

Pediatricians' Response to the Demand for School Health Programming

Stephen Barnett, MD*; Paula Duncan, MD‡; and Karen G. O'Connor§

ABSTRACT. *Objective.* Because of the broad and increasing interest in school health, the American Academy of Pediatrics (AAP) surveyed its members to determine their awareness of school health education/programs, their level of participation, their desire to participate, and their resource needs to participate more effectively.

Methods. Self-administered questionnaires were mailed to a randomized representative sample of AAP members ($N = 1602$). Overall response rate was 64.5%. Some responses were stratified for analysis by gender; age (>45 years or ≤ 45 years); practice area (urban, suburban, or rural); practice setting (solo, group, or hospital); and type of practice (general versus specialty). χ^2 Tests were used to compare responses.

Results. Greater than half of the pediatricians who responded to the questionnaire were aware of school health education curriculum on risky adolescent behaviors in their community, counseling services (58%), school nursing services (63%), and screening services (71%); however, more than half were not aware of curriculum on injury/violence prevention, fitness, or whether a school health advisory council was available. Most pediatricians supported comprehensive school health education (pregnancy prevention, 82%; violence prevention, 77%; mental health, 56%). Also, respondents supported services (counseling, 76%; nutrition, 65%; screening/referral, 58%; school-based primary care, 58%). Although 22% of AAP pediatricians are currently working with local school programs, $>70\%$ wanted to become involved or more involved and needed information on how they may be able to participate. Only 25% believed they were adequately prepared. Two thirds believed school-based clinics were one of the best ways to reach underserved children and adolescents and should include preteens.

Conclusion. AAP pediatricians want to become more involved with comprehensive school health programs. The ways in which they want to participate vary substantially. Most pediatricians thought they needed additional education. The AAP has developed recommendations for graduate medical education and continuing medical education for pediatricians to participate in integrated school health services. *Pediatrics* 1999;103(4). URL: <http://www.pediatrics.org/cgi/content/full/103/4/e45>; school health, education, pediatricians.

From the *Primary Care Services Division, Austin/Travis County Health and Human Services Department, Austin, Texas; ‡Division of Health Improvement, Vermont Department of Health, Burlington, Vermont; and §Division of Child Health Research, American Academy of Pediatrics, Elk Grove Village, Illinois.

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Reprint requests to (S.B.) Austin/Travis County Health and Human Services Department, Primary Care Services Division, 15 Waller St, Austin, TX 78702.

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ABBREVIATIONS. AAP, American Academy of Pediatrics; GME, graduate medical education; CME, continuing medical education; HIV, human immunodeficiency virus; STD, sexually transmitted disease; SBC, school-based clinic.

During the past decade, some dramatic changes in school health programs have occurred. Federal laws with mandates for children with special needs in schools have advanced from Public Law 94-142 to the Individual Disability Education Act and Public Law 99-457, which requires schools to include physician participation. The Centers for Disease Control and Prevention began documenting the health needs of school children with the National Adolescent Student Health Survey, the Youth Risk Behavior Survey and, more recently, the implementation of a survey that documents the response of schools to the problems of school youth (eg, School Health Policies and Program Study). The Department of Education implemented the Drug Free Schools and Community program to address substance abuse and expanded its role in school health as well as the role of Title I programs in school health (Elementary and Secondary Education Act). The Public Health Service has stimulated school-based primary care through the Bureau of Maternal and Child Health block grant programs to states and, more recently, through the Bureau of Primary Health Care Delivery through their Healthy Schools/Healthy Communities program.

At the state and local levels, school health programming has experienced a significant surge in activity.¹ Numerous reports and policy statements have urged the collaboration of education and health communities to better prepare students for the workforce in the postindustrial/information age.²⁻¹¹ Established and newly developed national associations, including the American Academy of Pediatrics (AAP), have joined in this effort. Furthermore, this increased activity in school health programming is occurring during the health care reform movement and a massive expansion of managed care programs that often require health maintenance, disease prevention, and health promotion. School health programming offers a special opportunity to prevent morbidity and contributes to better educational outcomes and a reduction in school dropout rates. Recently, the US business community has taken a special interest in this issue to improve the educational outcomes that impact significantly the future workforce of our nation.¹²⁻¹⁵ Responding to this growing interest in school health programs, the AAP established a task force and published recommendations

for Integrated School Health Services.¹⁶ In addition, the AAP has played a leading role with more than 50 national organizations through the Ad Hoc Working Group on Integrated Services in developing documents to assist communities in planning integrated services with health, education, and social service providers.¹⁷

