.

Volunteers are important to the Free Clinic. The Free Clinic's overall monetary budget is enhanced by 80 percent, and its personnel budget is doubled, by the almost \$1 million of service time that its volunteers contribute. Personnel costs absorb approximately 75 percent of the Free Clinic's operating budget. Seventeen percent of nonpersonnel costs pay for medical supplies, laboratory fees, and other general operating costs.

The budgetary goals of the Free Clinic are to develop a diverse funding base, so as to allow services to continue despite possible interruption of individual funding sources, and to enhance the proportion of funding from stable corporate contributions. The Free Clinic considers itself fortunate to have had a relatively stable external funding base over the past decade, through continuation of its multiple grants and contracts.

Strengths--The Free Medical Clinic of Greater Cleveland has been able to grow over the 2 decades of its existence for several reasons. It has enjoyed consistent, strong leadership. There have only been three directors during this time period It has been recognized as an important community resource, as witnessed by its ability to attract and maintain a strong and varied public and private funding base. It has become a popular organization for volunteers, many of whom have continued their involvement with the Free Clinic for several years. It is located close to a university and its medical school, which allows many students to volunteer. It has retained its organizational identity and original mission.

Weaknesses--In some ways, the weaknesses of the Free Clinic represent the converse sides of its strengths. For example, the paid staff consist of only a few positions, each of which carries supervisory and direct service responsibilities. Staff turnover can be especially troublesome. The Free Clinic may find it difficult to recruit certain paid staff positions because salary levels are significantly below those of other local health care institutions. Consequently, individuals who are attracted to working at the Free Clinic are frequently young adults with a strong altruistic commitment and a sense of social advocacy.

Conclusion--There has been no formal evaluation of the ability of the Free Clinic to meet the needs of adolescents and others in the community. The current director of the Free Clinic has stated that it serves as a "bandaid," a short-term and incomplete solution to the community's problem of providing financial access to health and medical care for all its citizens, including individuals who perceive themselves as alienated from mainstream society and who are not willing to seek care from its traditional sources.

²Title X of the Public Health Service Act is discussed in ch. 10, "Pregnancy and Parenting: Prevention and Services," in Vol. II.

SOURCE: M. Hiller, Executive Director, The Free Medical Clinic of Greater Cleveland, information provided in an interview conducted for OTA by Trina Anglin, M.D., Ph.D, Director of Adolescent Medicine, Cleveland Metropolitan Hospital, Cleveland, OH, Apr. 16, 1990.

service center known as “The Door” is frequently described as the prototype of an integrated, comprehensive service model for adolescents. This section describes its programs in detail.

The Door is an independent, community-based facility in New York City that offers comprehensive health and medical care, mental health and drug treatment, educational, legal, social services, recreational, creative arts, and employment training services for youth up to age 21. It opened in 1972, following more than a year of planning and development activities by a multidisciplinary group of professionals who were concerned about the physical health, mental health, and social issues of youth living in New York City. The Door’s initial quarters were donated as free space, and for its first 7 months of operation, its staff were unpaid volunteers. Originally, the Door was begun as a model substance abuse prevention program (101). However, the Door was adopted as a model project by the International Center for Integrative Studies to demonstrate an integrated human services approach to the well-being of adolescents. The center seeks to promote interdisciplinary communication and cooperation among the humanities, and the behavioral, social, and life sciences (280).

The Door is currently located in a renovated building in lower Manhattan. It serves approximately 7,000 adolescents annually and reports approximately 70,000 visits a year (101,128). About 75 percent of the adolescents who use the Door for their physical health and mental health care do not have health insurance coverage, either public or private. An estimated 22 percent of adolescents who use the Door are covered by Medicaid, and an estimated 3 percent have private third-party insurance coverage (101). No more than 7 percent of the Door’s operating budget is recovered from Medicaid; although a sliding-scale payment system is operational, out-of-pocket payments by the Door’s clients are negligible (128). The Door’s annual budget is supported by more than 80 funding sources, including Federal, State, and local public agencies, as well as private foundations, corporations, and individuals.

The Door’s staff consists of approximately 70 full-time-equivalent paid positions and more than 75 volunteers. The staff is divided into three interdisciplinary working teams, which meet regularly to review the needs and progress of their adolescent

clients. Staff members include physicians, nurse practitioners, nurses, family planning counselors, health educators, nutritionists, pharmacists, laboratory technicians, medical assistants, psychiatrists, psychologists, social workers, lawyers, teachers, vocational rehabilitation counselors, job developers, youth workers, and physical education instructors and artists from the creative, visual, performing, and martial arts (101). These staff members provide a wide spectrum of services for the adolescent clients of the Door. Important to the Door’s philosophy is its combination of case management and interdisciplinary teamwork. Following a comprehensive in-depth assessment, each adolescent client is assigned to a primary counselor, who will coordinate care and assure continuity and quality of care throughout the client’s involvement with the Door. The primary counselor works closely with the interdisciplinary therapeutic team built around each client with acute or broad-ranging problems.

The Door’s Adolescent Health Center offers general medical services; a prenatal, young parents, and child health program for the young children of adolescent parents, including on-site nursery services; a health care program that offers ongoing continuity of care to youth who have no regular source of health care or who have chronic diseases such as asthma, diabetes and hypertension; family planning and sex counseling services; and a nutrition counseling service. The approximately 3,500 adolescents enrolled in the Adolescent Health Center make about 18,000 total visits per year.

The Door’s Psychiatric Services provide diagnostic assessment and therapy using a number of treatment modalities, including crisis intervention, individual and group psychotherapy, individual and group drug and alcohol counseling, pharmacotherapy, couples and family counseling, milieu therapy, and art and recreational therapy. Many of the adolescents seen in the Door’s Psychiatric Services have problems related to the use of substances. The Door’s Drug and Alcohol Education Services provide information and education about substance use and treatment resources. In addition to helping adolescents on-site, the Door has an active outreach program for students enrolled in schools, and for adolescents who congregate on the streets and in parks.

The Door’s Social Service Program provides social crisis intervention and supportive counseling

for adolescents with emergency needs for shelter, food, and clothing, including adolescents who have run away. Social services staff help young people to develop more constructive communication and working relationships with their families. They facilitate mobilizing other agencies' resources for their youthful clients.

The Door supports three separate counseling services which help adolescents to address educational, vocational, and legal issues. The Educational Counseling Services Program offers educational evaluation and diagnosis, counseling for adolescents who are truant from or who have quit school, tutoring, remediation for youth with learning disabilities, and help with the admissions process to college. The Learning Center Program provides both ongoing assistance to adolescents having difficulties at school and an alternative education program for students who have quit school. The Door's Vocational Counseling Services provide work readiness evaluation, vocational testing, career counseling, vocational training, job shadowing, and job placement. The Legal Counseling Services Program offers legal advice, representation on civil and criminal cases, and assistance in dealing with public agencies and in receiving public benefits. The program helps to divert appropriate clients from the justice system to the Door's Mental Health Counseling Services. It also advocates for legal reform concerning minors.

The Door's Creative and Performing Arts Workshops Program allows adolescents to try a wide range of possible career choices and creative expressions, to learn to work cooperatively, to learn work-related skills, and to develop pride in their skills. The creative workshops are perceived as valuable vocational and life training experiences and include a variety of classes in dance, theater, music, fine arts, crafts, photography, silkscreen, sculpture, pottery, jewelrymaking, and plastic arts. The Door's Recreation and Physical Education Program, which includes classes, games, and team formation in a variety of activities such as gymnastics, martial arts, wrestling, weight lifting, aerobics, and ball sports, emphasizes working cooperatively with peers and gaining a respect for good health. The Door also sponsors recreational and educational field trips as part of its overall program of constructive adolescent-oriented activities.

The Door's Food Services Program prepares a free, nutritious evening meal for adolescents, many of whom otherwise would not receive adequate nourishment. This program also helps adolescents to learn how to plan and prepare nutritious meals, with particular attention to hygiene and the use of institutional equipment.

Other programs at the Door focus on long-term issues. For example, the Mental Health, Drug and Alcohol Treatment Program provides long-term treatment for adolescents with serious problems in these areas. The program uses a combined case management and interdisciplinary team approach to plan, implement, and monitor individualized treatment, using the Door's many resources. Adolescents become involved with a therapeutic milieu but continue to live outside the Door.

The Door has grown from a small program staffed primarily by volunteers into a large, complex organization. However, it has retained the elements that define the service characteristics of an integrated community health delivery program. It offers comprehensive services at a single site. It interacts with other community agencies through referral networks and tracks youngsters who are referred to another agency for care. It performs multiproblem needs assessments for individual adolescent clients. The Door's service model is based on the concept of an interdisciplinary team that meets regularly to coordinate the efforts of its individual providers. Finally, the Door is committed to case management, so that each adolescent client has a single, primary contact person to coordinate programmatic elements. As part of this model, a single, unified record is maintained for each adolescent (34).

Staff members are flexible in their roles and serve as advocates for their clients. Through the case management approach, the Door has continued to make it easy for its adolescent clients to use its facilities. In addition, its afternoon and evening hours of operation were established for the convenience of its clients, so that adolescents who attend school do not need to miss classes to participate in the Door's programs.

Even though the Door is frequently cited as the model health program for adolescents, it should be understood that it probably cannot be replicated exactly in the majority of communities in the United States. But its underlying principles of care can clearly be adopted by other communities. As dis-

cussed by Jellinek (127), the Door had certain advantages during its formative period. First, its parent organization, the International Center for Integrative Studies, provided extremely high caliber technical expertise, which has allowed the Door to develop its unique management structure and professional staff mix in the context of its organizational goals. Second, its placement in New York City has given the Door access to a large and diverse pool of professional talent, and consequently, the ability to be selective in its choice of staff members. The Door's location in New York City gives it another advantage relative to other communities. Because New York has a superior public transportation system linking all boroughs, and because adolescents in New York usually learn to navigate it independently at an early age, access to the Door's single, stationary site is not a problem. In contrast, public transportation systems in the majority of other cities are not as well-developed or convenient to use as New York's is, so that a single location of services may not be as accessible.

School-Linked Health Centers

The SLHC model for providing comprehensive health services to adolescents has received considerable attention and has the potential to reach many medically undeserved adolescents because of its capacity to be replicated in many communities. The first SLHC opened in West Dallas, Texas, in 1970 and offered a variety of services previously unavailable in a school setting, focusing principally on general primary care. In 1973, the first SLHC to emphasize reproductive health services (along with primary health care services) was established at the St. Paul High School Clinic in Minnesota (142). Box 15-C describes a typical SLHC in Birmingham, Alabama.

The number of SLHCs in this country has grown dramatically in recent years, particularly in the latter half of the 1980s.⁴⁶ Unfortunately, it is impossible to develop a good estimate of the number of adolescents who have access to an SLHC for several reasons. First, there is no national, comprehensive source of information on the number of operating SLHCs. This situation stems in part from the dynamic nature of the school-linked health care movement. Also, there are varying definitions of



Photo credit: © Randall Hagadom, Titusville, NJ

There is as yet little systematic evidence that school-linked or community-based comprehensive service centers for adolescents improve health outcomes, but there is clear evidence that such centers can improve adolescents' access to the health and related services that are most likely to be needed by adolescents.

what constitutes an SLHC. OTA uses the term SLHC to refer to any school health center for students (and sometimes the family members of students and school dropouts) that provides a wide range of medical and counseling services and is located on or near school grounds and is associated with the school. But some researchers confine their work to centers based on school grounds and others consider a school with an on-site, part-time nurse practitioner, to have an SLHC. A number of States have recently undertaken initiatives in school-linked health care, some with programs that go far beyond traditional, primary health care (e.g., New Jersey includes job training and employment services in its program).

Almost all the data on SLHCs that are available are collected and disseminated by two groups: the Center for Population Options' (CPO) Support Center for School-Based Clinics and the Robert Wood Johnson Foundation's School-Based Adolescent Health Care Program. Both programs are actively engaged in supporting and promoting the SLHC model of health care for adolescents. Data from other sources is extremely limited.

CPO, which surveys SLHCs annually, limits its research to SLHCs operating on school grounds (i.e.,

⁴⁶At least 39 new clinics opened during 1987 alone, when many communities received funding from the Robert Wood Johnson Foundation's national School-Based Adolescent Health Care Program.

**Box IS-C-The Ensley High School “Extra Help Services Clinic”:
A School-Linked Health Center in Birmingham, Alabama**

The Ensley High School school-linked health center--named in a vote by students as the “Extra Help Services Clinic”--in Birmingham, Alabama was established in 1987. The Jefferson County Department of Health established the center with financial support from the Robert Wood Johnson Foundation’s School-Based Adolescent Health Care Program.

