

SCHOOL-BASED HEALTH CENTER EVALUATION

DESIGNED BY

VIKRUM VISHNUBHAKTA
FORWARD CONSULTANTS/APS HEALTHCARE

DIVISION OF PUBLIC HEALTH
DELAWARE HEALTH & SOCIAL SERVICES



DELAWARE HEALTH AND SOCIAL SERVICES

Division of Public Health

Center for Family Health Research and Epidemiology

CONTACT

Alisa Olshefsky

Section Chief, Delaware Department of Health & Social Services, Division of Public Health
417 Federal Street, Jesse Cooper Building
Dover, DE 19901
302.744.4551 Office
302.739.6653 Fax
alisa.olshefsky@state.de.us

Vikrum Vishnubhakta

Consultant/Principal, Forward Consultants on behalf of APS Healthcare
350 South Hamilton Street, Suite 506
Madison, WI 53703
608.208.1670 Office
608.338.0426 Fax
vikrum@goforwardconsultants.com

EXECUTIVE SUMMARY

Introduction

School-based health centers (SBHCs) offer medical care to children and adolescents as well as organize extensive school-based and community-based health promotion efforts. SBHCs are located in 27 out of Delaware's 31 public high schools. SBHCs in Delaware provide numerous preventive services such as testing for sexually transmitted infections and administering immunizations. According to a University of Delaware survey, however, students who access SBHCs in Delaware generally use these care centers for non-preventive services such as sports physicals. This paper outlines an evaluation plan for Delaware's SBHCs with particular focus on the preventive services recommended for adolescents.

Methods

First, a set of adolescent health services was drawn from the recommendations designed by associations focused on child and adolescent well-being. Out of the 59 recommendations uncovered, a robust and concise set of measures was then chosen using United States Preventive Services Task Force (USPSTF) guidelines and recommendations from the *Bright Futures* program. Ultimately, five services were chosen:

1. Physical Exam and Risk Assessment;
2. Depression Screening;
3. Sexually Transmitted Infections Screening: Chlamydia and Gonorrhea;
4. Substance Abuse Screening;
5. Tobacco Screening.

An evaluation table featuring each of these services with their respective periodicity, measures, markers, and measurements was then created by applying the continuous quality improvement (CQI) tool established by the National Assembly on School-Based Health Care (NASBHC).

Since it is difficult to measure efficacy of evaluation programs in the school setting, it is recommended that a two-part evaluation plan be considered. The first part centers on assessing the perception of health care services by SBHC stakeholders (students, parents, and teachers). The second part involves a longitudinal analysis of the measurement indicator located on the evaluation table. This plan will necessitate considerable input from Delaware's SBHC stakeholders.

Discussion

The evaluation table was regarded to be both holistic in its approach in evaluating adolescent health services as well as cognizant of the time constraints practitioners experience when providing such services. Given its high percentage of public high schools with SBHCs, Delaware has an opportunity to lead the nation with a sound method to evaluate SBHCs. Moreover, successful implementation of a SBHC evaluation plan may also result in an overall improvement in adolescent health and well-being.

TABLE OF CONTENTS

BACKGROUND ON SCHOOL-BASED HEALTH CENTERS 5

SCHOOL-BASED HEALTH CENTERS IN DELAWARE 5

METHODS 8

 Choosing Services for SBHC Evaluation 8

 Applying Periodicity, Markers, and Measurements for the Chosen Services 8

 Evaluating the Effectiveness of School-Based Health Centers 11

DISCUSSION 11

REFERENCES 12

BACKGROUND ON SCHOOL-BASED HEALTH CENTERS

School-based health centers (SBHCs) provide medical care with preventive and psychosocial services as well as coordinate broader school-based and community-based health promotion efforts.¹ The drive for offering health services in schools is the recognition that an increasing number of adolescents lack access to health care and need care beyond traditional medical care.² This situation is particularly marked for adolescents, for whom morbidity and mortality rates have been unacceptably high over the past decade.³