During the past 18 years, at least three surveys have been conducted on the participation of pediatricians in school health, their education, their roles, and their needs/challenges to serve as successful school health consultants (Table 1).¹⁸⁻²⁰ The results of these surveys varied significantly because of sample definition (ie, limited to up to 10 years in practice vs all pediatricians); educational differences; regional differences; and response rates (ie, with lower response rates, respondents were more likely to be involved with school health programs). The surveys of pediatricians by Chilton and Black showed similar exposure to school health curriculum (22.4% and 19%, respectively) and those who were exposed were much more likely to be involved in school health activities (65.5% and 77%, respectively). In the survey by Niebuhr, although all respondents had received education about participating in school health, only 41% were formally involved in school health consultation. The results of all the studies indicated the need for more learning experiences during graduate medical education, but the study by Black revealed that pediatricians had limited interest in continuing medical education efforts. The AAP's Section on School Health and Committee on School Health subsequently made recommendations for graduate medical education (GME) and continuing medical education (CME) in comprehensive school health.^{21,22} Furthermore, recently the CDC's School Health Policies and Program Studies project identified that 31% of middle and high schools are receiving physician services.²³

In this context, therefore, it was timely for the AAP's Periodic Survey of Fellows to address the participation and interests of its membership in school health programs. This survey included questions that addressed the following issues: awareness of local school health programs; perceived need for age-appropriate local school health programs; pediatrician participation in school health programs; issues surrounding school health programs; and local integrated services for school children.

METHODS

This survey is the 26th in a series of Periodic Surveys of Fellows conducted by the AAP. Periodic Surveys on topics of importance to pediatricians are conducted four or five times per year, with each survey using a random sample of Fellows of the AAP. Periodic Survey 26 was an eight-page self-administered questionnaire sent to 1602 active US Fellows. The survey also included questions on the extent of office-based ambulatory care training for pediatric residents and changes in pediatric resident training, subjects not reported in this article. The original mailing and five follow-up mailings to nonrespondents were conducted from July 1994 to November 1994. Each questionnaire was accompanied by an introductory letter from the Executive Director of the AAP and a postage-paid return envelope. After six mailings, we received a total of 1034 completed questionnaires, for a response rate of 64.5%.

For analysis purposes, the respondents were divided into two age groups: pediatricians younger than 45 years ("younger" pediatricians) and pediatricians 45 years of age or older ("older" pediatricians). The percentage of time spent in primary care pediatrics also was divided into two groups: those who spent $\geq 50\%$ of their time as general pediatricians and those who spent $< 50\%$ in general pediatrics (referred to as "subspecialists").

χ^2 Tests were performed on selected items to compare responses by practice characteristics (age, gender, time spent in general pediatrics, practice setting, and practice area; noted in Tables where the difference in response between groups is statistically significant at $\leq P = .05$).

RESULTS

Characteristics of the Respondents

The mean age of the respondents was 42 years, with 42% being female. More than half of the respondents (57%) spent an average of 34.0 hours per week in non-self-employed direct patient care; 34% spent an average of 47.0 hours in self-employed direct patient care. Sixty-five percent of the respondents spent ≥ 35 hours per week in direct patient care (either self-employed or non-self-employed). Overall, 92% of the respondents provided some direct patient care; 57% spent an average of 9.0 hours per week in administration, 41% spent ~ 12 hours per week in academic medicine, 22% spent an average of 11 hours per week in research, and 15% were pediatric residents.