A community advisory committee, composed of local clergy, legislators, school officials, parents, adolescents, and health officials, played a significant role in the health center’s planning and development and continues to monitor the health center’s performance. With input from discussions at several public forums and a planning survey of the school’s faculty, students, and their parents, the advisory committee determined the scope of the center’s services. The planning survey found that one out of three Ensley High School students had not seen a doctor in 2 or more years and that treatment for minor injuries and illness was most frequently requested by parents, closely followed by athletic and employment physicals, alcohol and drug abuse counseling, and treatment for sexually transmitted diseases. Although *the county* health department has final responsibility for the health center, the advisory committee also approves any changes in its procedures and services.

The Ensley High School health center provides physical exams; acute care; care for chronic conditions, such as diabetes and high blood pressure; immunizations; dental, vision, and hearing screening; lab tests; nutrition counseling, including an exercise and weight management program; reproductive health care, including pap smears, birth control education and referral, and treatment for sexually transmitted diseases; prenatal care and parenting education; individual, group, and family therapy; and vouchers for prescription drugs for those students who cannot afford them.

The Jefferson County Department of Health provides a number of services not available at the school health center, including contraception, specialized lab tests, surgery, and long-term mental health counseling. Although these services are provided off-site, the health center staff continue to manage cases referred outside the center and follow up students to ensure that all of them get the services to which they are referred.

In the 1988-89 school year, more than 70 percent of Ensley High School’s students were enrolled to receive the school health center’s services with their parents’ permission. Of the visits to the health center that year, 45 percent were for acute illness, 15 percent for psychosocial services, 9 percent for physical exams, 9 percent for reproductive health care, 4 percent for prenatal care, 3 percent for chronic conditions, and 2 percent for sexually transmitted disease treatment. More than half of the patient visits to the center last over 20 minutes. Supporters of the clinic emphasize that the compassionate care and personal attention provided by health center staff go beyond the services represented by the statistics. School faculty support has been especially important to the center’s success; faculty account for approximately 45 percent of referrals to the health center.

The Ensley High School health center is open Monday through Friday, 7:30 a.m. to 4:30 p.m., and is staffed by a full-time family nurse practitioner, registered nurse, and receptionist. A pediatrician, social worker, nutritionist, and mental health counselor are part-time staff.

SOURCE: Jefferson County Department of Health, “Witness to the Possible: Ensley High School Health Center,” Birmingham, AL, no date.

school-based clinics)⁴⁷ and appears to omit a number of the State programs (e.g., New Jersey and New York). In 1990, CPO reported that, in the 1988-89 school year, it surveyed 153 on-site SLHCs in 96 communities in 32 States (17).⁴⁸ Ninety-five schools responded. Most of the SLHCs surveyed by

CPO served senior high school students and are located in low-income neighborhoods of large cities.⁴⁹ CPO’s data suggest that a minimum of 233,600 U.S. adolescents, less than 1 percent of the country’s 31 million adolescents overall, have access to an on-site SLHC.⁵⁰ Although this estimate falls short of

⁴⁷CPO plans to broaden the scope of its survey to include off-site SLHCs in its future research; however, data from on-site and off-site SLHCs will be analyzed separately (296).

⁴⁸There are 35,786 middle, junior high, and senior high schools nationwide; the overwhelming majority of schools do *not* have an SLHC.

⁴⁹In 1988, only 15 of the 120 existing on-site SLHCs were in junior high or middle schools.

⁵⁰This number was calculated by multiplying the number of on-site SLHCs surveyed by CPO in 1988-89 (i.e., 153 times average enrollment of schools with surveyed SLHCs in 1988-89 (i.e., 1,527) (153 X 1,527 = 233,631).

Box 15-D—Adolescents' Perspectives on Their Need for a School-Linked Health Center

One way of assessing the *need* for school-linked health centers (SLHCs) is to ask adolescents whether they need and will use the services if implemented. Although many programs have conducted needs assessments as part of planning activities for the development of SLHCs, few programs have published their findings. One health needs assessment, which was conducted in a Rhode Island public high school in preparation for the opening of a school health clinic, found that the majority of students expressed a willingness to use the specified clinical services. In addition, students who acknowledged problems or behavior in defined areas, including depression, history of suicidal intention or attempt, obesity, and sexual activity (but not substance use), were significantly more interested in using relevant clinical services than students who did not report such concerns or behaviors (227).

The State of New Jersey Department of Human Services surveyed approximately 3,600 high school students to determine their knowledge about and frequency of use of established helping resources (237a). It found that although the majority of students could identify helping resources for problems with school, work, their families, health, sexually transmitted infections, finding a job, and depression, there were significant gaps between knowing about helping resources and actually using them. The largest gaps were for help with health services and personal problems. This survey also found that students were most likely to identify the school as a helping resource, regardless of the type of problem. In addition, the large majority of students who had actually sought help from the school were satisfied with the help they had received. Based on these findings, the State Department of Human Services recommended that New Jersey's School-Based Youth Services Program should provide both health information and staff to help students with personal problems (237a).

A study of SLHCs in New York City public schools found that 38 percent of interviewed students reported that they would not have sought help for a problem addressed by the SLHC if no clinic had existed (304).

SOURCE: Office of Technology Assessment, 1991.

the actual number, it is obvious that the overwhelming majority of U.S. adolescents do not have access to an SLHC.

Services Provided by SLHCs⁵¹—Data on the services provided by the on-site SLHCs surveyed by CPO are presented below. Although all SLHCs aim to provide a wide range of health care services, what they offer varies and depends largely on clinic resources, the particular needs of the community's adolescents, and local attitudes towards providing reproductive health services in a school-linked setting. Several surveys that have asked adolescents about their needs for a school health center are summarized in box 15-D.

Medical Services—In 1988-89, 90 percent or more of the on-site SLHCs surveyed by CPO provided general primary health care, assessment and referrals to community health care services, diagnosis and treatment of minor injuries, diagnosis and treatment of sexually transmitted diseases, general as well as sports and employment physical

examinations, laboratory and pregnancy tests, prescriptions for medication, and referrals for prenatal care (see table 15-9). A slightly smaller proportion (80 to 89 percent) of SLHCs also provided assessment referral to private physicians, chronic illness management, gynecological examinations, and immunizations. Services at junior high/middle schools and senior high schools are generally similar, although it appears that junior high/middle schools are less likely to provide referrals to community health care or private physicians.

Counseling/Educational Services—Common counseling/educational services include health and nutrition education, sexuality counseling, pregnancy counseling, mental health and psychosocial counseling, and weight reduction programs. Most SLHCs responding to the CPO survey provided all those services considered to be counseling or education (see table 15-10). The services least likely to be delivered were job counseling, parenting education, and drug/alcohol counseling. Less than half the

⁵¹Data presented here on the services provided by SLHCs are drawn from a 1988-89 survey of on-site SLHCs conducted by the Center for Population Options (CPO) (117). Ninety-five of the 153 on-site SLHCs known by CPO to be operating during the 1988-89 school year participated—a 62-percent response rate. The respondents represented 27 of the 32 States in which SLHCs were located and 56 of the 96 communities. Participating schools included senior high schools, junior high/middle schools, vocational schools, and schools going from kindergarten through grade 12 (117). The definition of the service categories (i.e., medical, counseling/education, and family planning) are CPO's.

Table 15-9—Percentages of On-Site School-Linked Health Centers Which Offer Medical Services, by Type of School, 1988-89a

Medical service	Type of School		
	Senior high (n= 76)	Junior high/middle (n= 11)	All schools (N= 95)
Diagnosis/treatment of minor injuries.	99%	100%	98%
General primary health care.	97	100	97
laboratory tests	97	100	97
Physical exams for sports/work	97	100	97
General physicals	96	100	96
Pregnancy tests	93	91	93
Prescribe medication	92	100	92
Referral for prenatal care.	91	100	91
Assessment/referral to community health care.	93	55	90
Diagnosis/treatment of sexually transmitted diseases	92	82	90
Gynecological exams	90	91	88
Chronic illness management	87	100	87
Immunizations	90	100	87
Assessment/referral to private physician.	90	55	85
Dispense medication	72	82	74
EPSDT screening	49	55	48
Pediatric care for infants of adolescents	38	18	38
Prenatal care (on-site)	38	18	36
Dental services	28	55	31

^aData presented in this table are drawn from a 1990 survey conducted by the Center for Population Options (CPO). Ninety-five of the 153 on-site SLHCs (i.e., school-based clinics) known by CPO to be operating during the 1988-89 school year participated—a 62-percent response rate. The respondents represented 27 of the 32 States in which SLHCs were located and 56 of the 96 communities. Participating schools included senior high schools, junior high/middle schools, vocational schools, and schools going from kindergarten through grade 12.

^bEPSDT is Medicaid's Early and Periodic Screening, Diagnosis, and Treatment program.

SOURCE: H.J.Hyche-Williams and C. Waszak, "School-Based Clinics: Update 1990" (Washington, DC: Center for Population Options, 1990).

Table 15-10-Percentages of On-Site School-Linked Health Centers Which Offer Counseling and Educational Services, by Type of School, 1988-89^a

Counseling/educational service	Type of school		
	Senior high (n= 76)	Junior high/middle (n= 11)	All Schools (N= 95)
Health education	100%	100%	100%
Nutrition education	100	100	99
Sexuality counseling	97	91	96
Pregnancy counseling	92	91	91
Mental health and psychosocial counseling	91	82	91
Weight reduction programs	91	82	90
Sex education in classroom setting	87	73	85
Family counseling with students and parents	83	73	82
Drug and substance abuse programs,	63	73	66
Parenting education,	65	46	62
Job counseling	32	9	30

^aData presented in this table are drawn from a 1990 survey conducted by the Center for population Options (CPO). Ninety-five of the 153 on-site SLHCs (i.e., school-based clinics) known by CPO to be operating during the 1988-89 school year participated—a 62-percent response rate. The respondents represented 27 of the 32 States in which SLHCs were located and 56 of the 96 communities. Participating schools included senior high schools, junior high/middle schools, vocational schools, and schools going from kindergarten through grade 12.

SOURCE: H.J.Hyche-Williams and C. Waszak, "School-Based Clinics: Update 1990" (Washington, DC: Center for Population Options, 1990).

surveyed SLHCs provided a structured HIV prevention program in the classroom or on-site clinic (1 17).

Family Planning Services—Almost all on-site SLHCs surveyed by CPO provided counseling on birth control methods in 1988-89, although 3 of 11 responding junior high/middle schools did not (see

table 15-1 1). Other common services include examinations, followup, and referrals for birth control methods. In 1988-89, 21 percent of surveyed SLHCs dispensed contraceptives, a decline from 28 percent in 1985-86. More than half (54 percent) of the surveyed SLHCs provided written prescriptions for birth control methods.

Table 15-1 I—Percentages of On-Site School-Linked Health Centers Which Offer Family Planning Services, by Type of School, 1988-89^a

Family planning service	Type of school		
	Senior high (n= 76)	Junior high/middle (n= 11)	All schools (N= 95)
Counseling on birth control methods	97%	73%	94%
Followup for birth control methods	80	55	78
Referrals for birth control methods and exam	72	46	71
Examinations for birth control methods	72	55	70
Writing prescriptions for birth control methods	55	55	54
Dispensing birth control methods	20	27	21

^aData presented in this table are drawn from a 1990 survey conducted by the Center for Population Options (CPO). Ninety-five of the 153 On-Site SLHCs (i.e., school-based clinics) known by CPO to be operating during the 1988-89 school year participated—a 62-percent response rate. The respondents represented 270 of the 32 States in which SLHCs were located and 58 of the 96 communities. Participating schools included senior high schools, junior high/middle schools, vocational schools, and schools going from kindergarten through grade 12.

SOURCE: H.J. Hyche-Williams and C. Waszak, "School-Based Clinics: Update 1990" (Washington, DC: Center for Population Options, 1990).

Sponsoring Agencies and Administrative Arrangements of SLHCs—The majority of SLHCs maintain organizational and administrative independence from their school system, although an increasing number are administered by community school districts (143). The designers of the first SLHCs intended that the centers remain fiscally and administratively independent of the schools that housed them in order to ensure patient confidentiality and encourage students' trust in clinic staff. In the 1985-86 school year, only 4 percent of the on-site SLHCs surveyed by CPO were sponsored by school districts; by 1988-89, 19 percent of them were administered by school districts (17,143). Some SLHCs report that school district sponsorship works well because it facilitates integration of school health services and eliminates a level of bureaucracy (55). According to CPO, SLHCs that are not sponsored by school districts are most commonly sponsored by public health departments (33 percent in 1988-89), community clinics (18 percent), and hospitals (18 percent) (17). Twelve percent of school-based SLHCs were sponsored by other entities. Many agencies operate more than one SLHC site.

