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A comparison of adolescent health care at a school-linked clinic and at a community-based family health center

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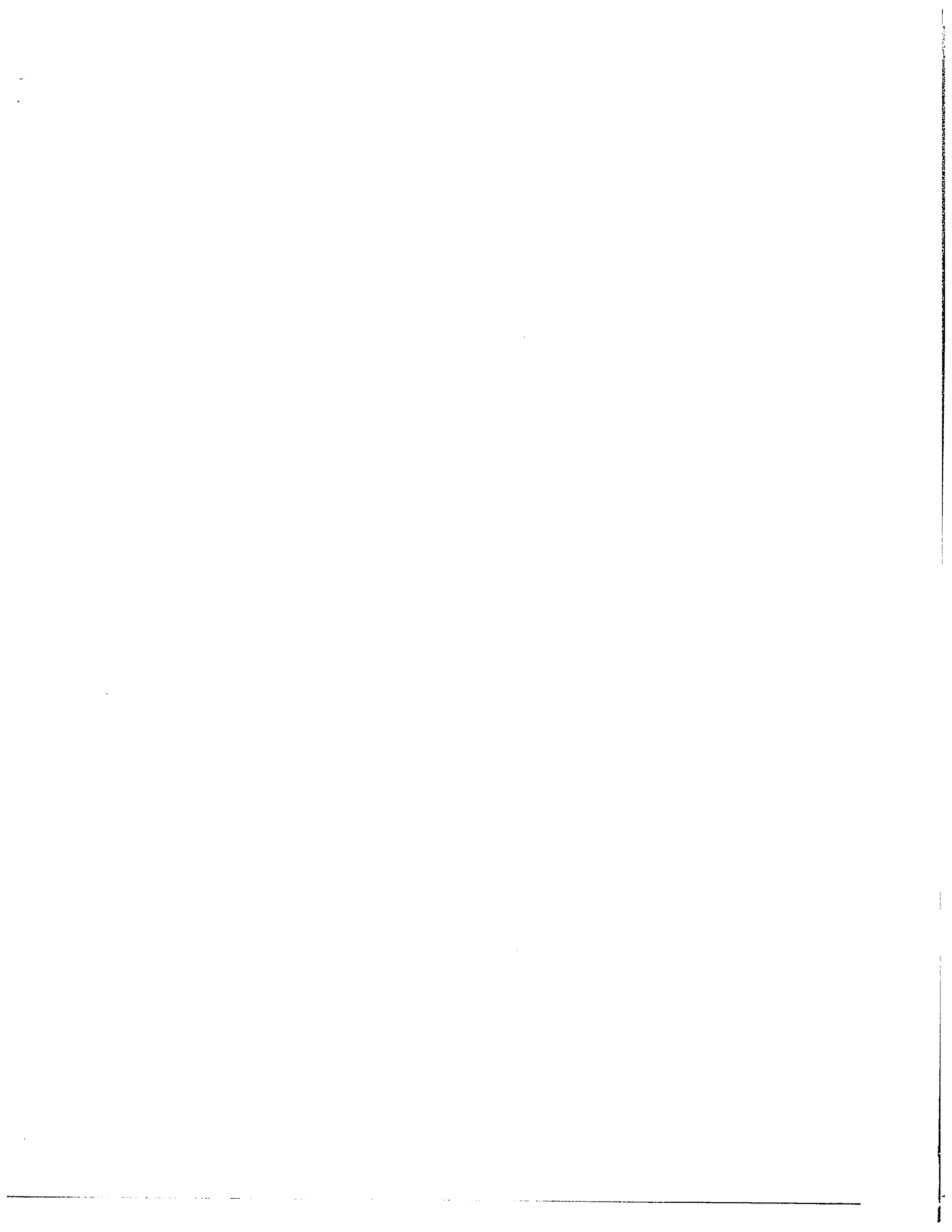
**A comparison of adolescent health care at a school-linked clinic
and at a community-based family health center**

Sencenbaugh, Judith Crady, M.S.

San Jose State University, 1994

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A COMPARISON OF ADOLESCENT HEALTH
CARE AT A SCHOOL-LINKED CLINIC
AND AT A COMMUNITY-BASED
FAMILY HEALTH CENTER

A Thesis

Presented to

The Faculty of the School of Nursing
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

By

Judith Crady Sencenbaugh

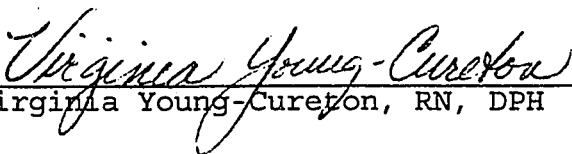
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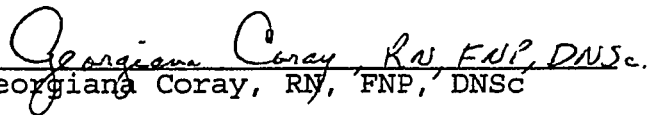
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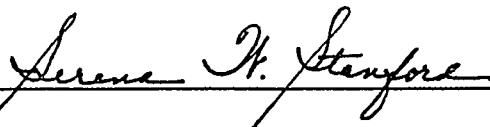
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ABSTRACT

A COMPARISON OF ADOLESCENT HEALTH CARE
AT A SCHOOL-LINKED CLINIC AND AT A
COMMUNITY-BASED FAMILY HEALTH CENTER

by Judith Crady Sencenbaugh

School-based clinics were developed to improve access to health care for adolescents. The purpose of this research was to compare health care for adolescents provided at a school-linked clinic with health care provided at a community-based family health center. The study design was descriptive. A convenience sample of charted visits of adolescents born between 1974 and 1978 and who were seen at one of the two clinic sites during the year 1992 were studied.

There were no significant differences between the two sites for age and gender of adolescents who were seen. Differences appeared when comparing patterns of health care between the two sites. The school-linked clinic received significantly more visits for counseling and health care maintenance, while the community-based family health center saw significantly more adolescents for acute illness. Recommendations for promoting adolescent health services and for further research are proposed.

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Chapter 1

INTRODUCTION

In the past 30 years, adolescents have comprised the only age group in the United States that has not enjoyed an improved health status (Blum, 1987). Unlike 50 years ago, when the major health problems were caused by infectious and other diseases, many of today's health problems have their roots in behavior rather than in physical causes. Drinking, smoking, Human Immune Deficiency Virus, unwanted pregnancy, sexually transmitted diseases, violence, and suicide are all related to behavior (National Commission on the Role of the School and the Community in Improving Adolescent Health, 1989). These health risk behaviors are major health issues for adolescents.

Access to health care is especially important during adolescence because the availability and organization of health services may modify risky behaviors and promote health habits (Klein & Sadowski, 1990). Adolescents face real obstacles when seeking health care from traditional medical settings: requirements for parental consent, perceived or actual lack of confidentiality, lack of payment sources, and inability to access clinics (Council on Scientific Affairs, 1989).

