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Elementary School Based Health Centers as Providers of School Entry Health Exams: Do They Meet the Standards?

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ELEMENTARY SCHOOL BASED HEALTH CENTERS AS PROVIDERS OF SCHOOL ENTRY HEALTH EXAMS: DO THEY MEET THE STANDARDS?

by

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ABSTRACT

ELEMENTARY SCHOOL BASED HEALTH CENTERS AS

PROVIDERS OF SCHOOL ENTRY HEALTH EXAMS:

DO THEY MEET THE STANDARDS?

by

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The health of today's children is crucial for the future of our society. There are many children without access to healthcare in these turbulent economic times; times that are increasingly uncertain as society maneuvers its way through the maze of healthcare reform. School based health centers (SBHCs) provide a safety net for children needing basic healthcare who are otherwise underserved. School entry health examinations (SEHE) are legal requirements in many states, and are a proven method for identifying health conditions early enough in a child's life that they can be corrected. Treating identified health conditions facilitates academic success for children, leading to a healthier society.

The purpose of this capstone project was to complete a program evaluation of an elementary level safety net type of SBHC, specifically evaluating SEHE to determine if national guidelines are met. The Shuler Nurse Practitioner Practice Model (SNPPM) was utilized for the practice segment; the Plan-Do-Study-Act model was used for the evaluation segment. A retrospective chart review was completed to determine if three major outcomes were met:

- Are all components of the SEHE completed as outlined in national guidelines?
- Are all health conditions identified treated, followed up or referred?
- Are results of the SEHE communicated to the school of attendance?

The comprehensive literature review includes information on importance of SEHE, history of the SBHC movement (both medical home and safety net types), evaluation of outcomes of SBHCs related to attendance, healthcare access, and academic achievement. Literature relevant to program evaluation criteria and quality improvement programs are identified for pediatric public health providers, such as pediatric nurse practitioners.

Data collection and analysis demonstrated that SBHCs provide SEHE comparable to national guidelines. Results were shared with the program staff after analysis, leading to changes within the evaluated program that will facilitate better care over time. These changes will insure more positive outcomes in child health. Healthy children learn better and become more productive members of society when they have a positive start.

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CHAPTER 1

INTRODUCTION

Background and Significance

Children are the future; access to healthcare and early intervention for health conditions leads to healthier children; which makes society healthier as a whole. School entry health examinations (SEHE) are a recommended part of routine child healthcare as a method to identify and treat conditions for prevention of long term health problems and insure children are healthy and ready to learn (American Academy of Pediatrics [AAP], 2000). Many states require SEHE at school entry (kindergarten or first grade), confirming the value of these examinations. Safety net type school-based health centers (SBHCs) that offer SEHE can identify, treat and refer children at an early age to prevent long term health consequences and improve academic achievement (AAP, 2000).

Healthcare access for children has become more difficult during the recent economic recession and times of healthcare reform (Lear, Barnwell & Behrens, 2008). It is critical to improve healthcare access for children as healthy children learn better (Ehrlich, 2008; National Association of School Nurses [NASN], 2010), and well educated children become more productive members of society (National Assembly on School Based Health Care [NASBHC], 2010); California School Health Centers

Association [CSHCA], 2010a). It is postulated that health and learning are inextricably linked (Ehrlich, 2008; Dilley, 2009) and studies show health programs at school can improve school attendance, behavior and academic achievement (Ehrlich, 2008; Brown & Bolen, 2008). Richardson and Wright (2010) describe the investment in health and well being of elementary school students as being "the most strategic undertaking taxpayers, policymakers, and advocates can take to ensure a viable workforce and our future leaders" (pg 1561). Providing basic healthcare for children at a school site is not a new concept; SBHCs have been in existence for more than 35 years (Friedrich, 1999).

There is much information in the literature regarding SBHCs and effects on adolescent health, notably, reproductive issues. There are also many studies regarding comprehensive (medical home) SBHCs. However, the literature is scant regarding elementary SBHCs that are safety net providers rather than medical homes. This project attempted to fill this research gap by evaluating a SBHC for completeness of SEHE.