In 1988-89, 91 percent of the SLHCs participating in the CPO survey were located inside a main school building serving an average enrollment of 1,527 students (with a range of 315 to 10,000) (17). More than half were open during the summer and almost one-quarter were open on holidays. Ninety percent were open either before or after regular school hours.

Staffing of SLHCs—SLHCs are usually staffed by nurse practitioners, physician assistants, and physicians to provide the majority of clinical care, and counselors or social workers to address mental health, substance use, and family issues (142,167). The training of physicians who staff SLHCs is more likely to be pediatrics than obstetrics and gynecology (184). Other specialized personnel include dental hygienists, nutritionists, dentists, and psychologists (184).

Most SLHCs try to employ staff with special expertise in adolescent health care. Although bilingual or bicultural staff may more effectively meet the needs of minority adolescents, and some funding agencies have made a special effort to hire them for SLHCs (28), as a general matter their numbers and availability are seriously limited (184).⁵²

Eighty-two percent of the on-site SLHCs responding to CPO's survey employ a school nurse (17). In 44 percent of these schools, the school nurse is part of the clinic staff, performing such functions as delivering direct services, providing case management, participating in clinic staff meetings and case conferences, and serving on clinic advisory boards. In the majority of schools, however, the school nurse operates independently of the school clinic although she may refer students to the SLHC for further care (117).

Demographics and Utilization of SLHCs—It is well-documented that many adolescents in schools that have SLHCs use the centers and that a large proportion of adolescents in schools with an SLHC

⁵²See ch. 18, "Issues in the Delivery of Services to Selected Groups of Adolescents," in this volume for a discussion of the special health care needs of minority adolescents.

either have no other regular source of care or rely on a local emergency room for their medical care (156,168,184).⁵³ Nationwide, the average SLHC serves 59 students and has 183 visits per month, according to CPO (143). In 1987-88, almost half (48 percent) of the students who were eligible to use the services of on-site SLHCs surveyed by CPO enrolled to receive the center's services (143). Eighty percent of enrolled students used the centers' services at least once during the school year (143).

Schools with SLHCs are typically located in low-income communities where access to health care is limited and lack of health insurance is common. Overall, approximately 55 percent of students enrolled in SLHCs surveyed by CPO had no other source of primary health care during 1988; in some programs this was true for almost 100 percent of clinic enrollees (168). Thirty-four percent of enrolled students were uninsured in 1988, more than twice the 15 percent national rate of adolescents without health insurance, according to CPO (150, 168).⁵⁴ Another indicator of the poverty of the communities in which the SLHCs surveyed by CPO are located is that 30 percent of enrolled students in 1988 had Medicaid coverage—three times the national average of adolescents with Medicaid coverage (150, 168). In 1988, only 36 percent of students enrolled in an SLHC had private health insurance (168).

The health needs of middle-class adolescents suggest the potential value of SLHCs in less impoverished areas (175,184). One study of middle-class adolescents residing in a suburban area found that almost half had unmet health needs that could be met by an SLHC or similar facility (175).

Although some schools with SLHCs serve predominantly white students, the large majority of students who currently use SLHCs are black or Hispanic (see table 15-12).⁵⁵ Some SLHCs have been relatively successful in attracting male stu-

Table 15-12—Race and Ethnicity of Students Using On-Site School-Linked Health Centers, 1987-88^a

Race and ethnicity	Percentage of school population enrolled in clinic (N= 130)
Black	59%
White	25%
Hispanic	12%
Other	4%

^aData presented in this table are drawn from a survey of on-site SLHCs (i.e., school-based clinics) conducted by the Center for Population Options (CPO).

SOURCE: D. Kirby, C. Waszak, and J. Ziegler, "Assessment of Six School-Based Clinics: Services, Impact, Potential" (Washington, DC: Center for Population Options, 1989).

dents; in 1988-89, 44 percent of SLHC patients in schools surveyed by CPO were male (17). One study found that SLHCs were more successful at attracting males than neighborhood or hospital-based clinics (84). Centers that offer and promote sports physicals are reported to be particularly successful in attracting male students (184).

Why Adolescents Use SLHCs--On average, 46 percent of visits to Robert Wood Johnson Foundation SLHCs lasted more than 20 minutes in the 1988-89 school year (156). The primary diagnoses of adolescents who visited 23 SLHCs sponsored by the Robert Wood Johnson Foundation in the 1988-89 and 1989-90 school years are detailed in table 15-13.⁵⁷ More than 80 percent of visits were for return patients. The leading primary diagnoses were acute illness or injury (26 percent), mental health problems (21 percent), and physical exams and other preventive services such as immunizations and vision and hearing testing (24 percent).⁵⁸ Reproductive health care accounted for 12 percent. Anecdotal reports from a variety of SLHC staff indicate a high prevalence of depression, sexual abuse, and parental drug use (184).

Mental health problems are often discovered in visits by adolescents visiting the health center for

⁵³An emergency room is the most costly site for acute care and is only appropriate for serious emergencies. Emergency rooms do not provide preventive medical care, health education, or ongoing support for emotional and psychological problems and other chronic conditions.

⁵⁴See ch. 16, "Financial Access to Health Services," in this volume for further details on health insurance, Medicaid, and financial barriers to care.

⁵⁵The Robert Wood Johnson Foundation found that racial and ethnic minority students accounted for more than three-quarters of the visits to the 23 SLHCs it supports (156).

⁵⁶Most clinics serve only their student population, but some are also open to dropouts (16 percent), children of students (16 percent), other family members of students (11 percent), and adolescents in the broader community (143).

⁵⁷In Vol. II, see ch. 5, "Accidental Injuries: Prevention and Services," for a description of adolescents' accidental injuries, ch. 6, "Chronic Physical Illnesses: Prevention and Services," for a review of physical problems among adolescents, and ch. 11, "Mental Health Problems: Prevention and Services," for details on adolescent mental health problems.

⁵⁸These diagnoses represent the principal reason for the visit and do not reflect other services that may have been provided.

Table 15-13-Principal Reason for Clinic Visits to 23 School-Linked Health Centers Funded by the Robert Wood Johnson Foundation, 1988-89 and 1989-90

Principal reason	Percentage of visits	
	1988-89 ^a	1989-90 ^b
Acute illness/accidents	25% ⁰	26%
Mental health related	20	21
Other, including immunizations, vision, and hearing testing	13	12
Reproductive health	13	12
Physical examinations	12	12
Chronic disease management	5	4
Acne, other dermatology	4	4
Nutrition, including eating disorders	3	3
Dental	<1	1
Drug and alcohol abuse	Cl	1

^aThere were 49,377 total visits in the 1988-89 school year.

^bThere were 58,148 total visits in the 1989-90 school year.

SOURCE: J. Lear, Co-Director, School-Based Adolescent Health Care Program, Robert Wood Johnson Foundation, Washington, DC, unpublished data on student utilization of SLHCs, October 1990.

some other complaint (184). While drug and alcohol counseling are available at many SLHCs, the number of visits to the Robert Wood Johnson Foundation sites for substance abuse problems was negligible.

Financing Issues for SLHCs—Financing is a critical determinant of SLHCs' hours of operation, scope of services, and long-term viability. Current programs owe much of their existence to private foundation support. Recently, some State and local health departments, as well as school districts themselves, have begun to provide substantial financial support to local SLHCs. There is evidence that some programs have been able to receive Medicaid and private health insurance reimbursement for their eligible students, although the level of third-party revenues supporting SLHCs appears to be minimal.

Costs and Sources of Funding—The average operating budget for the on-site SLHCs surveyed by CPO was \$143,827 in 1988-89 (1 17). In 1987-88, SLHC budgets ranged from \$100,000 to \$313,000, depending largely on clinic hours (143). It has been estimated that SLHCs cost between \$50 and \$150 per student per year (184). One study found that the average cost of a routine physical examination at a SLHC was considerably less than the cost of one performed in a private physician office in the same

community: \$11.25 v. \$45 (25 1). Considering the lost wages of parents who may accompany their children for the visit to a private physician increases the difference even further.

SLHCs are funded by a variety of public and private sources (e.g., see table 15-14). Most of the on-site SLHCs responding to CPO's survey are subsidized by at least two sources; more than half have three sources or more (143). In fact, program staff must often devote significant time to securing financial support, making fundraising itself a costly program activity (1 84). Foundation grants, although time-limited, have been key to the startup, development, and growth of SLHCs. Foundations typically provide seed moneys for startup with the expectation and intention that the successful project will garner more stable and long-term resources (87). As shown in table 15-14, 26 percent of the 1988-89 operating budgets of 79 SLHCs surveyed by CPO was derived from foundation grants; the percentage was lower than it had been in previous years, when foundation support accounted for as much as 41 percent of SLHC budgets (55,56). A significant percentage of foundation support for SLHCs comes from the Robert Wood Johnson Foundation's School-Based Adolescent Health Care Program, whose funding will end in 1993. It is not clear whether other moneys will be available to compensate. Continued changes in funding may create problems for SLHCs, because changes in grants sometimes necessitate changes in program content that are disruptive to program operations and confusing to students.

While the share of SLHC funding from foundations has been declining in recent years, the share of State funding of SLHCs has recently increased dramatically (see table 15-14). The increased share of State funding reflects a number of State initiatives supporting SLHCs (see box 15-E). In 1985-86, State health departments contributed 16 percent of funds for the operating budgets of SLHCs surveyed by CPO and city/county governments contributed virtually nothing; in 1988-89, State health departments contributed 28 percent of funds for surveyed SLHCs' operating budgets and city/county governments contributed 19 percent (55,1 17).⁵⁹ School systems often provide in-kind contributions of space, utili-

⁵⁹Community health centers provide health services to residents of low-income and rural communities or neighborhoods which have been designated medically underserved areas (87). The centers provide primary health services, including preventive, medical, dental, and mental health services. Public or private nonprofit organizations may receive grants to establish a community health center. A network of SLHCs has been established by a community health center in at least one State (87).

Table 15-14--Funding Sources for On-Site School-Linked Health Centers Responding to the Center for Population Options' Surveys, 1985-86 to 1988-89¹

Funding source	Percentage of total operating budget			
	1985-86 (N= 61)	1986-87 (N= 45)	1987-86 (N= 92)	1988-89 (N= 79)
<i>Public sources</i>				
Maternal and child health block grants ^b	27%.	14%	16%	11 % ^b
EPSDT ^c	14	2	2	2
Other Medicaid.....	—	2	2	3
Title X ^d	3	NA	0.4	—
Title Axe.....	2	1	—	<1
School district.....	—	—	3	2
Community health center.....	2	NA	6	4
State health department.....	16	19	19	28
City/county.....	—	19	16	19
Other public.....	—	—	2	NA
Total public support.....	64%	57%	66.4%	70%
<i>Private sources</i>				
Foundation grants.....	31%	41%	31%	26%
Private health insurance.....	—	0.1	0.1	2
Patient fees.....	2	0.4	0.3	<1
Other private ^e	3	2	2	NA
Total private support.....	36%	43.5%	33.4%	29%
<i>Total funding</i>				
Estimated total funding (all centers).....	NA	\$9,200,000	NA	\$11,362,000
Average operating budget.....	NA	\$ 120,991	NA	\$ 143,827
Range in operating budget.....	NA	\$10,000 to \$414,900	NA	NA

NA = Not available.

^aData presented in twistable are drawn from surveys of on-site SLHCs (i.e., school-based clinics) conducted by the Center for Population Options (CPO).

^bMaternal and child health block grants, authorized by Title V of the Social Security Act, are intended to reduce infant mortality, reduce the incidence of preventable disease and handicapping conditions among children, and increase the availability of prenatal, delivery and postpartum care to low-income mothers. In fiscal year 1988, the U.S. Department of Health and Human Services' Bureau of Maternal and Child Health distributed \$444.3 million to States as maternal and child health block grants. Twenty-three centers received a portion of this funding in grants ranging from \$8,260 to \$135,727, and totaling more than \$1.3 million. Similar data for earlier years are not available.

^cEPSDT is Medicaid's Early and Periodic Screening, Diagnosis, and Treatment program.

^dTitle X of the Public Health Service Act is a Federal program administered by the U.S. Department of Health and Human Services. It provides Federal funds for public or private nonprofit entities that offer family planning services. The fiscal year 1990 appropriation was \$141 million.

^eTitle XX of the Public Health Service Act is a Federal program administered by the U.S. Department of Health and Human Services. It provides Federal funds for demonstration projects to encourage adolescents to postpone sexual activity and demonstration projects that provide comprehensive health and social services for pregnant or parenting adolescents. Annual authorizations were \$9.5 million through 1992.

^fThis includes donations from private corporations and nonprofit organizations.

SOURCE: 1985-86 and 1987-88 data: Center for Population Options, "SBCs: Update 1989," *Clinic News* 5 (4):7, Washington, DC, 1989.