Adolescents list cost, access, and confidentiality as important issues affecting their use of health care

(Jenkins, 1991). School-based clinics or school-linked clinics (SLCs) were established as one strategy for providing adolescents with improved access to health care services. Because school-based clinics assure confidentiality and offer services where students are situated each weekday and are affordable, they have the potential of meeting health care and social needs not adequately addressed in traditional medical settings (Council on Scientific Affairs, 1989).

Background

Adolescence covers the second decade of life, or ages 10 through 18 years, and is a period of profound biological, emotional, intellectual, and social transformation unmatched by any other period in life (Dougherty et al., 1992). Adolescence is a time of experimentation with behavior and interpersonal styles and a time when attitudes about health practices and health professionals are set. In addition, adolescence is a time when children begin to make many of their own choices about their health, including decisions about what kinds of health care services they need and when they need them (Klein & Sadowski, 1990).

Adolescents are often stereotyped as healthy and not requiring health services geared to their specific needs. As a group, however, adolescents have some unique age related problems (Riggs & Cheng, 1988). Fisher's (1992)

research on adolescents indicated that their unmet health needs were greatest in areas related to sexuality, substance use, body image, and mental health.

Current and projected demographic trends for youth in the United States indicate that an already wide gap between needed and available health services is widening. In the 1970s, the number of adolescents reached an unprecedented high of over 25 million. This peak was followed by a decline in number of adolescents by 1990 to 19.2 million. However, it is anticipated that throughout the 1990s the number will increase sharply to an estimated 24.1 million by the close of the 20th century (Bearinger, Wildey, Gephart, & Blum, 1992).

The United States Congressional Office of Technology Assessment (OTA) cited in Klein, Slap, Elster, and Schonberg (1992), estimates that 1 in 5 adolescents suffer at least one serious health problem. As many as 1 in 4 are believed to be at high risk for school failure, delinquency, early unprotected sexual intercourse, or substance abuse.

The OTA reported that 4.6 million adolescents, or 14%, have no health insurance, and that one third, or 2.6 million, of poor adolescents are not covered by Medicaid (School-based Adolescent Health Care Program, 1992). Insurance alone does not guarantee access to health care for adolescents. The extent of covered services, as well as the

level of provider reimbursement affect the utility of insurance (Newacheck, McManus, & Gephart, 1992).

Adolescent health issues became a major focus of national attention during the years of escalating adolescent population. In the late 1980s the Robert Wood Johnson Foundation established the School-based Adolescent Health Care Program, a multi-site demonstration project. This project tested the ability of school-based health centers to increase access to health care for low-income young people, to provide comprehensive services at the school, and to encourage involvement by community institutions (Lear, Gleicher, St. Germaine, & Porter, 1991).

School-based clinics fall into four different organizational models and all function as out-patient operations (Miller, 1990). One model is administered by the school district and is located on school property or in the school building. A second model is administered by the health department and is in the school building or close to the school.

A third model is administered by an outside agency which interacts with the school district for its services. A fourth model is administered by an independent agency and is located adjacent to the school property.

Kirby, Waszak, and Ziegler (1991) reported that there are currently more than 178 school-based clinics operating

in middle schools and junior and senior high schools in 32 states. As of 1993, there are an estimated 500 clinics (Georgiana Coray, personal communication, December 10, 1993). These clinics may be found in most major cities and in many rural areas. Many of the clients served by these clinics are low-income minority youth with limited access to other sources of health care.

School-based clinics (SBCs) provide adolescents with a wide range of medical and counseling services. The School-based Adolescent Health Care Program reports that the largest number of visits to SBCs (29% of the total in 1991-92) are for treatment of acute illnesses and injuries (Riessman, 1991). The second largest category of visits to SBCs (18% of the total) is mental health care/treatment. Physical exams represent 15% of visits, and other important services, such as immunizations, nutrition counseling, and dental care, represent 18%. Gynecological examinations, birth control information and referral, pregnancy testing and counseling, and referral for prenatal care represent 10% of health center visits. Chronic disease management represents 6% of visits, and treatment for skin problems represents 4%. A few clinics dispense contraceptives, offer on-site prenatal care, or provide day care for children of students (Kirby et al., 1991).

Problem Area

According to McHarney-Brown and Kaufman (1991), adolescents are an underserved population with complex social needs, and they often engage in high-risk behaviors. Adolescence represents a time when health behaviors and attitudes are being formed, and it is a crucial time for health intervention. Although adolescents have higher rates of chronic medical illness and behavioral problems than do younger children, adolescents average 3 visits per year to physicians' offices compared with 7 visits per year for children under 6 years of age (Klein et al., 1992). In the United States, 15% of adolescents report no regular source of medical care (Riggs & Cheng, 1988). Therefore, the need for accessible services for adolescents is apparent.

The Institute of Medicine (IOM) has defined access in terms of the "structural, financial, and personal barriers individuals may face in obtaining or using care" (Klein et al., 1992, p. 162). Access to needed health care for adolescents is often hindered by these types of barriers, and there is a lack of motivation by the adolescents, who are most at risk and in need of care, to overcome these barriers.

Conventional health care sites in the community are often perceived by parents and adolescents as only places to receive treatment for acute or chronic medical illnesses and

conditions (McHarney-Brown & Kaufman, 1991). Nelson's study reports that adolescents visited a physician's office primarily for medical treatment or physical examination (1991). There is a scarcity of providers appropriately trained to deal with adolescent health concerns (Bearinger et al., 1992). There is also a lack of adequate transportation for adolescents to reach a medical provider (Kirby, 1990).

Adolescents may not receive care because they are too old to want to visit their family pediatricians, and commonly too young to pay for health care themselves. Many are too young to have jobs with health insurance benefits and too inexperienced in using the community health system to know when and how to obtain medical care on their own.

Other barriers to needed health care include the adolescents' real or perceived fear of lack of confidentiality in the health care setting. Adolescents are reluctant to share intimate issues, such as concerns about sexuality, family planning, substance abuse, and depression with parents and family. They are especially unlikely to define many of their own risk-taking behaviors as serious health problems for which they should be receiving counseling or care (Kirby, 1990, p. 171). Many adolescents would not see a private physician regarding sexuality, substance use, or emotional concerns, and would not seek

care at all if their parents' knowledge was required (Riggs & Cheng, 1988). These types of concerns may not be considered actual clinical problems by the mainstream health services treatment system, yet the problems would benefit from early clinical intervention (Dougherty et al., 1992).

Risk-taking behaviors are the greatest cause of morbidity and mortality in adolescents and should be a major focus of most comprehensive school health programs, but schools alone cannot be effective in improving the health behavior of adolescents. Communities and schools need to work together to provide accessible direct health services for adolescents (Kirby, 1990).

Schools are the one institution regularly attended by most young people ages 5-16 years; nearly 95% of all children and youth are enrolled in elementary or secondary schools. Thus, schools represent the public institution with the greatest opportunity for playing an important role in improving child and adolescent health (Kirby, 1990, p. 170). The placement of clinics in the school setting removes many of the barriers adolescents often face in accessing health and social services (Dougherty et al., 1992).