SBHCs are uniquely positioned to serve the health care needs of adolescents in that they reduce physical barriers to access,⁴ enhance compliance and follow-up,⁵ improve early identification of high-risk health conditions,⁶ allow for self-initiated confidential care,⁷ integrate health promotion in the school environment,⁸ offer an array of services that meet the specific needs of adolescents,⁴ and use midlevel practitioners to reduce health care costs.⁹ In addition, studies show that adolescents trust health care practitioners and are interested and willing to talk with practitioners about recommended preventive counseling and screening topics, particularly in a confidential, private health care setting.^{10,11,12,13}

SCHOOL-BASED HEALTH CENTERS IN DELAWARE

According to Delaware's Division of Public Health School-Based Health Center Central Office, school-based health centers have the following features:

- Provide a range of health services and are tailored by each community to meet that needs of that area. SBHCs were developed to work in partnership with parents, schools, school nurses and the medical community.
- Are operated by a multi-disciplinary team of health professionals who use a holistic approach to address a broad range of health and health-related needs.
- Are not substitutes for the student's personal physician, but rather, act as a source for referral to outside medical care and as points of contact for comprehensive health services.
- In order for students to receive SBHC services, their high school must have such a program established and provide a signed parental consent form.
- Once the parent registers the student, s/he can use the services while they remain in high school.
- Parents can choose which services they want their children to receive.
- In regards to consent and confidentiality of student records, centers are protected by the Health Insurance Portability and Accountability Act (HIPAA) and the Family Educational Rights Privacy Act (FERPA).¹⁴

All services offered at SBHCs in Delaware are free. SBHCs in Delaware do not provide X-rays, complex lab tests, prescribing or dispensing of contraceptive devices, or ongoing treatment of chronic or psychiatric conditions. Delaware's SBHCs perform the services outlined in Table 1.

Physical Health	Sports Physicals
	Treatment of Minor Illness/Injuries
	Pregnancy Testing
	Immunizations (Where Appropriate)
	Prescribe Routine Medications
	Diagnosis and Treatment of Sexually Transmitted Diseases*
	HIV Testing and Counseling*
Mental Health	Individual and Family Counseling in a Variety of Settings
	Group Counseling
	Referral for Long-Term Counseling and Evaluations
Nutritional Health	Weight Management
	Special Diets
	Eating Disorders
	Sports Nutrition
	Prenatal/Postpartum Nutrition
	Individual/Group Counseling
Health Education	Mental Health
	Physical Health
	Nutritional Health

Table 1: Basic School-Based Health Center Services in Delaware.

Out of the 31 public high schools in Delaware, 27 have a SBHC located on their campus (Table 2 and Table 3).

Brandywine	Cab Calloway School of Arts	Caeser Rodney
Cape Henlopen	Christiana	Delcastle Technical
Delmar	Dover	Glasgow
Hodgson Vo-Tech	Howard Technology	Indian River
John Dickinson	Lake Forest	Laurel
Middletown	Milford	Mount Pleasant
Newark	Polytech	Seaford
Smyrna	Sussex Central	Sussex Technical
Thomas McKean	William Penn	Woodbridge

Table 2: Delaware Public High Schools with a School-Based Health Center.

Alexis I DuPont	Appoquinimink	Concord	St. Georges Technical
-----------------	---------------	---------	-----------------------

Table 3: Delaware Public High Schools without a School-Based Health Center.

According to the 2009 Delaware School Survey conducted by the Center for Drug and Alcohol Studies at the University of Delaware, a substantially high percentage of students use school-based health centers[†] for sports physicals rather than for preventive services such as updating immunizations or receiving information on tobacco, alcohol, or drug use (Figure 1).¹⁵

* Optional services subject to school board approval.

[†] Termed “wellness centers” in the survey.