Thirty-eight percent of the respondents worked in large metropolitan areas (with populations > 1 million), 50% worked in metropolitan areas (with populations between 50 000 and 1 million), and 12% worked in nonmetropolitan/rural areas (with populations < 50 000). Twenty-eight percent described their primary practice area as urban, inner city; 28% described their work area as urban, but not inner

TABLE 1. Surveys of Pediatricians in School Health

	Chilton	Niebuhr	Black
Date of report	1979	1990	1990
Response rates (respondents/sample)	116/141 (82%)	79/99 (79%)	1068/2239 (48%)
Geo (states)	CO, NM, AZ, UT	TX*	US
Peds grad dates (years out)	10 y	1-10 y	All graduates
Dates of education exposure	62-72	79-88	65% by 1978
% Receiving training	22.4%	100%	19%
% of Inst. offering training	29%	†	21%
Longitudinal training (≥ 1 mo)	50%	100%	43%
Types of school health activities (direct services, consultation)	DS/C	C	DS/C
Participation in school health activities	65.5%	41%	77%
Statistical significant correlation (χ^2 analysis)	$P < .001$	NA	$P < .005$

* Texas was the site of residency training.

† Only one institution.

city. Thirty-five percent reported that they practice in a suburban area, and 9% reported that they work in a rural area. Thirty-three percent of the respondents reported their primary employment setting as a group practice or staff model HMO, and 17% reported being used in a solo or two-physician practice. Twenty percent worked in a medical school or parent university; ~19% practiced primarily in a hospital or clinic. Nearly two thirds of pediatricians (62%) spent more than half their time in general pediatrics, and 59% spent more than three fourths of their time in general pediatrics. These characteristics are consistent with and representative of the AAP's current membership.

Demographic and Practice Characteristics Revealed Some Surprises

Primary care pediatricians were twice as likely as were specialists to work with school health programs. Older pediatricians were >50% as likely to participate; gender seemed to have no influence on participation. Rural pediatricians were more likely to participate (44%) than their urban (30.5%) and suburban (26%) colleagues, but suburban pediatricians were nearly twice as likely to participate as their inner city colleagues (15%) ($P < .001$). Solo or two-physician practices, compared with large group/HMO or hospital/clinic practice settings, revealed small but significant differences (ie, 28%, 25%, and 19%, respectively; $P < .05$). More than half (52%) of the respondents who worked in school health programs were satisfied with the time they spent, but almost half (48%) wanted to spend more time. Older pediatricians were more satisfied than were younger ones with the current time spent (61%); however, younger pediatricians were willing to spend more time working in school health programs (55%; $P < .05$).

Awareness of Local School Health Programs

More than half of the pediatricians surveyed were aware of school health education curricula in their practice community that addressed substance abuse (58%), human sexuality (57%), prevention of human immunodeficiency virus (HIV) infection (52%), and general personal health (54%). However, more than

half of the pediatricians were unaware of whether school health curricula addressed major significant risk factors of injury prevention and safety, mental and emotional health, and violence prevention (Table 2). More than half were unaware of lifelong physical and nutritional activities for disease prevention or environmental and community health approaches.

Although three fourths of pediatricians were aware of breakfast and lunch programs and half of those surveyed were aware of counseling/psychological services and programs that promote a healthful physical environment, most pediatricians did not know whether their schools provided nutrition education or programs that promote a healthful psychological environment or employee health. Importantly, 55% to 63% did not know whether their school district had a school health advisory council that engages the community or parents, respectively, in meeting the health needs of students (Table 3).

Need for Age-appropriate Local School Health Programs

Although pediatricians were unaware of many activities for school health education in their districts, they were very supportive and believed there is a great need for comprehensive school health education on substance abuse (84%), pregnancy prevention (82%), violence prevention (77%), injury prevention (68%), and mental and emotional health (56%) (Table 4). More than 65% of the respondents believed there is a great need to promote lifelong physical activities, including sports activities offered in school. Three fourths of the pediatricians noted a great need for school health programming (Table 5) that addresses a healthful (eg, smoke-free) environment and psychological and counseling services. Two thirds of the pediatricians supported nutritional programs, and more than half supported the need for a school health advisory council to address the health needs of children and parental involvement. Many of the respondents believed there is a great need for school nurses (58%), nurse practitioners (40%), and health educators (42%) to provide screening and referral services. Thirty-nine percent of pediatricians believed certified nurse practitioners, school nurses

TABLE 2. Pediatrician's Awareness of Local Age-appropriate School Health Education Curriculum ($n = 1020$)