Because School-Based Clinics (SBC) are accessible and acceptable to students, provide comprehensive services, and are adolescent focused, adolescents view SBCs as safe havens

where they and their concerns are treated respectfully and competently (Harold & Harold, 1993). The patterns of health care problems presented by adolescents in school-based clinics may differ from those patterns presented by adolescents in more conventional health care settings. The existence and growth of school-based clinics are justified, not only on the basis of improved access to health care, but also because the social needs of adolescents are not adequately addressed in traditional medical settings.

Purpose

The purpose of this study was to compare patterns of health care for adolescents provided at a school-linked clinic at a high school with those patterns of health care provided at a community-based family health center. The research questions are:

1. What is the relationship between patterns (health maintenance, diagnosis and treatment of acute and chronic illness, counseling, treatment of acute injury, as well as diagnosis and treatment of sexually transmitted disease and/or pregnancy) of adolescent health care at a school-linked clinic, and patterns of adolescent health care at a community-based family health center?
2. How do patterns of adolescent health care at school-linked clinics and community-based family health centers compare on variables of diagnosis, age, and gender?

Definition of Terms

The following terms are defined for the purpose of this study:

1. Adolescence is the period of transition from childhood to adulthood, characterized by efforts to achieve goals related to the expectations of the mainstream culture and by spurts of physical, mental, emotional, and social development; the second decade of life, or ages 10 through 18 years (Moreillon, 1992).
2. Charted visit is the written information in a medical record pertaining to diagnosis, treatment, and plan.
3. Community-based family health center is a hospital satellite clinic concept developed in the 1970s to provide needed care in a setting more available to the community (Fisher, Juszczak, Friedman, Schneider, & Chapar, 1992).
4. Counseling is health teaching and discussion with the adolescent regarding such topics as nutrition, stress reduction, substance abuse, smoking cessation, or contraception.
5. Health maintenance is part of routine health care, and is a well child examination or a sports physical.
6. Morbidity is a state of being clinically ill (Benenson, 1990).

7. Primary diagnosis is the main disease state recognized from symptoms, physical exam, general appearances, and other means.

8. School-based clinics (SBCs) are comprehensive health care centers that provide a wide range of health and social services to adolescents at or near the school where they spend much of their day (Riessman, 1991).

9. School-linked clinics (SLCs) are defined as school-based clinics, but differ from the conventional model of SBCs in that they often are free-standing adolescent health clinics which serve youth from more than one school and youth who are not enrolled in school (Riessman, 1991).

10. Significant visit is a direct personal exchange between an ambulatory patient and a physician or a staff member working under the physician's supervision for the purpose of seeking care and rendering personal health services (Nelson, 1991).

Summary

There is a growing need for adolescent health care services as the adolescent population increases during the 1990s. Adolescents often face obstacles when seeking health care, and the major contributing factors are economics and age. The purpose of this study was to compare patterns of adolescent health care provided at a school-linked clinic with those patterns of health care provided at a

community-based family health center. The literature review focuses on barriers to access to health services for adolescents, and emphasizes the goal of school-based health clinics which is to bring students direct treatment for a broad range of physical and mental health problems.

Chapter 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

This chapter presents the conceptual framework and review of literature. The first section presents the conceptual framework of Rosenstock's (1990) Health Belief Model (HBM). The second section presents the review of literature.

Conceptual Framework

The conceptual framework of this study was derived from the Health Belief Model (HBM), initially developed in the 1950s by a group of social psychologists at the U. S. Public Health Service in an effort to explain the widespread failure of people to participate in programs to prevent or detect disease (Rosenstock, 1990). The HBM was later applied to patients' responses to symptoms and to their willingness to follow prescribed medical regimens. This section summarizes the central definitions and concepts of the model and then explores the application of the model to adolescent health care provided at a school-based clinic.

The basic components of the HBM were derived from a well-established body of psychological and behavioral theory whose various models hypothesize that behavior depends mainly upon two variables: (a) the value placed by an individual on a particular goal, and (b) the individual's estimate of the likelihood that a given action will achieve

that goal (Becker, 1974). When these variables were conceptualized in the context of health-related behavior, the similarities were: (a) the desire to avoid illness, and (b) the belief that a specific health action would prevent illness. The major components of the HBM are as follows:

1. Perceived susceptibility is one's subjective perception of the risk of contracting a condition (Shumaker, Schron, & Ockene, 1990).

2. Perceived severity indicates that while low perceptions of seriousness might provide insufficient motivation for behavior, very high perception of seriousness might inhibit action (Shumaker et al., 1990).

3. Perceived benefit is the belief regarding the effectiveness of the various actions available in reducing the disease threat. Thus, a sufficiently "threatened" individual would not be expected to accept the recommended health action unless it was perceived as feasible and efficacious (Shumaker et al., 1990).

4. Perceived barriers are the potential negative aspects of a particular health action which may act as impediments to undertaking the recommended behavior...the individual weighs the action's effectiveness against perceptions that it may be expensive, dangerous...unpleasant...inconvenient, time consuming, and so forth (Shumaker et al., 1990).

5. Cues to action are stimuli necessary to provoke the decision-making process. These stimuli can be internal, such as symptoms, or external, for example, reminder postcards from health care providers (Shumaker et al., 1990)

A large body of evidence has accumulated in support of HBM's ability to account for the undertaking of preventive health actions, seeking diagnoses, and following prescribed medical advice. In the majority of cases, each HBM dimension was found to be significantly associated with the health-related behaviors under study. The most statistically significant variable in studying health behaviors is the perceived barrier (Shumaker et al., 1990).

Americans of all ages face barriers when they attempt to access health care, but some barriers are unique to, or particularly affect, adolescents. Economics and age are found to be the major contributing factors that limit access to health care for adolescents (Council on Scientific Affairs, 1989). Although adolescents are generally reluctant to seek health care, the more accessible medical services are to adolescents, the more they will be utilized, allowing for early intervention and reduction in morbidity. In addition to individual adolescent behaviors, barriers to health care are related to the organization of educational, health, and social service institutions (Klein & Sadowski, 1990).

School-based clinics (SBCs) have been developed to improve access to health care for adolescents and to provide complete and thorough physical and psychosocial evaluation and treatment in an atmosphere of trust and confidentiality. The review of literature will focus on perceived barriers to accessing health care for adolescents and the role of school-based clinics in overcoming these barriers in order to provide comprehensive health care for adolescents.

Review of the Literature

A search of the nursing and allied health literature, as well as education journals, identified studies related to school-based clinics, including utilization patterns, cost-effectiveness, and student/parent satisfaction with services at the school-based clinic. Evaluations have been done on the impact of school-based clinics on a variety of problem behaviors, such as pregnancy, substance use, and school dropout. McHarney-Brown and Kaufman's (1991) comparison of adolescent health care provided at a school-based clinic and at a hospital-based pediatric clinic compared patterns of primary diagnosis of adolescents seen at the two sites. In this study, the SBC appeared to address different patterns of health care than those addressed by the pediatric clinic. Because patterns of health care differ between sites, SBCs provide services which, in traditional clinics, may not be available or

accessible. SBCs are designed to break down barriers to adolescent health care use, including concerns over confidentiality, lack of transportation, inconvenient appointment times, costs, lack of insurance coverage, and general apprehension and disinterest among adolescents about discussing personal health problems (Palfrey, McGaughery, Cooperman, Fenton, & McManus, 1991).