1986-87 data: S. Lovick and R. Stern, "School-Based Clinics: 1988 Update" (Washington, DC: Center for Population Options, 1988).

1988-89 data: H. Hyche-Williams and C. Waszak, "School-Based Clinics: Update 1990" (Washington, DC: Center for Population Options, 1990).

ties, and maintenance, but they seldom have sufficient financial resources to provide substantial fiscal support. In 1988-89, local school districts provided 2 percent of the operating budgets of SLHCs surveyed by CPO (1 17).

As local funding and the number of SLHCs have increased, the relative share of Federal support has

decreased (see table 15-14).⁶⁰ In the 1988-89 school year, 11 percent of SLHCs' operating budgets were supported by Federal maternal and child health block grants, a drop from 27 percent in 1985-86.⁶¹ The 1988-89 share of Federal support provided by Medicaid's Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program, other Med-

⁶⁰Available data make it difficult to determine whether the overall level of Federal funding has changed. The majority of Federal dollars for SLHCs has come through maternal and child health block grants. Complete data on how these block grants are allocated is not available.

⁶¹ Twenty-three of eighty-one SLHCs responding to a 1989 CPO survey reported receiving maternal and child health block grant funds that year: these ranged from \$8,260 to \$135,727 and totaled \$1,338,419 (2%).

⁶²Federal maternal and child health block grants were consolidated under Title V of the Social Security Act in 1981 and can be used to provide services to a wider range of individuals than Medicaid because of more generous eligibility rules (87). Another advantage of maternal and child health grants is that SLHCs can use existing Title V personnel in public health departments as staff if the health department is willing to use the SLHC as one of its sites (87).

Box 15-E—State Initiatives in School-Linked Health Care

A number of States have implemented initiatives in comprehensive school-linked health care. Although privately funded school-linked health centers (SLHCs) have existed for some time, State efforts to authorize and appropriate funds for SLHCs are fairly recent. At least nine States, five of which are described below, have begun to establish programs or demonstration projects in school-linked health care.¹

New Jersey

In 1987, the New Jersey State Department of Health Services provided 29 grants to public and nonprofit organizations to establish SLHCs in local communities as part of its School-Based Youth Services Program (SBYSP). Funding for New Jersey's SBYSP comes from a \$6.5-million set-aside in the State budget. Grants of \$250,000 are awarded to school districts that formulate plans for SLHCs. Participating communities must be willing to provide 25 percent of the cost incurred by the center either through direct funding or the use of community facilities (270). The SBYSP requires that the SLHCs offer certain core services, including job training and employment services, health screening and referrals, and mental health and family counseling services. Depending on the community's needs, some centers provide additional services, such as programs for adolescent dropouts, classes in parenting skills for adolescent parents, child care, transportation, nutrition counseling, and a 24-hour crisis hotline. The SBYSP emphasizes coordination among parents, communities, and schools in the provision of adolescent health-related services (270). In addition, the program encourages the involvement of students in assessing the needs of adolescents, in order to help identify and address the many problems facing adolescents (63).

Kentucky

Kentucky's initiative in SLHCs is modeled on New Jersey's approach of providing comprehensive services. Kentucky established a task force in 1990 to determine the specific guidelines for their \$9.5-million program to fund 125 to 150 youth and family resource centers. State officials plan to implement the program in July 1991. Only school districts in which at least 20 percent of the student body is eligible for the Federal School Lunch Program can participate. Each eligible district will receive between \$30,000 to \$90,000 to establish a center and may subcontract with outside organizations (90).

Iowa

Iowa began a pilot demonstration in September 1990 that established four SLHCs, which are also modeled after New Jersey's SBYSP. Iowa's program, established by State legislation, is funded entirely by private foundations and is coordinated by the Child and Family Policy Center, a nonprofit organization. The State may consider legislation that authorizes funding for the SLHCs, after evaluating the current program (37).

Florida

In Florida, the State Department of Health and Rehabilitative Services and State Department of Education are jointly coordinating a program designed to supplement current school health services. Initial funding for the program is \$2.9 million for fiscal year 1991 and \$9.6 million per annum thereafter. Florida's program offers grants to local school districts and county public health organizations to develop programs based on one of the following four models: a *school health improvement project* which provides expanded health screening services and coordinates health services with parents and the community; *student support services teams* consisting of a psychologist, social worker, and nurse to provide mental health services, alcohol and drug abuse counseling, care for sexually transmitted diseases, and pregnancy consultation to serve the local elementary, middle, and high schools; fill-service schools program that will allow the State Department of Human Services to provide health, economic, and social services to both adolescents and parents on school grounds; and *locally designed programs that are* designed to meet the specific needs of a community (94).

New York

New York State's Department of Health in cooperation with the State Departments of Education and Social Services, has conducted School Health Demonstration programs since 1982 and currently funds 115 elementary, middle, and high school clinics (81). The program targets low-income and high-risk youth and provides primary care, preventive care, and health education for students and parents (304). The Departments of Education and Social Services also fund a Community Schools Project at 10 demonstration schools. These schools are required to be open at night, weekends, and during the summer, and offer a broad range of social, medical, recreational, and other human services (81).

¹The nine States are New Jersey, Kentucky, Iowa, Florida, New York, Connecticut, Illinois, Michigan, and Oregon.

icaid funds, Title X of the Public Health Service Act, and Title XX of the Public Health Service Act was 6 percent, a drop from 19 percent in 1985-86.^{63 64}

Medicaid and Private Health Insurance—To date, reimbursement from Medicaid or private health insurers has played a very limited role in the financing of SLHCs. In fact, five States (Arkansas, the District of Columbia, Florida, Utah, and Wisconsin) explicitly prohibit Medicaid reimbursement for physician services provided in school settings (178). At least one State (Colorado) has a Physician-On-Site Rule, which requires that a physician be on the premises at the time a service is provided for it to be eligible for Medicaid reimbursement (273). Such regulations preclude Medicaid coverage of most SLHC services because SLHCs typically rely on nonphysician providers (with part-time physician supervision) to minimize cost.

Half of the SLHCs surveyed by Palfrey et al. reported efforts to collect Medicaid payments in 1990 and one-third tried to collect private insurance (21 1). But CPO reported that Medicaid and private health insurance together covered only approximately 7 percent of the 1988-89 costs of SLHCs that it surveyed (1 17). There is no information available on how well Medicaid or private health insurance payments reimburse the actual cost of covered services (including the administrative costs related to billing).

The principal obstacles to collecting third-party revenues cited by SLHCs are that students do not know their family's insurance status, costs and paperwork are involved in billing Medicaid and private insurance, payment for services is sometimes refused by third parties, and providers are concerned about breaching confidentiality (87,211). Furthermore, many students in schools with health centers are not eligible for third-party coverage because they are uninsured (143,156,184).⁶⁵ Many low-income

students with private health insurance coverage belong to HMOs, which by design usually refuse coverage for nonemergency services provided outside the health plan (21 1,273).

Many SLHC programs cite significant administrative obstacles in trying to become Medicaid providers (21 1). Palfrey's survey found that SLHCs operated by community agencies with billing expertise are the most likely to try to collect Medicaid and private insurance reimbursement (211). Several of the surveyed centers had a Medicaid eligibility worker on-site to facilitate eligibility (especially for pregnant students) (211). School-sponsored centers responding to Palfrey's survey did not bill Medicaid or private health insurance at all, perhaps because they lacked the necessary administrative systems and experience (21 1).

It is not clear how much incentive grant-supported SLHCs have had to pursue third-party financing; only half of centers surveyed by Palfrey (52 percent) even attempted to identify their students' Medicaid status in 1990 (21 1). The Denver school-based clinics studied the implications of billing third parties and found that it would cost more to bill for services than would be captured through available third-party sources (273). Some adolescents are particularly sensitive to questions asked about eligibility for health coverage and may turn away from available services rather than respond (101). And, there may be reason to question the wisdom of relying on third-party payment in a model of adolescent health care designed with several critical goals in mind: easy access, an atmosphere of trust and confidentiality, and low administrative overhead (101 ,21 1). Third-party billing could undermine these goals.^{66 67}

Parental and Community Attitudes Toward SLHCs--Nearly 90 percent of SLHCs responding to CPO's survey in 1990 required parental consent

⁶³Title X of the Public Health Service Act was established by the Family Planning Services and Population Research Act of 1978. Title X provides Federal funds for public or private nonprofit entities that offer family planning services. The Title X program is administered by the U.S. Department of Health and Human Services. The Title X family planning clinics are required to serve adolescents (87). For further discussion, see ch. 10, "Pregnancy and Parenting: Prevention and Services," in Vol. II.

⁶⁴Title XX of the Public Health Service Act was established by the Adolescent Family Life Act of 1981. Title XX provides Federal funds for demonstration projects to encourage adolescents to postpone sexual activity and demonstration projects to provide comprehensive services for pregnant and parenting adolescents. For further discussion see ch. 10, "Pregnancy and Parenting: Prevention and Services," in Vol. II.

⁶⁵See ch. 16, "Financial Access to Health Services," in this volume for further discussion of adolescents without Medicaid or private health insurance.

⁶⁶For example, some State Medicaid programs send each Medicaid recipient family a monthly itemized list of the services that family members have received (87). Most private insurers send subscribers an explanation of benefits for every reimbursed service.

⁶⁷See ch. 16, "Financial Access to Health Services," and ch. 17, "Consent and Confidentiality in Adolescent Health Care Decisionmaking," in this volume.

before students could use their services (17), although many surveyed clinics offered emergency services (57 percent), family planning (43 percent), and treatment for sexually transmitted diseases (47 percent) without parental consent if the law permits (117). Overall about half of parents gave permission for their adolescents to receive services from SLHCs responding to the CPO survey in 1987-88 (168); schools whose centers have been established for at least 1 year tend to have higher enrollment rates (56).

The issue that has engendered the most intense parental and community concern about SLHCs is how the centers manage issues of sexuality and reproductive health. A great deal of media attention has been directed towards SLHCs because of their family planning services (81). Considerable controversy has occurred in some communities during the planning and early implementation phases of SLHCs, and experience shows that successful SLHCs closely involve community representatives (184). Most SLHCs have advisory boards that include parents, members from local health departments, private sector physicians, church organizations, and youth service organizations (184).

Opposition to the establishment of local SLHCs usually focuses on pregnancy prevention activities and the fears that such activities will lead to increased sexual activity among students. The National Conference of Catholic Bishops, for example, is opposed to SLHCs that distribute contraception or provide abortion services on the grounds that such SLHCs are both: 1) “morally objectionable” because, in the view of the Bishops, they encourage premarital sex, and 2) “open to question even on practical [i.e., effectiveness] grounds” (193). However, the National Conference statement on SLHCs recognized that the basic health care needs of young people are not being adequately addressed and suggested that SLHCs “that clearly separate themselves from the agenda of contraceptive advocates may provide part of an effective response to the health needs of young people” (193).⁶⁸

Concern that SLHCs have the effect of increasing sexual activity or abortions among adolescents is not borne out by existing research (131,143,194,316). More research has been conducted on the issue of whether the presence of SLHCs increases sexual activity rates among adolescents than on whether abortions are encouraged (e.g., 143,316).

Physician Attitudes Toward SLHCs—Organizations of health care professionals can have considerable impact on any attempts to modify existing health care delivery systems; thus, the attitudes of physicians and other health care professionals toward SLHCs may be important. OTA is aware of six published sources of information about health care professionals’ attitudes toward SLHCs. These include a survey of pediatricians (8) and the positions of five physician groups (7,8,17,21,259).

Pediatricians appear divided in their attitudes towards SLHCs. In 1987, the American Academy of Pediatrics included questions about SLHCs in its national survey of a random sample of its membership and found that pediatricians’ opinions were roughly equally divided between those supporting the concept, those who were neutral, and those expressing negative attitudes (8). Those holding negative opinions cited concerns over disruption of continuity of care, lack of cost-effectiveness relative to office-based care, duplication of existing services, and inappropriateness for adolescents with other sources of health care. Nonetheless, almost 60 percent of the surveyed pediatricians believed that SLHCs should dispense contraceptives to adolescents, and slightly more than half thought that parental consent should not be required for dispensing contraceptives. Overall, the survey found that pediatricians specializing in adolescent medicine and pediatricians who did not provide direct patient care held more positive attitudes towards SLHCs than did other pediatricians (8). What proportion of the pediatricians participating in the survey actually practiced in communities with an

⁶⁸A systematic effort that attempted to obtain informed citizen opinion on the issue of SLHCs was conducted by the Jefferson Center for New Democratic Processes at the request of the State of Minnesota Senate Health and Human Services Committee (126). The Jefferson Center convened eight groups at the local level, representatives of which went on to debate at the statewide level. All groups were presented with testimony from opponents and proponents of SLHCs. Of the eight local groups, one voted in opposition to clinics, three voted for alternatives, and four voted in favor. Individuals at the local level were more likely to be split on the issue of SLHCs, however, with 43 percent supporting clinics, 7 percent opposing, and 50 percent supporting alternatives. However, when citizens were selected to go to the statewide meeting, they were selected to be representative of opposing views. Thus, it is not surprising that citizens participating at the State level voted 13 to 11 to favor SLHCs at a modest level (i.e., in support of SLHCs that did not distribute contraceptives or provide abortion counseling), with 11 members opposing any introduction of SLHCs (126). However, this decision should be considered cautiously, because, from the outset, citizens were asked to consider the usefulness of SLHCs in preventing “teen pregnancy, AIDS, and other sexually transmitted diseases (126), not as a means of providing basic health services to adolescents.