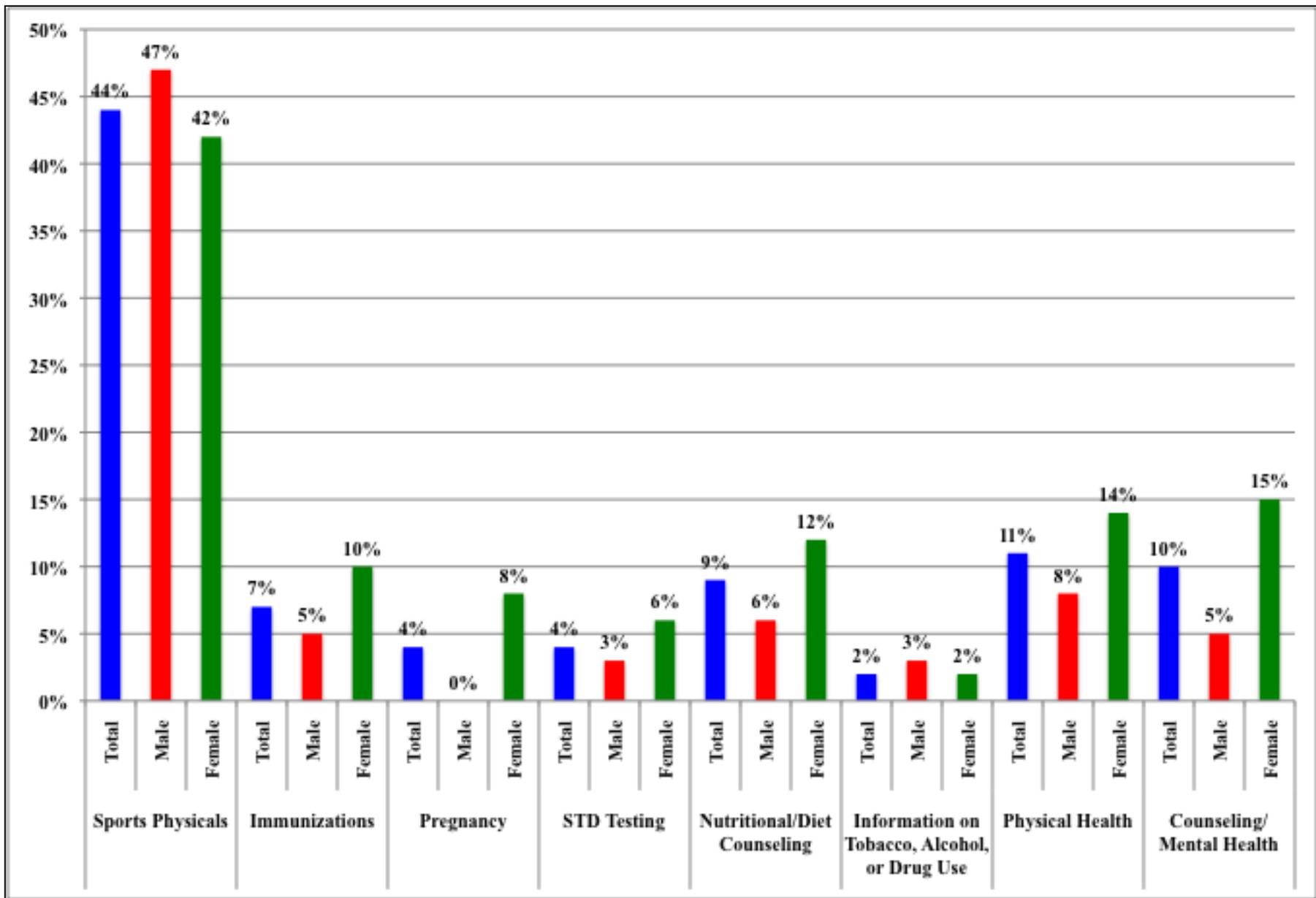


Figure 1: Percentage of Delaware Eleventh Graders Reporting Wellness Center Use, 2009.¹⁵

METHODS

Choosing Services for SBHC Evaluation

To design an evaluation plan for SBHCs, a set of adolescent health services was drawn from recommendations designed by associations focused on child and adolescent well-being. The Health Resources and Services Administration (HRSA), the American Medical Association (AMA) and American Academy of Pediatrics (AAP) have outlined guidelines for counseling and screening for adolescents through the *Bright Futures* program¹⁶ and the Guidelines for Adolescent Preventive Services (GAPS) initiative.^{17,18,19} In addition, Healthy People 2010 has set forth objectives to be addressed through health care services for adolescents, such as increasing the proportion of adolescents who abstain from sexual intercourse, use condoms if sexually active, and do not use illegal substances.^{20,21} Finally, the United States Preventive Services Task Force (USPSTF) has detailed recommendations relevant to adolescent health care services.²² A total of 59 services (28 counseling services and 31 screening services) that center on adolescent health have been designed by these diverse organizations.²³