The review of literature summarizes the barriers to access to health care which particularly affect adolescents. These barriers include financial, legal, provider, and family and cultural barriers, and adolescent lack of knowledge regarding the availability and need for health services.

Financial Barriers to Access

Adolescents and young adults are more likely to be uninsured or under-insured than any other age group, and 1 of 3 poor adolescents, or 1.76 million, are at or below 100% of the federal poverty level, with no access to Medicaid (Klein et al., 1992). The Council on Scientific Affairs (1989) reported that studies from the early 1980s indicated that 33% of children aged 6-16 years had not visited a physician in the preceding year, and 15% were without a regular source of medical care. Adolescents without health insurance are more apt to delay seeking medical care. As employers reduce insurance benefits in the private sector,

the number of uninsured and underinsured persons continues to rise (Newacheck et al., 1992).

Lack of health insurance affects 1 of 7 adolescents, however, health insurance alone does not guarantee access to health care. Many insured adolescents are unwilling or unable to use their parents' policies because of confidentiality issues or because they are unaware of what services are covered or how to file claims. Among insured adolescents, an out-of-pocket co-payment may pose a substantial barrier. Many adolescents have health insurance that does not include preventive care, counseling, substance abuse treatment, or other needed services. Low physician participation in Medicaid limits service availability to those eligible (Klein et al., 1992). Inadequate payment for service limits the availability of professional time and is an important barrier to comprehensive care for adolescents.

Nationwide, in 24% of school-based clinics, funding comes from state health departments; 18% from private foundations; 17% from the Federal Maternal and Child Health Block Grant program; 12% from city and county governments; 8% from school districts; 7% from community health centers, and 14% from other sources, including 2% from Medicaid (School-based Adolescent Health Care Program, 1993). These funding sources assist in providing resources to

school-based health clinics for the poor, uninsured, or underinsured adolescent.

Legal Barriers to Access

Even adolescents with adequate insurance may face barriers to appropriate care in a traditional medical setting. Common law requires parental consent to health services for minors. In 47 states, a minor is a person under age 18 years, however, exceptions vary by state and by service. The body of law that determines the extent of adolescents' involvement in decisions about their own health care is large and complicated because it is an amalgam of common law, state, and other statutes, U. S. Supreme Court decisions, decisions of other federal and state courts, and regulations issued by government agencies (Dougherty et al., 1992).

Even when parental consent is not required, adolescents may fear that their receipt of services will not be kept confidential. The role of parental consent as a barrier depends on the level of conflict between adolescents and their parents (Dougherty et al., 1992). Adolescents should be encouraged to involve their families in health decisions, but confidentiality must be assured. Most physicians support providing confidential care to adolescents, but many are uncomfortable with the family negotiations that may

surround independent care and decision making (Klein et al., 1992).

In a study of users of a school-based clinic, Balassone, Bell, and Peterfreund found that the primary reason for adolescent use of the clinic was the fact that their request for services would be kept confidential (1991). In Bar-Cohen, Lia-Hoagberg, and Edwards' (1990) study of 144 female adolescents' first family planning visit at a school-based clinic, the most frequent reason cited for attending the school-based clinics was not having to inform parents of the visit. The students strongly expressed the need for privacy and confidentiality.

All of the school-based or school-linked clinics in the Robert Wood Johnson School-based Adolescent Health Care Program require written parental consent before they accept students as patients. The consent forms used by the Robert Wood Johnson Schools allow parents to exclude any services they do not want their children to receive, but less than 10% of parents limit services. For other than life-threatening situations, adolescents must be able to trust health center staff never to breach their privacy against their will (School-based Adolescent Health Care Program, 1993).

Family and Cultural Access Factors

There have been conflicts and questions about the nature and extent of health services school systems should provide and the role the school should play. Opponents believe that health services may be incompatible with the educational mission of schools when they extend beyond health education and management of minor trauma, and if more comprehensive services were to exist, they might duplicate existing community resources (Blum, Pfaffinger, & Donald, 1982). The study also reports that the comprehensive school health care model assumes major gaps in community health care service because of issues of availability, accessibility, and acceptability. If the services were not provided within the school setting, they would not exist for the population served.

Healthy adolescent development is fostered by providing a prolonged supportive environment during early adolescence, with graded steps toward autonomy, as concluded by adolescent health scholars at the 1986 National Invitational Conference on the Health Futures of Adolescents. Adolescents who are both poor and members of racial or ethnic minorities are more likely to be without the necessary support networks that help the typical adolescent through the second decade of life. However, middle-class adolescents are also at risk for developing problems and not

having access to health and other sources of support (Dougherty et al., 1992).

The family is still an important determinant of harmonious child development, but modern society has come to expect schools to assume a primary role in socialization (Moreillon, 1992). Therefore, the role of other adults, including health care workers, as sources of information and positive role models for health behavior becomes increasingly important (Millstein et al., 1992).

The study by Santelli and Beilenson assessed parents' attitudes toward the clinics, SBC health issues and services (1992). Findings indicated that parents felt the following services were important: the provision of comprehensive primary health-care services, including counseling for emotional problems, drug and alcohol abuse, and family planning education services for sexually active teens. Parents of adolescents were also concerned about behavioral and psychosocial issues, and they wanted help from the schools and health professionals in managing these concerns (Fisher, 1992).

Zabin et al. (1988) found that formal efforts to involve parents in SBCs generally failed, although students were encouraged to tell their parents that they utilized the program. When parents are involved in the SBC, they become more knowledgeable consumers of health care services, and by

participating, can extend their knowledge of health promotion and disease prevention (Blum et al., 1982).

Eighty-four percent of respondents in Taylor, Miller, and Moltz's (1991) study reported that transportation problems represented a significant barrier to accessing health services. Sixty percent of both parents of adolescents, or the adolescent's single parent, work full-time, and may not be available to accompany their adolescent children to health services. Adolescents who run away or who are homeless--and thus not in contact with their parents--may be particularly at risk of being denied services (Dougherty et al., 1992).

Opponents of SBCs charge that the presence of clinics in schools makes it easier for adolescents to have sex and therefore is a threat to parental authority. They contend that although the clinics might indeed lower the birth rate, they have little impact on the pregnancy rate (Bridgeman, 1987). Some clinics were delayed in opening or were stopped altogether because of controversy over reproductive health services (Santelli et al., 1992). Much of the debate over SBCs has focused on whether contraception counseling and provision of contraceptives hasten the initiation or increase the frequency of sexual activity. The findings from a study by Kirby et al. (1991) indicate this response is not the case. The study found no significant differences

between clinic and nonclinic schools, and when significant differences did occur the data showed less sexual activity among students attending the clinic school.