SLHC or had had personal experience with an SLHC is not clear.

Community physicians are commonly thought to oppose SLHCs because the clinics are viewed as competitors for patients (259). In fact, however, community physicians may not lose patient visits to SLHCs; there is some evidence that many adolescents are unwilling to visit their private physician for concerns about sexuality, substance abuse, or emotional upset and also would not be willing to seek care for these problems with their parents' knowledge (175). In addition, most SLHCs established to date have been located in medically underserved communities, and many of the adolescents who use SLHCs lack private health insurance or Medicaid coverage (143,156,184). Also, SLHC health screening may identify patients with health problems that require referral to a physician for more detailed assessment or continuing management (203). Most surveyed SLHCs refer students to community health care (90 percent) and to private physicians (85 percent) for further care (117). Findings from one evaluation of a school health demonstration project suggest that nurse practitioners working within SLHCs can establish successful referral relationships with community physicians (180,203).

Five physician groups have published positions relative to SLHCs: the American Academy of Family Physicians, the American Medical Association (AMA), The Society for Adolescent Medicine (SAM), the American Academy of Pediatrics (AAP), and the American College of Obstetricians and Gynecologists. In general, these positions can be characterized as partially supportive of SLHCs but more supportive of providing access to care through an individual office-based physician, who is seen as better able to provide continuous, comprehensive care.

The American Academy of Family Physicians "supports the *selective* implementation of school-based health clinic programs only in areas where the health care needs of the school age population are not being met' and urges that all clinics be staffed by family physicians (7). The academy also notes, however, that because of issues of confidentiality, consent, and compliance, adolescents may derive special benefits from access to care through school-based health clinics.

In 1987, the AMA adopted a resolution to study the efficacy of school-based health clinics, and its

Council on Scientific Affairs later reported that school-based health programs "constitute a promising avenue for providing health services to adolescents, particularly in medically underserved areas" and "such programs hold sufficient promise to warrant careful evaluation' (22). Still, the association believes that ideally every child should have a "medical home" for continuing and comprehensive health care provided by a private physician, but recognizes that alternatives need to be explored when this is not possible.

In a statement similar to those of the American Academy of Family Physicians and the AMA, the AAP supported the selective implementation of SLHCs "in areas where the health care needs of the school-age population are not being met" (8). Much as the AMA did, the AAP preferred providing access to high quality health care services in a " 'medical home' where care could be provided in a continuous and comprehensive fashion' (8). In this respect, the AAP noted that there are "limits to the scope of services provided by [SLHCs] and that "questions regarding the efficacy of [SLHCs] remain unresolved" (8).

The AAP also believes SLHC services should be supervised by a physician, but according to the AAP, pediatricians are preferred as supervisors of SLHC services. Interestingly, the AAP endorsed the extension of SLHC services to preadolescent children, because 'the roots of adolescent health problems are found in increasingly younger school-aged children" (8).

The American College of Obstetricians and Gynecologists does not have a policy statement on SLHCs per se, but, in 1987, it endorsed the development of "programs, including those located in schools, to provide reproductive health services in areas where such services are not available to adolescents and where they have the support and input of parents and communities' (17).

SAM endorses SLHCs as a model of care with the potential to address the unmet health needs of adolescents and acknowledges the need for evaluation of the effectiveness of SLHC programs (259).

Evaluations of SLHCs--What is a successful outcome for a SLHC? Measuring success is not easy given the wide range of ambitious goals often hoped for by advocates of SLHCs, which include improving adolescents' access to a broad range of needed

health care services; preventing pregnancy and sexually transmitted diseases among adolescents; reducing or eliminating substance abuse among adolescents; and reducing violence, chronic school absenteeism, academic failure, and school dropout among adolescents. In general, systematic evidence of the ability of SLHCs to improve *health outcomes* is not available, although this lack of information is not unique to SLHCs.⁶⁹

Only two fairly rigorous evaluations of SLHCs have been conducted (143,316). The first was conducted to evaluate the impact on adolescent pregnancy of an SLHC in Baltimore, Maryland (316).⁷⁰ This evaluation, by Zabin et al., demonstrated a 30-percent drop in the pregnancy rate at the end of 3 years for sexually active adolescent females in the schools involved in the program; during the same time period, conceptions among adolescent females in the comparison schools increased 57 percent. Males and females at the schools that received classroom-based sex education and that were linked to the clinic demonstrated significant gains in sexual and contraceptive knowledge in comparison with a matched sample of students from similar urban Baltimore schools. Zabin et al. found that the SLHC was able to get participation among the male adolescents in the schools, particularly in informal group discussions and individual meetings with social workers who provided information on and distributed contraceptive devices (315). Another finding was that students exposed to the SLHC program increased their use of contraceptives and were more likely than students in comparison schools to visit the clinic for contraceptive counseling before initiating intercourse or in the first few months after initiating sexual activity. These results were strongest for those students who were exposed to the program for 2 years or more. The success of the program in terms of pregnancy prevention was attributed largely to the program's intensive focus on this goal. In addition, even though the SLHC was not on school grounds, it was nearby, and clinic staff worked with the schools, providing health educa-

tion. The fact that the clinic was off-campus, and thus operated after school hours, was thought by some to be an advantage.

The second fairly rigorous evaluation of SLHCs is a CPO evaluation of six on-site SLHCs by Kirby, Waszak, and Ziegler (143). In comparison to early evaluations of SLHCs, which focused on the outcomes of delaying sexual activity and pregnancy, this evaluation compared a range of health outcomes for students in schools having SLHCs physically located in the schools with health outcomes for students in sociodemographically similar comparison schools in the same communities (four schools) or with baseline data (two schools). It is important to note that, for the most part, the Kirby et al. study assessed outcomes for the entire student body in both SLHC and non-SLHC schools, not just for clinic users. Although this approach was methodologically necessary in this case,⁷¹ and fair in the sense that SLHCs are intended to affect the health of the entire student body, it does place a large burden on the SLHC schools in terms of demonstrating effectiveness. Other methodological approaches taken in this study that could have affected the outcome measures were basing almost all of the health outcome data on student self-reports, and using samples that, although quite large, were not sufficiently large to detect small changes or changes in infrequently occurring outcomes such as pregnancy.

In general, Kirby et al. found, the SLHC schools varied considerably in the extent to which they had an impact on sexual activity, contraceptive use, and the other risk-taking behaviors that were assessed (school absenteeism, alcohol consumption, and smoking) (143). On the positive side, students in the SLHC schools were not more likely to report being sexually active than their peers in the comparison schools. In two of the SLHC sites, students initiated sex at older ages (an average of 8 months later) than students in comparison schools; in the other SLHC sites, there were no differences between SLHC and

⁶⁹A long-term evaluation of the Robert Wood Johnson Foundation's School-Based Adolescent Health Care Program is currently underway and is designed to identify the health and health-related outcomes of the SLHCs supported by the foundation (230). In addition, DHHS Centers for Disease Control (within PHS) is funding an evaluation of the ability of SLHCs to prevent adolescent pregnancy (290a).

⁷⁰See ch. 10, "Prevention and Parenting: Services," in Vol. II, for a more complete description of this evaluation.

⁷¹Comparisons between clinic users and nonusers in terms of clinic impact have the disadvantage of possible selection bias due to the different characteristics and motivations of students who choose to use the clinic and those who do not, and it was not possible to randomly assign students to use or not use the SLHC (143). It should also be noted that schools are not randomly chosen to have SLHCs or not. Comparison schools were chosen on the basis of physical closeness to the SLHC schools and relevant sociodemographic characteristics. Thus, although this evaluation was carefully done in a relative sense, it has some methodological flaws.

non-SLHC schools; and in one community, data were not available to enable a comparison.

Students in two of the SLHC schools—schools in which the health center staff provided aggressive outreach for contraceptive education within the school—had higher rates of contraceptive use than students in the comparison groups did.⁷² In three SLHC sites in which contraceptives were dispensed, however, students did not report higher rates of contraceptive use. According to Kirby et al., these findings suggest that the mere accessibility of contraception may not be sufficient to increase adolescents' contraceptive use. In the three SLHC schools in which clinic users were compared with nonusers, however, contraceptive use was higher among the clinic users, and, overall, from 44 to 90 percent of the pregnancies that occurred were to students who never had attended the clinic. None of the SLHC programs reviewed was able to demonstrate a significant impact on self-reported pregnancy rates⁷³ or birth rates⁷⁴ (143).

Kirby et al.'s findings with regard to other risk-taking behaviors similarly varied by school:

- Absenteeism—Relative to absenteeism due to illness in comparison schools in the same communities as the SLHC schools or baseline data, as relevant, there was less absenteeism due to illness in two SLHC schools, more absenteeism in one SLHC school, and no difference in absenteeism in three SLHC schools. There were no differences in number of days skipped (nonexcused absences) between any of the SLHC schools and the comparison schools.
- Cigarette Smoking—Relative to cigarette smoking in comparison schools in the same communities as the SLHC schools or baseline data, as relevant, there was less frequent smoking at one SLHC site (where students at the SLHC school underwent a psychosocial assessment at their first clinic visit designed to identify students who engaged in risk-taking behaviors and might therefore need counseling) and no difference in the frequency of smoking at the three

other SLHC sites where cigarette smoking was measured as an indicator of effectiveness.

- Alcohol Consumption—Relative to alcohol consumption in comparison schools in the same communities as the SLHC schools or baseline data, as relevant, there was significantly lower alcohol consumption at three of four SLHC sites where alcohol consumption was measured; differences were primarily in the “never or rarely consumed” categories.
- Illegal Drug Use—Relative to illegal drug use in comparison schools in the same communities as the SLHC schools or baseline data, as relevant, there were no differences in illegal drug use at the two SLHC sites where questions about illegal drug use were asked.⁷⁵

Kirby et al. also attempted to measure the impact of SLHCs on students' utilization of medical care (143). Only the SLHC that employed a full-time physician and arranged for all students to receive an examination when they first entered the school had an impact on the likelihood of students' having seen a doctor recently: 72 percent of students in the SLHC school, but only 61 percent of the students in the comparison school, had seen a doctor within the previous 12 months. The percentage of students who had received a physical examination, a blood test, and a urine test within the last 2 years, or who had seen a dentist recently, also was higher in the SLHC school than in the comparison school. According to Kirby et al., these findings suggest that “clinics that have a large staff, offer a wide array of services, and make a concerted effort to bring students into the clinic would have greater impact on students' receipt of health care than clinics that do not meet these conditions” (143). There were no differences in any SLHC schools in students' receipt of care in hospitals or emergency facilities,

Many of the adolescents who use SLHC services are those who have no other source of care, and adolescents who use the centers typically use them for typical urgent care for illness and injuries and for services otherwise unavailable without high levels of income, generous insurance policies, or breaches

⁷²Some of the changes attributed to one school's program may have resulted from the intensive education about acquired immunodeficiency syndrome (AIDS) that was occurring concurrently (143).

⁷³These data were, at the school level, not just for clinic users compared with nonusers.

⁷⁴Birth rates were measured in two sites only.

⁷⁵Kirby et al. suggest that it may not be valid to measure illegal drug use through self-reports (143).

of confidentiality (e.g., mental health counseling, reproductive health care) (17,143,156).

Quality of Care in SLHCs--OTA is not aware of any study examining the quality of care provided in SLHC settings. It is not yet known how well patients are followed or if centers are appropriately linked to community health care providers (184).

One indication of quality of care is patient satisfaction (275). Although little is known systematically about students' satisfaction with SLHCs, anecdotal evidence suggests that adolescents who use the services are often very satisfied with them. In addition, Kirby et al.'s evaluation of six on-site SLHCs found that adolescents used and were satisfied with the services for many of the reasons such services have been provided on or near school grounds. Kirby et al. found that the three reasons for using the SLHC most often cited were: 1) the clinic was part of the school and users felt they could trust it, 2) the clinic was easy to get to, and 3) the staff was caring (143). Students who cited one of these reasons used the SLHC more frequently and for a greater variety of services than students who did not cite these reasons (143). Kirby et al. found that the longer students had been in a school, the more likely they were to have used the SLHC (143). Most (43 to 87 percent) of the students who did not use the SLHC cited lack of need. Some of these students (8 to 21 percent) said they did not feel comfortable at the clinic, and others (0 to 12 percent) were concerned about confidentiality. In general, however, little is known about the differences between adolescents who use SLHCs and those who do not, and obtaining such information is key to understanding how well SLHCs serve adolescents in need (184).