A robust and concise set of measures was chosen from these 59 measures. USPSTF recommendations with an “A” or “B” grade were given priority in developing evaluation measures since the USPSTF is generally recognized as the body that does the best and most transparent job of aligning recommendations on research evidence of effectiveness in a clinical setting.²³ The *Bright Futures* guidelines were then used to supplement evaluation measures for physical examination and risk assessment since this program entirely focuses on adolescent health and has been employed in health services in various jurisdictions.¹⁶ Applying these constraints resulted in the following five services to be used for SBHC evaluation³:

1. Physical Exam and Risk Assessment;
2. Depression Screening;
3. Sexually Transmitted Infections Screening: Chlamydia and Gonorrhea;
4. Substance Abuse Screening;
5. Tobacco Screening.

Applying Periodicity, Markers, and Measurements for the Chosen Services

The *periodicity*, or frequency of when each of these services should be evaluated, was determined by USPSTF guidelines for each service.²² The *measures*, or the minimum set of methods that need to be in place in order to provide the service, were then defined by USPSTF and *Bright Futures* guidelines for each of the chosen services. Each of these services was then matched to the continuous quality improvement (CQI) tool established by the National Assembly on School-Based Health Care (NASBHC).²⁴ This matching process helped establish a set of *markers*, or the data that needs to be collected from the measure, and *measurements*, the assigned value of the marker based on its position in the percent breakdown, for each service. According to the CQI tool, a *measurement* score of “1” or “2” is considered below threshold, “3” is at threshold, and “4” or “5” is considered above threshold. A list of the five chosen services with their periodicity, measures, markers, and measurements is provided in Table 4.

³ Note that HIV and Syphilis met the criteria but are services not performed in Delaware SBHCs.

Table 4: Services to Evaluate SBHCs

Service	Periodicity	Measures	Markers	Measurement
Physical Exam and Risk Assessment	Annually	<ol style="list-style-type: none"> 1. Length/Height and Weight 2. Body Mass Index (BMI) 3. Blood Pressure 4. Risk Assessment (HEADSS) from <i>Bright Futures Adolescent Supplemental Questionnaire</i>²⁵ 	<ol style="list-style-type: none"> 1. % of students with documentation of physical exam and risk assessment performed. 	<ol style="list-style-type: none"> 1. 0-25% of students documented. 2. 26-50% of students documented. 3. 51-75% of students documented. 4. 76-95% of students documented. 5. 96%-100% of students documented.
Depression Screening	Annually	<ol style="list-style-type: none"> 1. Patient Health Questionnaire for Adolescents (PHQ-A) or Beck Depression Inventory-Primary Care Version (BDI-PC) 	<ol style="list-style-type: none"> 1. % of students with documentation of depression screening. 2. % of students reporting <i>high risk of depression</i> with documented referral to qualified mental health provider in SBHC, school or community. 3. % of students reporting <i>high risk of depression</i> who have documentation of follow-up. 4. % of students reporting <i>risk of suicide</i> who have documented safety plan and referral for suicide risk assessment. 	<ol style="list-style-type: none"> 1. 0-50% of students at high risk of depression have documented screening, referral, and follow up. 2. 51-75% of students at high risk of depression have documented screening, referral, and follow up. 3. 76-90% of students at high risk of depression have documented screening, referral, and follow up and less than 100% have a documented safety plan and referral for suicide assessment. 4. 76-90% of students at high risk of depression have documented screening, referral, and follow up and 100% have a documented safety plan and referral for suicide assessment. 5. 91-100% of students at high risk of depression have documented screening, referral, and follow up and 100% have a documented safety plan and referral for suicide assessment.
Sexually Transmitted Infections Screening: Chlamydia, Gonorrhea	Annually	<ol style="list-style-type: none"> 1. Nucleic Acid Amplification Test (NAAT) 	<ol style="list-style-type: none"> 1. % of sexually active women screened. 2. % of sexually active women with appropriate assessment and treatment consistent with CDC guidelines. 3. % of sexually active women with documented risk reduction for Chlamydia and/or Gonorrhea. 	<ol style="list-style-type: none"> 1. 0-50% of sexually active women with appropriate assessment and treatment consistent with CDC guidelines. 2. 51-95% of sexually active women with appropriate assessment and treatment consistent with CDC guidelines. 3. 96-100% of sexually active women with appropriate assessment and treatment consistent with CDC guidelines. 4. 96-100% of sexually active women with appropriate assessment and treatment consistent with CDC guidelines and 25-50% reporting reduced risk at next visit. 5. 96-100% of sexually active women with appropriate assessment and treatment consistent with CDC guidelines and 51-100% reporting reduced risk at next visit.