In Albuquerque, New Mexico, school board approval and community support of the SBC were attained by considering health care providers and the school system as partners in addressing the needs of students, parents, and personnel of the affected schools. Choices regarding services clinics provide usually are made based on traditional curative service models, as well as on prevailing community beliefs about adolescent health needs (Pacheco et al., 1991). Most SBC projects found there is no substitute for close working relationships with faculty and school staff to educate students and their families concerning the availability and utility of school-based health services (Lear et al., 1991).

Adolescents' Knowledge of Services

Because of the preventable nature of most causes of adolescent morbidity and mortality, concern about the health status of adolescents has increased in recent years (Millstein et al., 1992). Data from Riggs and Cheng's (1988) study suggests a significant prevalence of self-perceived unmet health needs and concerns among adolescents. Adolescents may have health concerns, such as problems in school, the need for family planning counseling or contraceptive services, or subjective distress that would

not be considered actual clinical problems by the mainstream health services treatment system, but that would benefit from early clinical intervention (Dougherty et al., 1992). Hawkins, Spigner, and Murphy's (1990) study cites past research which found that adolescents infrequently use health care, especially services related to mental health.

According to Blum (1987), most studies of youths' perceptions of their own health status pertain to concern with stress and nervousness. Health worries are recurrent themes that become translated into somatic concerns (for example, headache, stomach ache, and fatigue), social problems (for example, school problems, and getting along with teachers or parents), and psychological issues (for example, eating/weight problems and clinical depression). Blum (1987) further stated that although adolescents may seek medical care for health problems they define as organic, they tend to avoid health care for social and psychological concerns, despite the fact that many indicate after the fact that they would have liked help in addressing those issues. Although these conditions are not representative of classic medical illnesses, they have serious implications for adolescents and result in increased physical and mental health risks and decreased opportunities for employment and future productivity (Rickert, Jay, & Gottlieb, 1990).

McHarney-Brown and Kaufman (1991) noted that comfortable avenues of introduction to the school-based clinic and its staff are provided by sports physical examinations and health maintenance visits, which are often brief and non-threatening. In their study of adolescents' willingness to use a school-based clinic, Riggs and Cheng (1988) found that high school students with unmet health needs were willing to receive health care and education at a school-based clinic. In the study by Bar-Cohen et al. (1990), the three most frequent reasons for choosing SBCs were not informing parents of the visit, the variety of services available, and the reputation for caring provided by the staff.

Balassone et al. (1991) cited reasons for students' non-use of clinics. The most commonly cited reason was "lack of a need for services" (70%), whereas 35% of the participants said they had not turned in the required form. Twelve percent reported embarrassment or fear as reasons for not going to the clinic. Others indicated they did not know the clinic existed (8%). The study concluded that SBC staff need to remain highly visible in the school setting and need to provide reminders about the availability and nature of clinic services.

Provider Barriers to Appropriate Access

Two principal goals for most SBCs are to improve adolescent access to primary and preventative health services and to improve adolescent health and education status, including the reduction of teenage pregnancy rates (Santelli & Beilenson, 1992). A key feature of the school-based clinic is that the staff members are multi-disciplinary and acknowledge the critical role psychosocial issues play in adolescent health concerns. Case conferences and consultation encourage cross-disciplinary thinking and the combining of skills to address adolescent health problems (Lear et al., 1991).

Scarcity of appropriately trained providers was found to be a barrier to access to medical care for adolescents (Bearinger et al., 1992). Despite the changing needs and increasing demands for provision of health services to adolescents, there is evidence that the training and education of health professionals has not kept pace. In Blum and Bearinger's (1990) survey of physicians, nurses, social workers, nutritionists, and psychologists, it was found that few had any significant adolescent health content in their training.

In their study of knowledge and attitudes of health professionals, Blum and Bearinger (1990) found that clinicians tend to focus primarily on the physical sequelae

of major health issues of youth while ignoring the underlying environmental factors and health-risk behaviors that set the stage for the conditions they see. It is important for the health care provider, including physicians, nurse practitioners, and physician assistants, to evaluate the stages of adolescent development, as well as the belief system of the patient during the clinic contact (Rickert et al., 1990). Given the role of behavioral factors in adolescent health and the importance of the health provider encounter, it is critical that the providers recognize the potential of these behaviors. Health care providers perceived as attentive to adolescent concerns insure greater compliance by adolescent patients with treatment regimes (Dougherty et al., 1992).

Summary

Health promotion and disease prevention require more than providing education and services to young people. It is essential to conduct an honest appraisal of specific environmental effects on young people's development and to determine factors that promote these environments and the healthy development of drug-free, disease-free, and productive citizens. Schools are clearly an important part of the environment of the developing child and can play a central role in achieving this goal by implementing

comprehensive health education curricula and ensuring access to health services for students (Hawkins & Catalano, 1990).

Believing that many of the problems experienced by adolescents are interconnected, school-based and school-linked clinics attempt to meet the multiple needs for problem identification, assessment, prevention, and intervention at one conveniently located service site. School-based and school-linked clinics were developed to provide adolescents with improved access to health care services that match their needs. The patterns of health care problems presented by adolescents to school-based or school-linked clinics may differ from the patterns of health problems presented by adolescents to more conventional health care settings. This study will compare the patterns of health care provided at a community-based family health center and at a school-linked clinic.

Chapter 3

METHODOLOGY

The purpose of this research was to compare patterns of health care for adolescents provided at a school-linked clinic (SLC) with those patterns of health care provided at a community-based family health center (FHC). Patterns of health care include health maintenance, diagnosis and treatment of acute and chronic illness, counseling, treatment of acute injury, as well as diagnosis and treatment of sexually transmitted disease and/or pregnancy. The study population included one group of adolescents, aged 14-18 years old, who attended a SLC, and another group of adolescents, aged 14-18 years old, who attended a FHC. A non-experimental descriptive design was used. The two research questions were: What is the relationship between patterns of adolescent health care at a school-linked clinic and patterns of adolescent health care at a community-based family health center? How do patterns of adolescent health care at school-linked clinics and community-based clinics compare on variables of diagnosis, age, and gender?

Subjects and Setting

Data were collected at two clinic sites in the greater Bay Area in Northern California during April, 1993. The school-linked clinic was a joint project of the local school

district and the County Department of Health Services. The community-based family health center was a hospital satellite clinic, managed by the Department of Health Services.

The SLC provided free comprehensive integrated school-linked services to youth ages 13-19 years, both in school and out of school. It was conveniently located off-campus near two high schools, within walking distance from one high school and on a direct bus line from the other. The clinic had a teen-oriented environment that was culturally sensitive and confidential. The clinic was available for appointments and drop-in every afternoon from 12:30 p.m. to 6:00 p.m. and one morning a week from 9:00 a.m. to 12:00 noon. Clinic staff were frequently on the school campus to provide health education and to connect students with clinical services.

The FHC provided a wide spectrum of services to all ages, including pediatric care, prenatal care, and family centered care. On-site dental care and a pharmacy were also available. The clinic was located several miles from the local high school but was on a direct bus line. Service was provided on a sliding scale if the client was uninsured. No child under the age of 18 years could be seen at the clinic without a parent present. The clinic was open daily for both morning and afternoon appointments. Individuals who

came for drop-in visits were screened by the nurse for an immediate appointment, or rescheduled as needed.