Limitations of SLHCs--The SLHC model for the delivery of care to adolescents has several important limitations. Some communities are resistant to any model of care that confronts the issue of adolescent sexuality (154). Despite evidence that there have been no increases in adolescents' sexual activity or pregnancy rates after the opening of an SLHC, community and parents' concerns that SLHCs

will encourage adolescents to engage in sexual activity have been able to halt or delay the introduction and funding of programs on both the local and Federal level.⁷⁶ Shortages of adequately trained providers, especially bilingual/bicultural nurse practitioners and mental health professionals, are also a significant obstacle to the large-scale implementation of SLHC programs (154).

Even with mandatory school attendance laws, many U.S. adolescents--especially those at high risk for bad health outcomes---drop out of school by the 10th grade (154). Nationwide, 27 percent of American students drop out of school before high school graduation; twice as many drop out from schools located in poor, urban areas.⁷⁷ Thus, if SLHC programs were widely implemented but limited to adolescents attending school, many adolescents would not be reached.

Another limitation of SLHCs is that most SLHCs operate only during or around school hours, thus precluding access to care on weekends, holidays, and summer vacations. Although it could be improved, however, this feature does not make SLHCs much different from many private, office-based physicians' practices.

Finally, it should be noted that not all SLHCs are able to establish reliable referral ties to community hospitals and other local health care providers (154).

Following their multiyear, in-depth evaluation of six SLHCs in cities throughout the Nation, Kirby et al. identified several specific limitations of SLHCs and suggested that SLHCs could take a number of steps to enhance their effectiveness in preventing pregnancies and reducing students' risk-taking behavior in other areas (143):⁷⁸

- Finding that SLHCs "generally do a good job of treating and counseling students who seek their services, but they rarely have aggressive programs to identify risk-taking teens who are not motivated to come to the [SLHC]," Kirby et al. suggested that SLHCs *identify and target students engaged in risk-taking behaviors. To improve the identification and targeting of such*

⁷⁶The White House has acknowledged that school clinics could reduce adolescent pregnancy rates and the number of single-parent families but was reported to have rejected a proposal by an interagency group to fund school clinics because the proposal would be seen as "promoting promiscuity" and "may cause political problems among groups that are opposed to birth control" (214).

⁷⁷See ch. 4, "Schools and Discretionary Time," in Vol. II.

⁷⁸Kirby et al. noted that some SLHCs had already implemented the suggested recommendations. Thus, not all deficiencies are characteristic of all SLHCs.

students, SLHCs could schedule routine physical examinations for all incoming students, administer psychosocial assessments, and urge teachers and other personnel to refer risk-taking adolescents to them.

- Finding that “most students use SLHCs infrequently,” Kirby et al. suggested that SLHCs *conduct more outreach in the schools* (e.g., by participating in a comprehensive sexuality education program, placing posters about the center and health-related topics throughout the school, writing a regular column in the school newspaper, and making presentations at school assemblies).
- In another recommendation aimed at increasing students’ access to health services and information, Kirby et al. recommended that SLHCs *offer group sessions facilitated by trained clinic staff to provide students with more opportunities to resolve difficult personal dilemmas* about sex and other risk-taking behaviors. At the same time, such sessions would help students become familiar with clinic staff.
- Finding that “students were far more likely to use a [SLHC] for reproductive health care if the clinic prescribed or dispensed contraceptives as well as offered counseling about birth control methods and pregnancy testing,” Kirby et al. suggested that SLHCs *provide comprehensive reproductive health services*.
- Finding that “teens are impulsive and may not be willing to wait a week or longer to make important decisions about sex,” Kirby et al. suggested that *appointments for family planning counseling and for birth control should be offered promptly, ideally on a walk-in basis, and that clinics follow up family planning patients more effectively* in order to improve contraceptive continuation rates.
- Finding that males have been much less likely than females to visit a school-based clinic for contraceptives, but that it is possible to increase the use of condoms by males, Kirby et al. suggested that *reproductive health programs should place greater emphasis on male responsibility and attempt to reach males through*

sports physicals, classroom activities, and the media.

- Finding that many adolescents were not highly motivated to delay pregnancy, Kirby et al. suggested that SLHCs initiate measures to *provide greater motivation for delaying pregnancy*.⁷⁹
- Finding that SLHCs “cannot effectively address any difficult social problem in isolation,” Kirby et al. suggested that SLHCs *develop communitywide programs that involve parents, youth-serving agencies, religious and other community leaders, and the media*.
- Finding that many adolescents are already sexually active by the time they enter high school, Kirby et al. suggested that SLHC *services and health education be delivered earlier* (e.g., in middle and junior high schools).
- Finding that some of the cost-saving measures engaged in by SLHCs lead to heavy staff turnover, reducing the continuity of the relationships that can be developed between the clinic and students,⁸⁰ Kirby et al. suggest that SLHCs *increase permanent staff*. In order to implement the strategies proposed by Kirby et al., many SLHCs would also need to *hire additional staff*.

Adelman and Taylor came to somewhat similar conclusions about the limitations and unmet opportunities for SLHCs in their review of the provision of mental health services in SLHCs (5). Adelman and Taylor are the recipients of a Robert Wood Johnson Foundation grant to develop, implement, and evaluate models and networking resources for the mental health component of SLHCs (5), and they have developed a guidebook (271), newsletter (e.g., 272), clearinghouse, and other activities using the grant.

Adelman and Taylor found that mental health services, although the most frequently requested services in many schools and SLHCs, are not comprehensive and underserve students; existing programs tend to follow the traditional model of serving only those who seek care (5). The integration

⁷⁹For example, Kirby et al. suggested that pregnancy prevention messages be presented within the context of a life planning curriculum, where students are encouraged to extend their education and begin a career before beginning a family, and that role models and job opportunities in the community be provided (143). Pregnancy prevention strategies are discussed more fully in ch. 10, “Pregnancy and Parenting: Prevention and Services,” in Vol. II.

⁸⁰For example, “to save money, some clinics use rotating physicians from nearby medical schools, others ‘pay low wages and lose full-time staff once they have gained sufficient experience to command higher salaries elsewhere,’ and others ‘reassign more experienced staff to several schools or community health clinics in order to take wider advantage of their skills’ (143).

of mental health services into the daily life of school has been difficult, and SLHC mental health staff have often tended to operate in relative isolation from other school programs. In Adelman's and Taylor's view, better integration is necessary for the development of new and potentially more effective models for mental health intervention, such as group counseling and other means of early intervention. Adelman and Taylor see the development and testing of such models as a research opportunity for the mental health field.

In conclusion, SLHCs are a relatively new and potentially promising way of reaching adolescents in need of health services. There are still ways in which existing SLHCs can be improved upon; improvements will continue to require fresh and creative approaches to the delivery of health care and the integration of clinical services with health promotion and education, systematic evaluation of these approaches, and resources to both implement and evaluate the SLHC approach.

Other Innovations in the Delivery of Health Services to Adolescents

Integrated Health Services

The previous discussion focused on various types of comprehensive health centers for adolescents, including adolescent health care clinics associated with hospitals, multiservice centers such as the Door, and SLHCs located in or near schools. Although providing comprehensive services to adolescents at a single site ("one-stop shopping") may be preferred (34), it is sometimes not feasible. In such cases, community health delivery programs can strive to be integrated.

According to an interdisciplinary study group convened at the 1986 conference on Health Futures of Adolescents, integrated programs for adolescents could provide comprehensive services at a single site and offer extensive community referral, networking, tracking and followup services; conduct multiproblem needs assessments of adolescents seeking services as well as for the larger target population of adolescents; coordinate the services of interdisciplinary teams of health professionals; ensure unrestricted eligibility for services; have a single, primary contact person to coordinate services; and rely on a single, unified record for each adolescent (34).

Numerous administrative, clinical, and programmatic factors interfere with the delivery of integrated services to adolescents, however (34,182) (see box 15-F). Recommendations to promote and maintain integrated community health delivery for adolescents have included the following:

- collecting and disseminating of an expanded information on both National and State levels regarding demographic and morbidity profiles of adolescents;
- supporting systems designed to promote the integration of comprehensive interdisciplinary services for adolescents;
- training service providers to facilitate their assimilation into interdisciplinary health teams;
- evaluating the effectiveness of integrated models to promote implementation of optimally designed systems to meet adolescent health needs;
- widely disseminating evaluation research;
- supporting funding philosophies and policies consistent with the goal of integration of services;
- supporting the development and continuation of integrated health delivery models that, at a minimum, include: general medical, family planning, mental health, and social services;
- exploring methods of expanding traditional health services to include the following (either directly or through community linkages): legal assistance, vocational guidance; learning disabilities assessment; nutrition counseling; prenatal care; drug abuse assessment and counseling; recreational opportunities (34,307).

Similar recommendations were recently made by the Education and Human Services Consortium, although those recommendations were not limited to services for adolescents, and they addressed relationships among agencies, as well as relationships among providers within agencies (182). According to the consortium, five elements are key to high quality comprehensive service delivery: 1) the availability of a wide array of prevention, treatment, and support services; 2) techniques to ensure that children and families actually receive the services they need (e.g., co-location of staff from one organization to "branch offices" located at other agencies whose clients they share; "one-stop shopping," and an approach to case management that makes it a problemsolving partnership among

Box 15-F—Obstacles in the Development and Maintenance of Integrated Community Health Delivery Programs as Identified by the Study Group on Integrated Community Health Delivery Programs of the 1986 Conference on Health Futures of Adolescents

Obstacles identified by the Study Group on Integrated Community Health Delivery Programs for Youth of the 1986 Conference on Health Futures of Adolescents included: 1) problems encountered by administrators in promoting and developing programs; 2) clinical and programmatic barriers faced within organizations in the delivery of integrated services; and 3) issues specifically related to adolescents served by these programs. The specific issues identified by the Study Group are noted below:

Administrative Issues

- *Lack of comprehensive adolescent health databases at both national and community levels.* The ability to identify service needs of adolescents rests on the availability of comprehensive databases that reflect the entire range of health problems of youth.
- *Nature, level, and sources of funding for adolescent health programs.* Funding is categorical (i.e., agencies earmark funding for specific, rather than comprehensive, services) and low. Interests and philosophies conflict among funding agencies, providers, and parents.
- *Inertia among policymakers toward adolescent-related interests, stemming from lack of public awareness regarding adolescents' problems and the impact of those problems on the health, social, and economic well-being of communities.* In addition, integrated community health delivery programs for adolescents are an "essentially money-losing venture, one that is both labor intensive and nonrevenue producing."

Clinical and Programmatic Issues

- *Lack of models on which to base new delivery systems and adapt existing organizations of services.* Feasibility research has been positive, but impact evaluation studies have been limited in number and funding, and generally have not been conducted by outside evaluators. In addition, comparative studies of program outcomes are lacking.
- *Health care providers have not been trained to work in interdisciplinary community health delivery settings, and often experience conflict and ambiguity as to leadership and programmatic responsibilities.*
- *Providers lack awareness and skills in considering and incorporating services of a broad range of health and related community programs outside the single site setting, and often fail to include these resources as part of the intervention plans for clients.*
- *Providers and adolescents may differ from each other socially and culturally.*

Youth Issues

- *Consumers of integrated services are adolescents, who are "among the most powerless and disenfranchised citizens" in the United States.*
- *Attitudes towards youth are negative.*
- *The number of adolescents in the population is declining, at the same time that there is an increasing recognition of health problems of the elderly.*
- *Adolescents have not been acculturated to be active consumers of health services.* Maximum utilization of health services in an integrated setting requires that the recipient be an active consumer of health services. In addition, they should not expect that health services alone will cure one's problems.

SOURCE: L.H. Bearinger and E.R. McAnaney, "Integrated Community Health Delivery Programs for Youth: Study Group Report," *Journal of Adolescent Health Care* 9:36S-40S, 1988.

practitioners and clients); 3) a focus on the whole family; 4) giving children and families a voice in identifying and planing how best to meet their own needs; 5) measurement of the effectiveness of

interventions in terms of outcomes for clients (182). Further, the Consortium suggested that both *service delivery and systems levels*⁸¹ go beyond initial stages of *cooperation* to true *collaboration* in order

⁸¹According to the consortium, at the service *delivery level*, interagency initiatives focus on meeting the needs of individual children and families. At the *system level*, initiatives are focused on creating a set of policies and practices that can help to build a communitywide network of comprehensive service delivery (182).

to connect children and families with comprehensive services.^{82 83}

Efforts To Involve Adolescents in Health Services Planning and Management

A third innovation in the delivery of health services to adolescents involves encouraging adolescents' participation in policymaking and service delivery. This approach has recently been used by health providers in some mainstream institutions. Two health maintenance organizations, for example, are involved in efforts to make their programs more responsive to adolescents' needs by routinely seeking the advice and working participation of adolescents (134,159).