Service	Periodicity	Measures	Markers	Measurement
Substance Abuse Screening	Annually	1. Risk Assessment (CRAFFT) from <i>Bright Futures Adolescent Supplemental Questionnaire</i> ²⁵	<ol style="list-style-type: none"> 1. % of students with documentation of substance abuse screen. 2. % of students reporting <i>high risk of substance abuse</i> (2 or more answers on CRAFFT) with documented intervention plan (treatment or referral to qualified medical, mental health provider, or substance abuse counselor in SBHC, school, or community). 3. % of students with documented level of risk or abuse at follow-up visit. 	<ol style="list-style-type: none"> 1. 0-50% of students report a screening for abuse took place. 2. 51-95% of students report a screening for abuse took place. 3. 96-100% of students report a screening for abuse took place. 4. 96-100% of students report a screening for abuse took place and at least 50% of students with high risk of substance abuse report evidence of intervention plan or referral. 5. 96-100% of students report a screening for abuse took place, at least 50% of students with high risk of substance abuse report evidence of intervention plan or referral, and 1-10% of students report reduced use in follow-up visit.
Tobacco Screening	Annually	1. Risk Assessment from <i>Bright Futures Adolescent Supplemental Questionnaire</i> ²⁵	<ol style="list-style-type: none"> 1. % of students with documentation of tobacco screen. 2. % of students using tobacco receiving documentation of intervention plan (treatment, education, or referral to qualified medical, mental health provider, or substance abuse counselor in SBHC). 3. % of students adherent to intervention plan. 4. % of students documented reduced use or cessation. 	<ol style="list-style-type: none"> 1. 0-50% of students received intervention. 2. 51-95% of students received intervention. 3. 96-100% of students received intervention. 4. 96-100% of students received intervention and 50-100% of students compliant with plan. 5. 96-100% of students received intervention, 50-100% of students compliant with plan, and 1-20% of students reporting smoking cessation.

Evaluating the Effectiveness of School-Based Health Centers

Barriers such as retention, clinical significance, consent, and stakeholder involvement make conducting successful evaluation research in SBHCs a challenging process.^{26,27} In addition, it is difficult to measure efficacy of such programs since such practices often involve the use of comparison groups. Comparison groups rely on having two groups different from the outset of the study and necessitate having one group that uses services to another group that does not. Unfortunately, students who are likely to use SBHCs may be different in their overall exposure to risk factors, for example, than those who do not seek SBHC services; moreover, SBHC stakeholders may consider it unethical to withhold treatment for students.²⁶ Given this situation, it has been recommended that evaluators try to use qualitative methods to assess the perceptions of stakeholders (students, parents, and teachers) about these services.²⁶

In this evaluation, it is suggested that a two-part methodology to evaluate effectiveness be considered. The first part involves a survey to assess perceptions of SBHC staff, parents, and students. For students, this may be achieved through the expansion of the State of Delaware's Youth Risk Behavior Survey (YRBS) or the University of Delaware's Secondary School Student Questionnaire. The State of Oregon, for example, has a comprehensive method of gauging stakeholder perceptions through both their YRBS and a separate SBHC-related survey.²⁸ Other sites that have evaluated their SBHC services through the use of surveys include the State of Maine,²⁹ the State of Texas,³⁰ and the City of Seattle, Washington.³¹

The second part of the effectiveness methodology entails a longitudinal analysis of the measurement indicator from the SBHC evaluation table (Table 4). This analysis should focus on whether the measurement indicators improve over time – that is, does the measurement indicator stay at or above a score of “3” each year and does the measurement indicator increase or, if at or above a score of “3”, remain consistent each year. Designing this analysis will require discussion among SBHC stakeholders.