The researcher studied a convenience sample from each clinic site of charted visits by adolescents who were born between 1974 and 1978 and recorded the primary diagnosis at the most recent significant visit. The researcher reviewed one medical visit per adolescent one time.

Human Subjects Approval

The study protocol was submitted and received approval from the Committee for the Protection of Human Subjects, San Jose State University, San Jose, California, prior to data gathering at the clinic sites (see Appendix A). Letters of permission from administrators at the school-based clinic and the community-based family health center were obtained prior to the data collection (see Appendix A).

Data Collection

The study compared charted visits by adolescents born between 1974 and 1978 at a school-linked clinic and at a community-based family health center. Each clinic site agreed to provide a computerized list of all adolescent patients seen in the calendar year 1992 who had a birth year of 1974-1978. There were 340 unduplicated records available for study at a school-linked clinic and 85 unduplicated records at the community-based family health center. Clinical records were pulled from storage by clinic staff

and made available to the researcher. Records from 66 charted visits from each site were included in the study. Each medical record number on the computerized list was assigned a number from 1-66 and entered on the diagnostic categories data collection sheet. The notes from the chart on the last significant visit including age, gender, and diagnosis were entered on the diagnostic categories data collection tool. Group data on the two study populations of adolescents were compiled. A master list of names, medical record numbers, and code numbers was on file in researcher's office file, accessible only to the researcher and destroyed after completion of the study.

Instrument

A data collection tool designed by the researcher was used for the study. Six broad categories were developed for classifying the reason for the visit. The first category included all visits for health maintenance, including sports physicals and well-child exams. The second and third categories were the diagnosis and treatment of acute and chronic illness. The fourth category was counseling, including nutrition, stress reduction, substance abuse, smoking cessation, and contraception. The fifth category was treatment for acute injury. The sixth and final category was the diagnosis and treatment of sexually transmitted disease (STD) and/or pregnancy (see Appendix B).

The diagnostic categories, as well as age and gender, were included in the horizontal row of the data collection tool. A blank space was left on the vertical column for the code number of each adolescent client studied.

Analysis Procedures

Age, gender, and primary diagnosis were recorded from each study encounter. Comparisons of the data from the records of the charted visit of the adolescent attending the SLC and the adolescent attending the FHC were made. The mean and standard deviation were calculated. Statistical analysis included the non-parametric measurements of Pearson chi-square (χ^2) and Fisher's Exact Test (2-tail).

Chapter 4

RESULTS AND DATA ANALYSIS

This chapter describes the data collected and the procedures used to analyze the data. The purpose of this study was to compare patterns of health care for adolescents provided at a school-linked clinic (SLC) located near a high school with those patterns of health care provided at a community-based family health center (FHC). Data were collected from the school-linked clinic records and the community based family health center records. One data collection form was developed and used by the researcher to gather this retrospective data (see Appendix B). The mean and standard deviation were calculated. Statistical analysis performed on the data included the non-parametric measurements of Pearson chi-square (X^2). Fisher's Exact Test (2-tail) was used when sample sizes were less than 5 in a cell. Findings regarding the relationship between patterns of health care at the clinic are reported first, and then comparison of the variables of diagnosis, age, and gender between the clinic sites are reported.

Sample

The average age for adolescents seen at both clinic sites was similar. The mean age at the community-based family health center was 15.8 (SD-1.35), or 15 years, 42 weeks. The mean age at the SLC was 15.9 (SD-1.31), or 15

years, 48 weeks. Of the 132 visits studied, the total number of males seen at both clinic sites was 65, or 49%,

Table 1

Demographic Characteristics of the Sample (N=132)

Gender	FHC		SLC	
	<u>n</u>	(%)	<u>n</u>	(%)
Male	30	(45)	35	(53)
Female	36	(55)	31	(47)

and the number of females seen at both clinic sites was 67, or 51%. Table 1 shows the gender distribution at the two clinic sites. At the community-based FHC, 30 (46%) of the adolescents were male, and 36 (55%) were female. (Total is over 100% due to rounding.) At the SLC, 35 (53%) of the adolescents were male and 31 (47%) of the adolescents were female. No significant difference between the SLC and community-based FHC by age or gender were found.

Differences appeared when comparing patterns of health care between the SLC and the community-based FHC. Table 2 shows the patterns of health care at each clinic site. At the FHC, 39 (59%) of the visits studied were for acute illness, 18 (27%) of the visits were for health maintenance, 4 (6%) for chronic illness, 3 (5%) for STD/pregnancy,

1 (<2%) for acute injury, and 1 (<2%) of the visits were for counseling. At the SLC site, 28 (42%) of the visits were for health maintenance, 19 (29%) of the visits were for counseling, 14 (21%) for acute illness 3 (5%) for STD/pregnancy, 1 (<2%) for chronic illness, and 1 (<2%) for acute injury.

Table 2

Type of Visit for Total Sample by Site (N=132)

Visit Type and Site	FHC		SLC	
	<u>n</u>	(%)	<u>n</u>	(%)
Acute Illness	39	(59)	14	(21)
Health Maintenance	18	(27)	28	(42)
Chronic Illness	4	(6)	1	(<2)
STD/pregnancy	3	(5)	3	(5)
Acute Injury	1	(<2)	1	(<2)
Counseling	1	(<2)	19	(29)

Note. Percentage does not equal 100% due to rounding.

Due to sampling sizes, comparisons were limited to patterns of visits for counseling, acute illness, and health maintenance. Figure 1 shows the comparison of 3 patterns of visits (counseling, acute illness, and health maintenance) by site. The data show a statistically significant

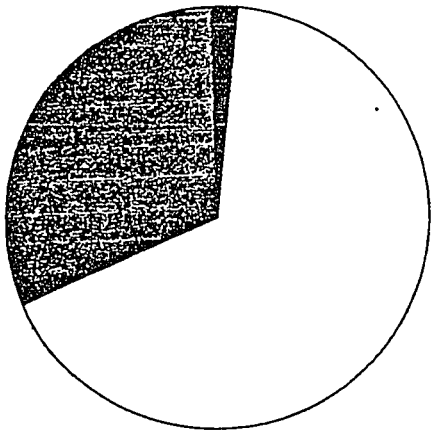
difference in the 3 patterns of visits between SLC and FHC sites ($X^2=30.11$, $p < .0001$).

At the FHC, a total of 58 visits were for counseling, acute illness, and health maintenance. A total of 61 visits at the SLC were for counseling, acute illness, and health maintenance. One (<2%) of the visits to the FHC was for counseling. At the SLC, 19 (31%) of the visits were for counseling. In comparing the pattern of acute illness, 39 (67%) of the visits occurred at the FHC and 14 (23%) occurred at the SLC. Eighteen (31%) of the visits at the center were for health maintenance, while at the SLC, 28 (46%) of the visits were for health maintenance.