K-12 Curriculum That Includes Health Education in	Percent Reporting Program Exists		
	Yes	No	Don't Know
Substance abuse	58.2	3.1	38.6
Human sexuality	56.6	5.1	38.2
Personal health	53.9	5.2	40.9
HIV and other STD prevention	53.4	4.9	52.7
Pregnancy prevention	45.8	7.6	46.6
Nutrition	44.3	6.4	49.4
Injury prevention and safety	36.9	7.8	55.3
Disease prevention	28.4	10.5	61.2
Family health	27.7	12.2	60.1
Environmental health	26.4	10.8	63.0
Mental and emotional health	23.9	11.5	64.7
Violence prevention	23.1	12.6	64.3
Conflict resolution	21.4	12.3	66.3
Community health	20.3	12.6	67.0

TABLE 3. Pediatricians' Awareness of Selected Local School Health Programs (*n* = 1006)

	Percent Reporting Program Exists		
	Yes	No	Don't Know
Breakfast and/or lunch programs	74.0	3.0	23.0
Counseling and psychological services for students	58.4	4.9	36.7
Programs that promote a school's healthful physical environment, such as maintaining a smoke-free environment	49.6	5.4	45.0
Nutrition education following US Dietary Guidelines of Americans	35.4	8.8	55.8
School health advisory councils or coalitions that actively solicit community resources to respond to the health-related needs of children	33.8	11.4	54.8
School health advisory councils or coalitions that actively solicit parent involvement to respond to the health related needs of students	22.1	15.4	62.5
Programs that promote a school's psychological environment, ie, psychosocial factors that affect the productivity of students and staff	21.2	11.8	67.0
A program that provides opportunities for school staff to improve their health status, ie, fitness activities, health education	10.1	16.8	73.2

TABLE 4. Pediatricians' Perception of Need for Local Age-appropriate School Health Education Curriculum (*n* = 907)

K-12 Curriculum That Includes Health Education in	Percent Reporting Need for Program		
	Great Need	Some Need	Little Need
Substance abuse	84.4	13.1	2.4
Pregnancy prevention	82.3	15.1	2.7
HIV and other STD prevention	81.2	16.1	2.7
Violence prevention	77.0	20.1	3.0
Human sexuality	73.0	23.0	4.0
Injury prevention and safety	67.7	29.0	3.3
Conflict resolution	66.1	30.2	3.7
Nutrition	65.1	30.8	4.0
Personal health	60.6	34.7	4.7
Disease prevention	58.5	36.8	4.7
Mental and emotional health	56.3	37.8	5.9
Family health	52.9	40.3	6.7
Environmental health	45.2	45.7	9.1
Community health	42.7	46.9	10.4

(58%), and health educators (36%) are greatly needed to provide primary care services in their community's local schools.

Participation in School Health Programs

Overall, 22% of responding pediatricians worked with local school health programs in a wide variety of roles (Table 6). Thirty-two percent of these pediatricians taught classes, and 22% were consultants for physical education/sports programs. Sixty-three percent of these pediatricians treated children with special needs who were referred, and 20% participated in educational plans for these children. Twelve percent of those who responded provided family planning/sexually transmitted disease (STD)/HIV prevention services, and 19% were consultants for such preventive service programs. Another 21% of the respondents provided on-site screening and referral services, and 15% provided services in school-based clinics (SBCs). Finally, 4.5% of the pediatricians served on local school boards. With the exception of treating children with special needs and providing direct clinical services, few pediatricians were reimbursed for their services. Those who were paid, however, worked many more hours than those

who were not. Only 16% of the pediatricians identified inadequate reimbursement as a reason for limiting their involvement with schools (Table 7).

The primary reason stated for limited participation in school health was a lack of time (73%). Approximately one fifth to one fourth of the pediatricians identified a lack of school health training (ie, GME or CME), not knowing how to get involved, concern about liability, or being new to the community as a reason for limited participation.

Although some concerns have been voiced about the involvement of pediatricians in school health, only 10% thought health services should not be delivered in school settings or lacked an interest in school health issues. Only 2.4% did not believe physicians should be involved in school health services, and only 1.5% did not think schools were the appropriate setting for health education.