As part of this adolescent health assessment, OTA established a youth advisory panel to provide OTA staff with an adolescent perspective on the issues in the report. The youth advisory panel consisted of 21 individuals who ranged in age from 10 to 19. Panel members represented a range of backgrounds: racial/ethnic (white, non-Hispanic; Hispanic; Asian; black), socioeconomic, and experiential (e.g., homeless, substance use, pregnant, parenting, children of divorce, children from stepfamilies and extended families). Although all were from the greater Washington, DC, metropolitan area, they came from central city, suburban, and rural areas. During its meetings, the youth advisory panel highlighted important health issues for adolescents, developed a list of desirable features of health services and made recommendations to the project staff on ways to improve adolescent health. Representatives of the youth advisory panel also attended various workshops and meetings held by OTA. In one of the panels' meetings, members were asked to "role play" groups of service providers, program adminis-



Photo credit: Kaiser Teen and Young adult Health Center, Granada Hills, CA

Adolescent participation can take the form of special adolescent advisory panels of adolescent representatives on general advisory boards. The Kaiser Permanente HMO in Granada Hills, California, asks adolescents to provide advice on a regular basis.

trators, and health planners. Box 15-G summarizes each group's recommendations regarding key components of health care services for adolescents.

Conclusions and Policy Implications

Conclusions

Adolescents' Need for Health Services

This Report makes it clear that adolescents do have need for health services. The health-related conditions of adolescents that cry out for prevention and treatment intervention include, but are not limited to:⁸⁴

- fatal injuries, from accidents,⁸⁵ suicide,⁸⁶ and homicide⁸⁷;

⁸²According to the consortium, "In a cooperative arrangement at the service delivery level, partners help each other meet their respective organizational goals. . . without making any substantial changes in the basic services they provide or in the rules and regulations that govern their agencies." At the system level, "cooperative initiatives assess the need for more comprehensive services and recommend strategies to coordinate existing services." At the service delivery level, "collaborative partnerships establish common goals. . . . agree to pool resources, jointly plan, implement, and evaluate new services and procedures, and delegate individual responsibility for the outcomes of their joint efforts." Collaborative ventures at the system level are empowered. . . to negotiate, as well as to advocate for, programs and policies leading to more comprehensive service delivery" (182).

⁸³The consortium's report provides examples of human services agencies that have been successful in structuring partnerships.

⁸⁴Adolescent health problems are also discussed in detail in Vol. II: *Background and the Effectiveness of Selected Prevention and Treatment Services*, and summarized in app. B to this volume, "Burden of Health Problems Among U.S. Adolescents."

⁸⁵See ch. 5, "Accidental Injuries: Prevention and Services," in Vol. II.

⁸⁶See ch. 11, "Mental Health Problems: Prevention and Services," in Vol. II.

⁸⁷See ch. 13, "De@uency: Prevention and Services," in Vol. II.

**Box 15-G--Summary of Recommendations by the Youth Advisory Panel for
OTA's Adolescent Health Project**

An unusual feature of OTA's adolescent health assessment was that it included a youth advisory panel to provide OTA staff with an adolescent perspective on issues in the report. At one of the group's meetings, youth advisory panel members were asked to "role play" groups of service providers, program administrators, and health planners. The recommendations of each group with respect to key components of health care services for adolescents are presented below.

Recommendations of "Service Providers"

1. Clinics should be free.
2. Adolescents need many services, including dental care, dermatology, counseling, and gynecology services. Health care providers should not assume that all adolescents seeking services are pregnant.
3. Services should not be different by racial/ethnic group. However, services must be sensitive to geographic and cultural needs.
4. Services should remain open during evening hours for emergencies and on weekends.
5. Services should be centrally located and offered under one roof (comprehensive services), and the number of sites should be determined by population size.
6. Shuttle bus service should be provided.
7. There should be separate clinics for adolescents. Adolescents should be able to bring their own children to the clinic, but their parents should not be able to attend the clinic unless the adolescent asks= to come.
8. Services should be provided at school in school-based clinics or near the school.
9. Sex education in the schools should be made mandatory.
10. Hot line charges should not appear on phone bills (e.g., hot line calls should be 1-800 numbers).

Recommendations of "Program Administrators"

1. Money to run the services should come from the Federal Government and should be specific to adolescents.
2. Funds from services that are already targeting adolescents should be pooled into one adolescent fund.
3. The Federal Government must develop a payment/insurance plan for services where adolescents can pay a particular amount to receive ail services (almost like a health maintenance organization). This system must be voluntary.
4. Eligibility for services should be based on some socioeconomicCriteria.
5. Special attention should be paid to low-income adolescents and those not in school.
6. Adolescents should be informed about available services through word of mouth, television, radio, recreation centers, posters, and flyers in the mail.
7. Services should be based on developmental needs and not necessarily on age (e.g., not all lo-year-old adolescents need the same services).
8. Adolescents under age 21 should be able to receive services but should not be automatically cut off at that age.
9. The system should be flexible.

Recommendations of "Health Planners"

1. Adolescents should be included as full voting members on adolescent youth service agency boards.
2. There should continue to be a youth advisory group advising Congress on adolescent issues.
3. Youth awareness about particular health problems should be increased.
4. Adolescents should be involved in outreach activities (e.g., counseling adolescents who have been raped or have thought about suicide).
5. Youth should be encouraged to volunteer. Although adolescents do not necessarily have to be paid for their work they need to know why they are doing what they are doing.

SOURCE: Office of Technology Assessment, 1991.

- family problems, such as maltreatment, which is higher among adolescents than among younger children⁸⁸;
- school problems, such as the potential for dropping Out⁸⁹;
- appropriate use of discretionary (nonschool) time⁹⁰;
- physical problems, such as acute respiratory illnesses, which are the leading cause of school-loss days⁹¹; serious chronic physical illness and disability, experienced by perhaps 5 percent of adolescents (see ch. 6⁹²); or sports injuries, which account for at least 1.04 million emergency room visits in a year (1988 data)⁹³;
- new problems experienced on reaching puberty, such as dysmenorrhea and acne⁹⁴;
- nutritional concerns, such as overweight or obesity⁹⁵;
- dental problems, such as dental malocclusion, experienced by perhaps 13 to 16 percent of 12- to 17-year-olds (1970 data)⁹⁶;
- problems associated with involvement in unprotected sexual activity, such as sexually transmitted diseases; including HIV infection, which is as high as 3.7 percent among homeless and runaway adolescents at a shelter in New York⁹⁷; and pregnancy, experienced by 1 million female adolescents a year⁹⁸;
- mental health and behavioral problems, such as subjective distress, experienced by perhaps 25 to 40 percent of adolescents; diagnosable mental disorders, experienced by 18 to 22 percent of adolescents; suicide attempts, made by 15 percent of 10th graders⁹⁹; heavy drinking,¹⁰⁰ reported by 11.1 percent of high school seniors; daily cigarette smoking, reported by 7.7 percent of high school seniors; daily marijuana use,¹⁰¹ reported by 2.9 percent of high school seniors¹⁰¹; commission of an illegal (delinquent) offense, reported by the majority of adolescents (1976 data)¹⁰²;
- hopelessness and associated health problems, estimated to be experienced by 1 million adolescents; and¹⁰³
- further, some adolescent behavioral problems are interrelated (81,209a), itself suggesting the need for an integrative approach to service delivery.

The Adequacy of the Mainstream Health Care System for Adolescents

It is not clear that American adolescents' needs for health services are, or can be, met entirely by the traditional U.S. mode of health service delivery—i.e., care provided on a routine or as-needed basis by private office-based physicians. Some of the health problems experienced by adolescents are conditions experienced by individuals of other ages (e.g., respiratory disease, chronic disabilities), and one might expect that adolescents with these conditions would seek care from physicians in the mainstream health services system. Other problems, though not unique to adolescents, may be new for them (e.g., gynecological and skin problems). For some problems, adolescents may not seek care from the mainstream health services system. Some issues may be considered 'normal' for adolescents (e.g., acne, dysmenorrhea, subjective distress, delinquent behavior), and adolescents may not be advised that the problems are amenable to health services inter-

⁸⁸ See ch. 3, 'Parents' and Families' Influence on Adolescent Health,' in Vol. II.

⁸⁹ See ch. 4, 'Schools and Discretionary Time,' in Vol. II.

⁹⁰ See ch. 4, 'Schools and Discretionary Time,' in Vol. II.

⁹¹ See ch. 6, 'Chronic Physical Illnesses: Prevention and Services,' in Vol. II.

⁹² 'Chronic Physical Illnesses: Prevention and Services,' in Vol. II.

⁹³ See ch. 5, 'Accidental Injuries: Prevention and Services,' in Vol. II.

⁹⁴ See ch. 6, 'Chronic Physical Illnesses: Prevention and Services,' in Vol. II.

⁹⁵ See ch. 7, 'Nutrition and Fitness Problems: Prevention and Services,' in Vol. II.

⁹⁶ See ch. 8, 'Dental and Oral Health Problems: prevention and Services,' in Vol. II.

⁹⁷ See ch. 9, 'AIDS and Other Sexually Transmitted Diseases: Prevention and Services,' in Vol. II.

⁹⁸ See ch. 10, 'Pregnancy and Parenting: prevention and Services,' in Vol. H.

⁹⁹ See ch. 11, 'Mental Health Problems: Prevention and Services,' in Vol. II.

¹⁰⁰ Heavy drinking is defined as having had five or more drinks 'in a row' in the 2-week period prior to the survey.

¹⁰¹ See ch. 12, 'Alcohol, Tobacco, and Drug Abuse: Prevention and Services.'

¹⁰² See ch. 13, 'Delinquency: Prevention and Services,' in Vol. II.

¹⁰³ See ch. 14, 'Hopelessness: prevention and Services,' in Vol. II.

vention. Finally, some problems may not be amenable to resolution through the health care system, but may require other types of human services (e.g., legal assistance, job training, tutoring, recreational opportunities).

This chapter has addressed selected major issues in the role of the *mainstream primary health care system* in meeting the health care needs of U.S. adolescents.¹⁰⁴ Historically, the provision of health care has been viewed primarily as the province of physicians (80,119). Thus, care provided by private office-based physicians has been the focus of much of the research on health care providers' ability to meet the health care needs of adolescents (e.g., 286,287). Primary care has not been defined to everyone's satisfaction, but some definitions suggest that the primary care physician should be able to provide the "medical home" for continuing and comprehensive health care that adolescents, and individuals in all age groups, need (21,263). OTA found that U.S. adolescents are relatively unlikely to use the services of private office-based primary care physicians, having the lowest rate of use of any age group. Although 73 percent of U.S. adolescents reportedly had one or more physician contacts in 1988, adolescents had the lowest rate of visits per person per year (1.6 visits per person per year to private office-based physicians on average; lower for nonwhite adolescents). Adolescents are also among the least likely to be hospitalized.

Among the possible reasons why adolescents with health concerns may not seek the services of physicians for health care is that, with the exception of specialists in adolescent medicine—who are few in number—there is no group of physicians who are clearly defined as appropriate to provide care to adolescents. The American Academy of Pediatrics has suggested that pediatricians be the primary health care providers for individuals up to age 21. A 1980-81 survey of pediatricians found, however, that only 40 percent of pediatricians continued adolescent care to the age of 18, and 42 percent refused to accept a new patient who had reached the

age of 16 (226).¹⁰⁵ Thus, it is not surprising that only about one-quarter (23 percent) of adolescents' visits to private office-based physicians in 1985 were to pediatricians, and two-fifths were to general and family practice physicians (35 percent) or internists (5 percent).¹⁰⁶ However, other physicians are also unlikely to report much interest in providing health care to adolescents.

Despite the fact that only about one-quarter of adolescents' visits to office-based physicians are to pediatricians, much of the research on aspects of physician behavior with adolescent patients has been conducted with respect to pediatricians. Research suggests that pediatricians spend an average of approximately 1 minute more with adolescents than they do with other noninfant patients, for an average of 11 minutes per visit.¹⁰⁷ The duration of visit is potentially important because it is believed that many adolescent health problems may be preventable if adolescents are provided with "anticipatory guidance" from health care providers. As can be inferred from the listing of problems above, adolescents are at high risk of mortality and morbidity caused by social, and perhaps preventable, factors. However, the only study that assessed the amount of time spent by physicians (pediatricians) providing anticipatory guidance found that office-based general pediatricians spent an average of 7 seconds per visit on anticipatory guidance for adolescent patients ages 13 to 18 (223). This study and others have varied in their findings concerning what physicians discuss with their adolescent patients, with a more rigorous (e.g., direct observational) study and surveys of adolescents themselves finding that little time is spent discussing the "new morbidities" issues or the health concerns of importance to adolescents themselves.