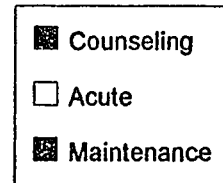
Table 3 shows the frequency of visits by gender for the variables of patterns of health care for both sites. A comparison of the 3 most frequent visit patterns reveals that 119 visits of the total of 132 were for counseling, acute illness, and health maintenance, and 58 of those totals were female and 61 were male. Comparison of the data shows that there was a significant difference by sex for the variables of counseling, health maintenance, and acute illness ($X^2(2, n=119)=12.45$, $p < .01$).

Visit Type by Site

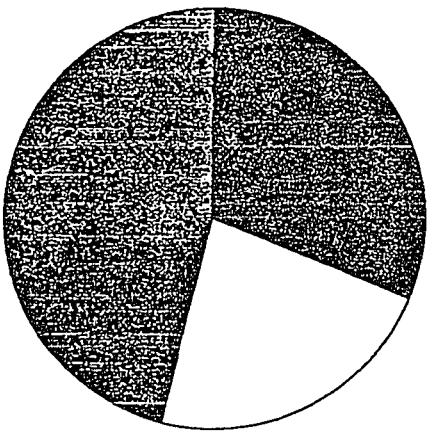
Family Health Center



Counseling	<2%
Acute Illness	67%
Health Maintenance	31%



School Linked Clinics



Counseling	31%
Acute Illness	23%
Health Maintenance	46%

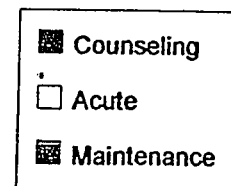


Figure 1. Type of Visit for Partial Sample by Site ($n=119$).

Five males (4%) and 15 females (13%) were seen for counseling. Twenty-four males (20%) and 29 females (24%) were seen for acute illness. Thirty-two males (27%) and 14 females (12%) were seen for health care maintenance.

There was no significant difference when comparing the 2 variables of counseling and acute illness by gender.

There was a significant difference when a comparison was made between patterns of visits for counseling and health maintenance by gender. A total of 66 visits at the two

Table 3

Type of Visit by Gender (N=132)

Pattern of Visit	Male		Female	
	<u>n</u>	(%)	<u>n</u>	(%)
Health Maintenance	32	(24)	14	(11)
Acute Illness	24	(18)	29	(22)
Counseling	5	(4)	15	(11)
STD/pregnancy	1	(<2)	5	(4)
Chronic Illness	2	(2)	3	(2)
Acute Injury	1	(<2)	1	(<2)

Note. Category percent may not total 100% because of rounding off to nearest percent.

sites were for counseling and health maintenance. Five males (8%) and 15 females (23%) were seen for counseling. Thirty-two males (49%) and 14 females (21%) were seen for health maintenance ($X^2(1, n=66)=9.50, p<.01$).

Summary of Results

Chi-square tests were used to answer the questions regarding differences in patterns of health care at the SLC and FHC and to examine differences in sex and age at each clinic site. Fisher's Exact Test (2-tail) was used when sample sizes were less than 5 in a cell.

This study of the relationship between patterns of adolescent health care at a SLC and patterns of health care at a community-based FHC reveals that the SLC addressed a different pattern of health care needs than that addressed by the community-based FHC. For example, at the FHC, more visits were for acute illness (59%) than at the SLC (21%). At the SLC there were more visits for counseling (29%) than at the FHC (1%).

The highest percentage of visits to both sites was for acute illness and health care maintenance. The SLC received significantly more visits for counseling and health care maintenance, while the FHC saw significantly more adolescents for acute illness and health care maintenance. There was a statistically significant difference between sites for the visit patterns of counseling, acute illness,

and health care maintenance ($X^2(2, n=119)=30.11, p<.001$). The number of visits for sexually transmitted diseases and/or pregnancy were not significantly different between clinics, nor did these compose a large proportion of visits to either clinic. In comparing the variables of diagnosis, age, and gender with the patterns of adolescent health care at the two sites, the data revealed no significant differences in gender and age between the two sites. There were significant differences when comparing patterns of visit by gender. When numbers for gender for both sites are combined, more than twice as many males as females were seen for health care maintenance. More than three times as many females as males were seen for counseling, and more females than males were seen for acute illness.

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

This study compared the patterns of health care for adolescents provided at a school-linked clinic with those patterns of health care provided at a community-based family health center. The two research questions were: What is the relationship between patterns (health maintenance, diagnosis and treatment of acute and chronic illness, counseling, treatment of acute injury, as well as diagnosis and treatment of sexually transmitted disease and/or pregnancy) of adolescent health care at a school-linked clinic and patterns of adolescent health care at a community-based family health center? How do patterns of adolescent health care at school-linked clinics and community-based family health centers compare on variables of diagnosis, age, and gender? This chapter summarizes the conclusions of this study and offers recommendations for further study.

Summary

The literature attests to the fact that adolescents face obstacles in seeking health care and that health care is important during adolescence because it may modify risky behaviors and promote healthy habits. Adolescents cite cost, access, and confidentiality as important issues affecting their use of health care. School based clinics were developed as one way to improve access to health care

services for adolescents. Lear et al. reports an increasing acceptance of school-based or school-linked clinics as appropriate mechanisms for addressing adolescent health care needs (1991). The more accessible medical services are to adolescents, the more the services will be utilized, allowing for early intervention and reduction in morbidity.

There were no significant differences between the two sites for either age or gender from the selected group of 66 adolescents per site. The FHC saw 30 males and 36 females, while the school site saw 35 males and 31 females. The average age of adolescents seen at both clinic sites was 15.9 years. The study indicates that SLCs and FHCs are equally accessible regardless of gender or age.

Differences appeared when comparing patterns of health care between the SLC and the FHC. The SLC received significantly more visits for counseling and health care maintenance, while the community-based FHC saw significantly more adolescents for acute illness. The number of visits for sexually transmitted diseases and/or pregnancy were not significantly different between clinics, nor did these comprise a large proportion of visits to either clinic.

Conclusions

The results of this study suggest that the SLC has the potential for providing adolescents with health services which are not available in the community. It appears the

SLC addresses different patterns of health care than those addressed by the community-based FHC. The services provided at the SLC are complementary to those services provided by the FHC.

Counseling visits at the SLC allow time for both the student and the health care provider to discuss home environment, peer pressure, habits, risk-taking behavior, personal values, and to help the adolescent plan appropriate actions. The study by Hawkins et al. (1990) states that adolescents infrequently use health care, especially mental health related services. At the SLC, the health maintenance visit is a safe introduction to medical care, and the adolescent can become acquainted with the clinic and staff.

The higher number of adolescents seen for acute illness at the FHC is in agreement with the literature which states that conventional health care sites in the community are perceived by both parents and adolescents as places to receive treatment for traditionally defined acute medical illness. Also, SBCs, including SLCs may be closed on weekends and at night when acute care is needed. The study by Blum et al. (1982) reports that the comprehensive school health care model assumes major gaps in community health care service that, because of issues of availability, appropriateness, accessibility, and acceptability, if not

provided within the school setting, would not exist for the population served.