Seventy-one percent of the respondents wanted to participate or increase their activity in local school health programs in a variety of ways—as consultants assisting in the development of health education curriculum (54%), family planning/STD/HIV prevention programs (34%), physical education/sports programs (22%), or school health services (45%). Also, 43% of the pediatricians noted they would like to teach a health-related class or serve on a child health council or school health advisory board. Eighteen percent of those interested in participating would like to serve on a local school board. Approximately one fifth to one fourth were willing to provide services at SBCs, provide on-site screening/referral services, participate in individual education plans for children with special needs, or provide family planning/STD/HIV prevention services.

In addition, pediatricians identified the resources necessary to support their participation in school health programs. Almost three fourths of these respondents wanted information on how to make a meaningful contribution with their limited time, 63% wanted to know how to get started, and 62% wanted detailed information on the components of optimal comprehensive school health programs. Approximately half of those surveyed wanted educational programs on school health to be conducted at the AAP's national meetings. Requested content areas of

TABLE 5. Pediatricians' Perception of Need for Selected Local School Health Programs (*n* = 854)

	Percent Reporting Need for Program		
	Great Need	Some Need	Little Need
Programs that promote a school's healthful physical environment, such as maintaining a smoke-free environment	76.2	20.1	3.6
Counseling and psychological services for students including assessments, interventions, and referrals	76.1	20.8	3.0
Nutrition education following US Dietary Guidelines for Americans	65.8	29.0	5.1
Breakfast and/or lunch programs	64.5	27.9	7.6
School health advisory councils or coalitions that actively solicit community resources to respond to the health related needs of children	58.4	37.2	4.5
School health advisory councils or coalitions that actively solicit parent involvement to respond to the health related needs of students	57.8	37.2	4.5
Programs that promote a school's psychological environment, ie, psychosocial factors that affect the productivity of students and staff	54.7	39.0	6.3
A program that provides opportunities for school staff to improve their health status, ie, fitness activities, health education	39.2	48.8	12.0

TABLE 6. Type of Service and Number of Hours Worked Per Year Among Pediatricians Who Participate in Local School Health Programs (*n* = 224)

School Health Programs	Pediatrician Volunteers		Average h/y Unpaid	Pediatricians Paid		Average h/y Paid
	#	%		#	%	
	Teach a class	68	30.6	4.8	3	1.4
Consult on school health services	57	25.6	7.5	16	7.2	13.8
Treat children with special needs referred by school	54	25.1	18.8	81	37.9	31.5
Consult on health education curriculum	47	21.1	8.5	3	1.3	11.0
Service on a school health advisory committee	44	19.9	10.4	4	1.8	13.3
Consult on physical education/sports related programs	41	18.4	8.1	9	4.0	13.2
Consult on family planning/STD/HIV prevention programs	36	16.1	91.5	7	3.1	34.6
Participate in planning educational programs/family service plans for children with special health needs	33	14.9	8.9	11	5.0	26.7
Service as a school sports team physicians	28	12.6	13.1	9	4.0	13.1
Provide on-site screening/referral services	26	11.6	9.7	21	9.5	30.0
Provide family planning STD/HIV prevention services	17	7.6	15.1	10	4.5	75.9
Provide services at a school-based clinic	16	7.2	27.6	17	7.6	53.6
Service on a local school board	10	4.5	41.1	0	0	0

TABLE 7. Reasons for Limiting Involvement in School Health Programs (*n* = 883)

	Percent Reporting
Lack of time	73.4
Never had training in school health during residency	26.6
Don't know how to get involved in school health programs	22.8
Liability coverage issues	22.7
New to community	21.6
Never had any CME in school health	19.0
Inadequate reimbursement	16.3
Do not think health services should be delivered in the school setting	10.2
Lack of interest in school health issues	9.4
Sufficient existing level of physician involvement	6.3
Do not think physicians should be involved in school health services	2.4
Do not think school is the appropriate setting for health education	1.5

these programs included how to implement comprehensive school health education (53%); sexuality education (46%); building coalitions with schools, parents and communities (45%); how to be an effective advocate for school health (52%); and acquiring school consultation skills (43%). Additionally, 54% of the pediatricians wanted the names of contacts (ie, health educators, school nurses, and physicians) of those currently involved in school health programs in their communities.

Seventy percent of the respondents wanted information on their local school health curricula so they

could reinforce these messages during their health maintenance visits.