DISCUSSION

The evaluation table meets the criteria for proper assessment of SBHCs. According to the National Research Council, Panel on High Risk Youth, to effectively answer to the behavioral and health care needs of children, the scope of SBHC services should be focused on the whole person or “wholistic”.^{32,33} The services listed in the table are diverse and broad, and accordingly, embrace this need for a “wholistic” approach to evaluate the health of adolescents.

Moreover, the evaluation table is cognizant of the time constraints placed on practitioners that provide such services. It has been calculated that delivery of only USPSTF grade “A” and “B” services for adolescents would take about 40 minutes per year per adolescent.³⁴ Given the specific time limitations outlined under section 4.6.2 of Delaware's EPSDT program,³⁵ this required time is adequate.

Given its high percentage of public high schools with SBHCs, Delaware has an opportunity to lead the nation with a robust yet concise method to evaluate SBHCs. Successful implementation of a SBHC evaluation plan may also result in a more noteworthy effect: improved adolescent health and well-being.

REFERENCES

- ¹ School-Based Health Centers. (2010). *Center for Health and Health Care in our Schools*. Retrieved from <http://www.healthinschools.org/Publications-and-Resources/Publications/Bibliographies/School-Based-Health-Centers-Bibliography.aspx>.
- ² Brindis, C. (2003). School-Based Health Centers: Accessibility and Accountability. *Journal of Adolescent Health, 32S*:98-107.
- ³ Ozer, E., Brindis C., & Millstein, S. (1998). America's Adolescents: Are They Healthy? *National Adolescent Health Information Center*. San Francisco: University of California.
- ⁴ Anglin, T., Naylor, K., & Kaplan, D. (1996). Comprehensive school-based health care: high school students' use of medical, mental health, and substance abuse services. *Pediatrics, 97*:318-330.
- ⁵ Bearss, N., Santelli, J., & Papa, P. (1995). A pilot program of contraceptive continuation in six school-based clinics. *Journal of Adolescent Health, 17*:178-183.
- ⁶ Walter, H., Vaughan, R., Armstrong, B., et al. (1996). Characteristics of users and nonusers of health clinics in inner-city junior high schools. *Journal of Adolescent Health, 18*:344-348.
- ⁷ Santelli, J., Kouzis, A., & Newcomer, S. (1996). Student attitudes toward school-based health centers. *Journal of Adolescent Health, 18*:349-356.
- ⁸ Kisker, E. & Brown, R. (1996). Do school-based health centers improve adolescents' access to health care, health status, and risk-taking behavior? *Journal of Adolescent Health, 18*:335-343.
- ⁹ Kaplan, D., Calonge, N., Guernsey, B., & Hanrahan, M. (1998). Managed care and school-based health centers. *Archives of Pediatrics & Adolescent Medicine, 152*:25-33.
- ¹⁰ Bethell, C., Klein, J., & Peck, C. (2001). Assessing Health System Provision of Adolescent Preventive Services: The Young Adult Health Care Survey. *Medical Care, 39*(5):478-490.
- ¹¹ Schuster, M., Asch, S., McGlynn, E. (1997). Development of a quality of care measurement system for children and adolescents. *Archives of Pediatrics & Adolescent Medicine, 151*:1085-1092.
- ¹² Schoen, C. & Descroches, C. (1998). Financing children's health care needs in the next century. *Journal of Urban Health, 75*:639-659.
- ¹³ Steiner, B. & Gest, K. (1996). Do adolescents want to hear preventive counseling messages in outpatient settings? *Journal of Family Practice, 43*:376-381.
- ¹⁴ What are Delaware School-Based Health Centers? (2009). *Delaware Health and Social Services, Division of Public Health*. Retrieved from <http://www.dhss.delaware.gov/dhss/dph/chca/dphsbhchome01.html>.
- ¹⁵ 2009 Delaware School Survey. (2010). *Center for Drug and Alcohol Studies, University of Delaware*. Retrieved from http://www.udel.edu/delawaredata/Files/State_Report_2009.pdf.
- ¹⁶ Bright Futures: A National Health Promotion Initiative. (2010). Retrieved from <http://www.brightfutures.org/>.
- ¹⁷ Elster, A. & Kuznets, N. (1994). American Medical Association guidelines for adolescent preventive services: recommendations and rationale. Baltimore: Williams & Wilkins.
- ¹⁸ Guidelines for Adolescent Preventive Services. (2010). *American Medical Association*. Retrieved from <http://www.ama-assn.org/ama/pub/physician-resources/public-health/promoting-healthy-lifestyles/adolescent-health/guidelines-adolescent-preventive-services.shtml>.
- ¹⁹ American Academy of Pediatrics committee on practice and ambulatory medicine. (2000). Recommendations for preventative pediatric health care. *Pediatrics, 105*:645-646.s
- ²⁰ U.S. Department of Health and Human Services, Healthy People 2010: Understanding and improving health, 2nd edition. (2000). Washington, DC: U.S. Government Printing Office.
- ²¹ Klein, J. et al. (2007). Measuring quality of adolescent preventive services of health plan enrollees and school-based health center users. *Journal of Adolescent Health, 41*:153-160.
- ²² United States Preventive Services Task Force (2010). Agency for Healthcare Research Quality. Retrieved from www.ahrq.gov/clinic/uspstfix.htm.
- ²³ Solberg, L., Nordin, J., Bryant, T., Kristensen, A., & Maloney, S. (2009). Clinical preventive services for adolescents. *American Journal of Preventive Medicine, 37*(5):445-454.
- ²⁴ EQ Quality Improvement. (2010). National Assembly on School-Based Health Care. Retrieved from www.nasbhc.org/atf/cf/%7BCD9949F2-2761.../EQ_COI%20Tool.pdf.
- ²⁵ Bright Futures Adolescent Supplemental Questionnaire 15 to 17 Year Visits. (2010). *American Association of Pediatrics*. Retrieved from practice.aap.org/public/D.Adol.SQ.Patient.15-17yr.L0825.sample.pdf.
- ²⁶ Nabors, L. (2003). Evaluation in school-based health centers. *Psychology in the Schools, 40*(3):309-320.
- ²⁷ Dryfoos, J., Brindis, C., & Kaplan, D. (1996). Research and evaluation in school-based health care. In Juszcak,