The relatively small numbers of adolescents seen for STD/pregnancy in relation to the other patterns of health care indicates that the school-linked clinic does not direct its primary efforts to sexually related issues. The literature supports the fact that sexually related and reproductive problems account for only a small percentage of staff activity and student visits in the school-based clinic (Fisher et al., 1992), but productive health needs constitute the main body of contention surrounding support for school-based clinics, including school-linked clinics.

Scope and Limitations

This study was limited to a small population of adolescents in two similar geographical regions that were culturally diverse. The literature review covered a variety of areas of the United States and research was chosen from several different disciplines on adolescent health care.

There are a number of important limitations in this study. Limitations of time and resources for an extensive record review as well as insufficient numbers of adolescents seen at any one clinic site made portions of the research statistically invalid.

Another limitation in the study was the differences in types of providers and services provided at each clinic

site. For example, the SLC staff included nurse practitioners and a pediatrician trained in adolescent medicine, while at the community-based clinic, pediatricians were the only practitioners to see adolescent clients. The SLC had a counselor who was available for consultation as needed, whereas the FHC did not. The FHC had a contract with an adolescent drug treatment center to provide physical exams for all new admissions, and a majority of their admissions were male. The SLC had no contracts to provide specialized services. The FHC required parental presence in order to see adolescents, while the SLC could see adolescents without parental presence if a consent form was signed by parents upon enrolling the adolescent in the SLC.

Another limitation of the study was the need for the researcher to decide on the main diagnosis or main reason for the adolescent visit to the clinic site. Most of the visits were clearly defined, yet a new problem sometimes developed from the presenting diagnosis.

Recommendations for Further Research

The information obtained from conducting this study suggests the following recommendations for further research:

1. Replication of this study with a larger sample.
2. Replication of this study in other school districts with SBCs and/or SLCs to determine if the findings can be generalized to other settings.

3. A study of adolescents including their ethnicity and how cultural needs affect access to health care.

4. A regional study of health care providers to determine the patterns of health care they provide for adolescents.

Recommendations

The National Commission on the Role of the School and the Community in Improving Adolescent Health found that adolescents do not use health services because the available services do not meet their needs, are inconvenient, only deal with part of their problems, and treat them inappropriately. This study demonstrates that SBCs and SLCs can function effectively in or near the school setting, overcoming the structural, financial, and personal barriers to accessing health care.

School nurses should utilize their knowledge of adolescent health needs to promote appropriate and accessible health care for adolescents in their community. By compiling data from their daily logs of adolescent contacts, or by completing a needs assessment, school nurses can present statistical evidence of the health needs of adolescents to parent groups, school administrators, and school boards. Collaboration with other service providers and community groups will promote the concept of specialized adolescent health care located at schools.

The National Commission on the Role of the School and the Community in Improving Adolescent Health Care (1989) recommends four major actions that this nation must take to substantially improve the health and achievement of its young people. They are:

1. Guarantee all adolescents access to health services regardless of ability to pay.
2. Make communities the front line in the battle for adolescent health.
3. Organize services around people, not people around services.
4. Urge schools to play a much stronger role in improving adolescent health.

Provision of health care by school-based or school-linked clinics presents a model of primary health care that is accessible, comprehensive, and continuous. It removes most of the major barriers to health care encountered by adolescents. The obvious challenge is to overcome community resistance, to encourage collaboration among community programs, and to locate stable funding sources. As communities begin to deal with health problems of adolescents, including issues dealing with sexuality and preventable high risk behaviors, the school-based or

school-linked clinic will be seen as an accessible, available, and acceptable method of providing treatment services in an atmosphere of trust and confidentiality.

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APPENDIX A
Consent Letters



Office of the Academic Vice President • Associate Academic Vice President • Graduate Studies and Research
One Washington Square • San Jose, California 95192-0025 • 408/924-2480

To: Judith Sencenbaugh
12 Iris St.
Redwood City, CA 94062

From: Serena W. Stanford *Serena W. Stanford*
AAVP, Graduate Studies and Research

Date: April 5, 1993

The Human Subjects-Institutional Review Board has reviewed and approved your request for exemption from Human Subjects Review for the proposed study entitled:

"Comparison of Adolescent Health Care Provided at a
School-Based Clinic and at a Community-Based Family
Health Center"

Provided that there are no changes in the procedure proposed, you may proceed with this study without further review by the Human Subjects-Institutional Review Board. You must notify the Human Subjects-Institutional Review Board of any changes in the subject population or procedure for this study

I do caution you, however, that Federal and State statutes and University policy require investigators conducting research under exempt categories to be knowledgeable of and comply with Federal and State regulations for the protection of human subjects in research. This includes providing necessary information to enable people to make an informed decision regarding participation in your study. Further, whenever people participate in your research as human subjects, they should be appropriately protected from risk. This includes the protection of the confidentiality of all data that may be collected from the subjects. If at any time a subject becomes injured or complains of injury, you must notify Dr. Serena Stanford immediately. Injury includes but is not limited to bodily harm, psychological trauma and release of potentially damaging personal information.

If you have questions, please contact me at 408-924-2480.

CC: Ginny Young

Department of Health Services
Fair Oaks Family Health Center



COUNTY OF SAN MATEO

2710 MIDDLEFIELD ROAD • REDWOOD CITY • CALIFORNIA 94063

BOARD OF SUPERVISORS

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DIRECTOR OF HEALTH SERVICES
(415) 364-6010

DECEMBER 11, 1992

Judith Sencenbaugh
12 Iris st.
RWC, CA 94062

Dear Mrs. Sencenbaugh:

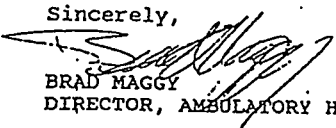
This is to inform you that you have permission to review records for the purpose of data collection at Fair Oaks Family Health Center for your thesis on "Comparison of Adolescent Health Care Provided at a School-based Clinic, and at a Community-based Family Health Care Clinic".

It is our understanding that the information will be abstracted and patient data will remain confidential.

The staff at Fair Oaks Family Health Center would be most interested in the results of your data collection.

Best wishes to you in this most interesting study. If I can be of any further assistance, please let me know.

Sincerely,


BRAD MAGGY
DIRECTOR, AMBULATORY HEALTH CARE SERVICES

jbgh
346v

DALY CITY YOUTH HEALTH CENTER
2780 Junipero Serra Boulevard, Daly City, CA 94015
(415)991-2240

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December 7, 1992

Judy Sencenbaugh, RN
San Mateo Co Dept of Health Services
225 W 37th Avenue
San Mateo, CA 94403

Dear Judy:

This letter is to give you permission to gather needed information at the Daly City Youth Health Center for your Masters Thesis at San Jose State University. Permission is given to collect age, sex, and diagnosis data from a sample of records for research on a comparison of adolescent health care provided at a school-based clinic and at a hospital based pediatric clinic.

Confidentiality must be maintained, and only group data may be compiled and reported.

If I can be of further assistance, please call me.

Sincerely,



Carol Forest
Center Coordinator

APPENDIX B

Instrument

Diagnostic Categories

Age	Gender	Counseling	Acute Illness	Chronic Illness	Acute Injury	STD and/or Pregnancy	Health Care Maintenance
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							