Issues on School Health

Much attention has been focused on the rapid development of SBCs during the past 10 years. Two thirds of the respondents believed SBCs are one of the best ways to reach the underserved population. Approximately half of the respondents believed SBCs provide care unavailable elsewhere for teenagers and should be dispensing contraceptives. Sixty-nine percent of the pediatricians believed SBCs

should be extended to preteens. Only 23% of the pediatricians believed SBCs were appropriate only for underserved teens. Opinions were divided on whether SBCs compromise continuity of care for adolescents (34% agreed, 30% were neutral, and 36% disagreed); whether parental consent should be required to dispense contraceptives (34% agreed, 21% were neutral, and 45% disagreed; $P > .01$); and that SBCs are a cost-effective alternative to office-based care (29% agreed, 45% were neutral, and 28% disagreed; $P > .01$). Since the 1987 AAP Periodic Survey, significantly more pediatricians believed that SBCs should provide care unavailable elsewhere for teenagers (49% vs 39%; $P < .01$) and should be extended to underserved preteens (69% vs 41.5%; $P > .01$). However, fewer respondents believed contraceptives should be dispensed to teenagers (51% vs 58%; $P > .01$), and more respondents thought parental consent should be obtained before contraceptives are dispensed (35.5% vs 27%; $P < .01$).

Eighty-five percent of the respondents believed pediatricians should be involved in comprehensive school health education programs. Schools were believed to be an appropriate setting for education in HIV prevention (by 91% of the respondents) and for education in human sexuality and pregnancy prevention (by 87% of the respondents).

Only one fourth of the pediatricians believed they are educated adequately during medical school and residency in most areas of school health and as advisors to school health education programs on sexuality issues; 79% believed education is necessary in these areas.

DISCUSSION

During the past decade, there has been an increasing demand for pediatric involvement in school health programs. This survey representing members of the AAP documents not only significant pediatrician involvement in school health programs, but more importantly, an impressive level of pediatrician interest in increasing their involvement. Furthermore, pediatricians would like to work with schools in a variety of ways.

Many of the pediatricians surveyed believed that they needed more skills in school health programming and to know how to initiate a contractual relationship with schools (also noted in Niebuhr's survey¹⁹). Both the AAP Section on School Health and the Committee on School Health have provided guidelines for CME and GME of pediatricians in school health,²¹⁻²² despite the fact that one group of pediatricians surveyed noted little interest in CME programming.²⁰ Recent articles also have enthusiastically supported school health training as a part of GME programs.²⁴⁻²⁷

Greater than 70% of the pediatricians surveyed wanted to participate or increase their participation in school health programs; however, they identified a number of barriers in doing so. The principle barrier was a lack of time. Strategies to overcome these time constraints and possibly to initiate reimbursement for private practitioners and pediatricians in managed care for time spent in school health activi-

ties should be explored to provide better preventive and less costly care. For children and youth without a medical home, this approach matches the striking interest of managed care organizations in school health in areas where managed care organizations are prevalent (eg, Minnesota).²⁸

Finally, it remains clear that pediatricians support school-based primary care for children and youth who have no medical home. The particulars of this care, especially involving issues of sexuality, remain controversial, but improved access to primary care for children and youth through school remains uncontested. The survey demonstrates a significant number of pediatricians interested in providing care in school-based health centers. However, approximately half of the pediatricians identified a need for education in community assessment (53%) and how to build coalitions to support expanded school health programs (45%). The AAP's policy statement on integrated school health services also recognized the value of needs assessment and community involvement when addressing school health,¹⁶ thus emphasizing these educational needs for practicing pediatricians.

These challenges offer a special opportunity for the AAP Section and Committee on School Health to develop CME courses that meet the precise needs of practitioners with little time to devote to school health. The AAP completed a Centers for Disease Control and Prevention-funded School Health Leadership Training in 1997 for a representative from each AAP chapter. A manual based on that training in school health skills will be available through the AAP and its School Health Web site. Other school health professionals (eg, nurses, administrators, board members, and educators) participated in the Leadership Training. Regional CME programs and state chapter meetings will be most successful if they target regional/local needs and include the expertise and contributions of other school health professionals.

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