-
- L. & Fisher, M. (eds.), *Adolescent medicine: State of the art reviews*. Philadelphia, PA: Hanley & Belfus.
- ²⁸ School-Based Health Center Deadlines. (2010). *School-Based Health Centers*. Retrieved from www.oregon.gov/DHS/ph/ah/sbhc/docs/CombinedData.pdf.
- ²⁹ Maine School-Based Health Center Evaluation Project. (2010). *Maine Children's Alliance*. Retrieved from http://www.mainechildrensalliance.org/am/publish/article_179.shtml.
- ³⁰ Annual Report on School-Based Health Centers. (2008). *Texas Department of State Health Services*. Retrieved from www.dshs.state.tx.us/schoolhealth/pdf/SchoolBasedHealthCtrsRptFY08.pdf.
- ³¹ Evaluation of School-Based Health Center Clinic and School Nurse Services in Seattle, Washington. (2004). *Public Health: Seattle & King County*. Retrieved from http://www.kingcounty.gov/healthservices/health/child/~media/health/publichealth/documents/yhs/nurse_services.a shx.
- ³² National Research Council. (1993). *Losing Generations: Adolescents in High-Risk Settings*. Washington, DC: National Academy Press.
- ³³ Shuler, P. (2000). Evaluating student services provided by school-based health centers: applying the Shuler Nurse Practitioner Model. *Journal of School Health*, 70(8):348-352.
- ³⁴ Yarnall, K., Pollak, K., Ostbye, T., Krause, K. & Michener, J. (2003). Primary care: is there enough time for prevention? *American Journal of Public Health*, 93(4):635-641.
- ³⁵ School-Based Health Services Provider Specific Revision Table. (2010). *Delaware Health and Social Services, Division of Public Health*. Retrieved from <http://www.dmap.state.de.us/downloads/manuals.html>.