Another important area of physician behavior that may affect adolescents' seeking of health care from private physicians is patient confidentiality. Again, findings reported in the present chapter, limited though they are, are variable, with 75 percent of members of The Society for Adolescent Medicine

¹⁰⁴The chapters that discussed the prevalence and incidence of problems among adolescents also discussed the capability of problem-specific health and related care systems to meet the needs of adolescents who do experience these problems (e.g., STD diagnosis and treatment clinics, the mental health system, the substance abuse treatment system, the juvenile justice system), and found that, although information about utilization and access is scarce and difficult to come by, gaps appear to exist in almost all services.

¹⁰⁵It may be important to note that this survey was published in 1983, and that more recent information on pediatricians' practices is not available.

¹⁰⁶& discussed in ch. 6, 'Chronic Physical Illnesses: Prevention and Services,' in Vol. II, leading reasons for visits to private office-based physicians were for respiratory system diseases (17 percent), injuries (16 percent), and skin conditions (10 percent).

¹⁰⁷The average visit time across all physicians was between 6 and 10 minutes (see figure 15-3).

and a random sample of pediatricians expressing support for confidentiality for adolescent patients, but a survey using a specific example (a pregnant 15-year-old's desire that her mother not be told of the pregnancy) finding that the majority of physicians would not abide by the patient's request for confidentiality.¹⁰⁸ Some adolescents with ready access to a private physician expressed their unwillingness to seek a private physician's care for concerns about certain issues (sexuality, substance abuse, emotional upset) or to seek care for those problems with their parents' knowledge (175).

A third important issue in health care providers' behavior examined by OTA is competence in diagnosing and treating adolescents' specific problems. Research on this issue, too, is limited. Among other concerns (e.g., lack of methodological rigor), a very small body of empirical work has explored this issue, most studies in this area have focused on the identification of mental health and substance abuse problems, and most of the work has involved the practices of pediatricians. The evidence that is available, however, suggests the following:

- Primary care physicians appear to have difficulty in identifying children who have behavioral and emotional problems.
- Physicians as a group are currently not able to identify substance abuse problems very effectively.
- Primary care physicians appear able to identify acne in adolescent patients, but their ability to treat acne has not been tested.
- Hospital services do not appear to adequately document health problems in adolescent patients.

- Physicians, nurses, social workers, psychologists, and nutritionists all consider themselves relatively untrained in important areas of adolescent health (e.g., sexuality, handicaps, endocrine problems, contraception, psychosocial concerns).¹⁰⁹

The important issue of health care providers' ability to interact with adolescents—regardless of the specific problem that an adolescent may have—has received very little investigation.^{110 111}

Perhaps more disturbing than findings that many health care providers are apparently not able to treat adolescents, several studies have found that health care providers have expressed relatively little interest in additional training. Although there are no systematic national counts of the number of U.S. health care providers who have been specially trained to deal specifically with adolescents, approximately 1,400 nonpsychiatrist physicians (most of whom are pediatricians) identify themselves as adolescent medicine specialists, 1,400 psychologists express a special interest in adolescents, and there are 1,500 members of the American Society for Adolescent Psychiatry. There are no counts of other health care providers specializing in the treatment of adolescents. A structured experience in adolescent health became a required aspect of training for future pediatricians in January 1990, although no patient age range nor duration of training was specified. Neither family practice nor internal medicine include specific curricula regarding adolescents. Thus, those adolescents who seek health care are likely to see providers who have not been specially trained to work with them.

¹⁰⁸The laws, ethical statements of health care provider organizations, and consequences of not respecting confidentiality, are discussed more fully in ch. 17, "Consent and Confidentiality in Adolescent Health Care Decisionmaking," in this volume.

¹⁰⁹Issues related to the role of emergency personnel who come in contact with adolescents (e.g., those who have been in accidents, been assaulted, or attempted suicide) are discussed in ch. 5, "Accidental Injuries: Prevention and Services," in Vol. II.

¹¹⁰It is important to note that even the limited amount of research on the attitudes and behavior of health care providers suggests that there is considerable variability among providers. With respect to some aspects of health care provider behavior and perceived competence—the provision of anticipatory guidance, maintaining confidentiality—younger physicians, and physicians who have more adolescent clients, have been found to be more likely to behave in ways that are compatible with adolescents' stated needs for health care delivery. In the case of the 15-year-old who wished to keep her pregnancy from her mother, the majority of obstetrician-gynecologists were likely to maintain confidentiality. With respect to the self-perceived competence of health care providers, there are substantial differences by physician specialty and profession. Physicians specializing in adolescent medicine—few as they are—are more likely to support confidentiality of care for adolescent.., and have been found to evoke more satisfaction from adolescent clients. In the one study that involved nonphysician health care providers, nurses, social workers, and psychologists expressed more interest in additional training than did physicians.

¹¹¹Financial issues may be a quite important factor in the ability of any particular adolescent to gain access to health care services. Lack of coverage may affect physicians' willingness to see adolescents, and the willingness of health care and other organizations to implement new services (see below). Both the problem of having no health insurance—which affects one out of seven adolescents—and the problem of having inadequate benefits for services or settings of importance to adolescents—which affects many of the other six out of seven adolescents—are discussed in ch. 16, "Financial Access to Health Services," in this volume.

Federal support for interdisciplinary training in adolescent health care is lower than it was in fiscal year 1981. In fiscal year 1990, the Federal Government was supporting only six such programs, at an average level of \$300,000 annually (212). The small number of such programs, the limited funding for them, and program goals emphasizing research and leadership development over actual health service delivery have meant that few frontline health care providers have received interdisciplinary training in adolescent health care. Except for this interdisciplinary training program, Federal support for training specifically in adolescent health care for providers—across all disciplines—who are likely to care for adolescents and for those health care professionals who currently provide health and related services to adolescents is nonexistent.

Innovations in the Delivery of Health and Related Services to Adolescents

Given the apparent failure of both the primary health care system and the specialty health care systems to meet the health care needs of all U.S. adolescents, several innovations in health care delivery have been attempted. These include the provision of comprehensive health services at a single site (e.g., hospital-based adolescent health care clinics, community-based adolescent health care clinics, a teen center at an HMO, 'free clinics,' multiservice centers, and, most extensively, SLHCs), attempts to integrate services, and efforts to involve adolescents in health services planning and management.

Attempts to provide a range of health and related services to adolescents in a single setting using providers from multiple disciplines—so-called comprehensive services—have generally been well received by parents and adolescents. To one degree or another, centers that provide comprehensive services for adolescents also make a special attempt to be responsive to common themes of adolescent health care, such as enhancing access through free care or use of sliding-fee scales, evening and weekend hours of operation, and guaranteed confidentiality of services. In addition, staff members who work in comprehensive health programs for adolescents choose to work there because they are committed to and enjoy helping adolescents. They often perceive

themselves as advocates for adolescents, and work with adolescents to coordinate programs of care (230a,292). In school settings, coordination with school staff, and consequent attempts to influence school environments are important aspects of special adolescent health care centers (230a).

Systematic evidence of the effectiveness of comprehensive programs in terms of improving health *outcomes* is scarce, however. The only study to date that compared special hospital-based adolescent health clinics to hospital-based clinics without a special adolescent focus found no outcome differences after a year (84). However, the specially funded clinics were more successful in getting adolescents to disclose behavioral and lifestyle problems to their clinical providers, and consequently to obtain care for such problems (84). Reductions in school absenteeism, alcohol consumption, smoking, sexual activity, and pregnancy have been found in some schools with SLHCs, though not consistently.

What has frequently been found is that many of the adolescents who use the services of SLHCs are adolescents who have no other source of health care,¹¹² and that adolescents use SLHCs for typical urgent care for illness and injuries and for services otherwise unavailable without high levels of income, generous insurance policies, or breaches of confidentiality (e.g., mental health counseling, reproductive health care). Further, one of the few systematic studies of SLHCs suggests that efforts to meet the more intangible needs of adolescents have been successful: the primary reasons cited by students for using the SLHC in their school were that users felt they could trust it because it was part of the school; the SLHC was easy to get to; and the staff was caring (143). The number of repeat visits to some SLHCs is also cited as suggestive that SLHCs are responsive to the needs of adolescents as they perceive them (230a).

When it comes to adolescents, then, SLHCs and some community- and health-care-organization-based adolescent health care centers appear to respond to many of the shortcomings of the traditional health care system: They attempt to address the range of problems that many adolescents face (e.g., by providing care for acute physical illnesses;

¹¹²This finding is confounded somewhat by the fact that most SLHCs have been purposefully situated in communities deemed to be medically underserved.

general medical examinations in preparation for involvement in athletics; mental health counseling; laboratory tests; reproductive health care; family counseling; prescriptions; educational services; vocational training; legal assistance; recreational opportunities; advocacy; coordination of care (e.g., with school personnel); advocacy (113). Services are free or low-cost. Services are confidential. Staff are knowledgeable about adolescents. Staff are committed to helping adolescents in a way that is meaningful to the adolescents themselves. Settings are designed with adolescents in mind, to the extent possible. Adolescents are often involved in the design and management of the programs. In the case of SLHCs, the services are physically accessible, because they are located in or near where adolescents spend much of their waking day.

For a variety of reasons, however, a reorganization of adolescent health services to meet desirable criteria for adolescent health services has not been realized. The obstacles to reorganization are both formidable and interrelated. They include community resistance to the provision of contraceptive services and abortion counseling to adolescents; resistance of organized medicine; resistance by schools to adding yet another responsibility to the educational infrastructure; lack of a core of adequately trained professionals to staff comprehensive programs; State Medicaid administrative barriers; lack of conclusive and convincing data on the effectiveness of such programs in reducing a number of highly socially visible adolescent health problems, and, finally, lack of financing.

Policy Implications

A number of possibilities for Federal action to improve the delivery of health services to adolescents suggest themselves.

One clear need is for increased Federal attention to training of health care professionals in the area of adolescent health.

Several levels of training are important: for students at an early stage in their careers, for graduate and postgraduate students, and for professionals who are already in practice. Similarly, a range of health care professionals should be included in any increase in Federal attention to training issues

at all levels of experience: nurses, psychologists, social workers, health educators, youth services workers, primary care physicians (pediatricians, internists, family physicians), and specialist physicians (e.g., obstetricians, gynecologists, dermatologists). Training should emphasize the interdisciplinary nature of work in adolescent health services. Finally, any innovations in training (or, failing innovations, current training experiences) should be subject to rigorous evaluation from a variety of perspectives, including health outcomes and patient satisfaction. Evaluations should consider not only the clinical ability of providers to identify and manage specific problems, but their adolescent-specific interpersonal skills.

Improvements in the skills of health care providers would be of benefit whether or not any other changes in the health care delivery system for adolescents were made. To improve adolescents' access to appropriate health and related services, Federal support for the reorganization of the delivery of health services to adolescents may be necessary. Increasingly, States and private foundations have seen the value in making comprehensive, integrated, approachable services immediately accessible to adolescents. However, States are increasingly strapped for money to dedicate to health and other human services (270a). Foundation funding is typically time-limited. The Federal Government could provide seed money to States, communities, health care organizations, or schools that wish to implement either school-linked or community-based centers that offer comprehensive adolescent health care. For those comprehensive adolescent health centers that exist but are in danger of losing their funding, the Federal Government could create a mechanism to help provide continuation funding, perhaps through a matching grant program.

In addition, or alternatively, either Congress or the U.S. executive branch could address, through legislation or regulation, existing barriers to the delivery of comprehensive services in adolescent health centers. These barriers include, but may not be limited to, State Medicaid administrative barriers limiting or prohibiting reimbursement for services delivered in SLHCs; and State and Medicaid restrictions on reimbursement of nonphysician providers. A study (e.g., by the U.S. General Accounting

¹ ³Not all services are available at all centers. Referral and integration of services is an extremely important aspect of providing appropriate care for adolescents (34).

Office) specifying such limitations might be useful before Congress took action.

Federal support for evaluation research on a range of comprehensive adolescent health care centers would also be useful. As described in this chapter, although there is a considerable body of very valuable anecdotal and clinical knowledge that can be used to guide improvements in health care delivery for adolescents, the systematic knowledge base concerning the most effective ways to structure and deliver health services to adolescents is extremely limited. Collection, dissemination, and utilization of specific additional information can only help to improve the health care system, not only for adolescents, but for other Americans as well.

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