What is a School Entry Health Examination?

The SEHE is an examination of health status required by many states upon entry to school, either at kindergarten or first grade. The SEHE follows the national guidelines developed by the American Academy of Pediatrics (AAP, 2008). The components of the examinations are outlined in these AAP guidelines, and must be comprehensive in order to identify health issues that can potentially interfere with academic success. These components include a comprehensive health history, a physical examination, specifically including height, weight, blood pressure, body mass index (and percentile), vision, hearing, developmental screening, test for anemia, urinalysis, administration of immunizations, and age appropriate anticipatory guidance. Once the health assessment is

completed and conditions are identified, there must be treatment, follow-up, or referral of the identified health condition(s). Another very important component is communication of the findings with the school system, as this information assists schools in identification of health issues that interfere with learning.

What is a School-Based Health Center?

SBHCs provide healthcare for many underserved children across the country. Do SBHCs provide the same quality of care as other pediatric providers? Is the SEHE quality comparable to national guidelines? The answers to these questions are multifaceted: SBHCs are individually unique and also somewhat similar (Bruder, 1998, Gustafson, 2005; Bavin, 2010, CSHCA, 2010b; NASBHC, 2010).

Unique characteristics are based upon sponsoring agencies, including school districts (12%), hospitals (25%), community health centers (28%), local health departments (15%), and non- profit agencies, universities, physicians, or nurse managed (NASBHC, 2009). Only about 20% of SBHCs are located in elementary schools (Scudder, Papa, & Brey, 2007), 41% of those are located on Title 1 schools, schools located in lower socioeconomic neighborhoods that have additional federal funding (Richardson & Wright, 2010). SBHCs are located in urban, rural, and suburban communities. They provide basic pediatric healthcare, which can include well baby and child care, immunizations, tuberculosis (TB) skin tests, Women, Infants and Children (WIC) screenings, sports screenings, treatment of minor illnesses and injuries, mental health, dental health, and reproductive healthcare (Bruder, 1998; Gustafson, 2005; Mavis, Pearson, Stewart & Keefe, 2009; Bavin, 2010).

Similarities can be reflected in types of services, reduction of typical healthcare barriers (transportation, language, finances), and willingness to provide services unique to the needs of the local community (Berti, Zylbert & Rolnitzky, 2001; Gustafson, 2005; Bavin, 2010). Some SBHCs are considered comprehensive or medical homes; their services can include dental and mental health, along with other comprehensive pediatric services, and are often found in SBHCs sponsored by hospitals, community health centers or physician groups (Gustafson, 2005; NASBHC, 2010). The AAP is campaigning to insure each child has a medical home (AAP, 2000), but they do not take into account the large numbers of uninsured and underinsured children. SBHCs are particularly excellent at providing primary preventive care services to these underserved children (Gustafson, 2005; Clayton, Chin, Blackburn & Echeverria, 2010). SBHCs sponsored by school districts are often safety nets, and provide more basic services with a focus on student attendance and achievement, such as immunizations, well child exams, and management of asthma or other chronic illnesses that affect school attendance and academic achievement (NASBHC, 2010).

Characteristics related to staffing are quite unique in some ways and similar in others. Most SBHCs are staffed by nurse practitioners with clerical support and are in addition to school nurse services on the school campus (Bruder, 1998; Gustafson, 2005; NASBHC, 2010; Bavin, 2010). They can also be staffed by physicians, pediatric residents, ancillary staff (medical assistants/lab techs), dentists and dental hygienists, school psychologists or school counselors, and other mental health staff. Depending on sources of funding and reimbursement, some SBHCs are staffed with as little as two people (nurse practitioner and clerical staff) and some as many as a dozen (Bavin, 2010).

The National Association of Pediatric Nurse Practitioners (NAPNAP) (2008) heartily endorses the pediatric nurse practitioner (PNP) role as imperative to success of SBHC. PNP education encompasses concepts of primary care, pediatrics, family and community health, which brings a unique perspective to the healthcare visit interaction, especially for those underserved populations.

The SBHC concept began in the 1970's with several foci. One focus was provision of healthcare to elementary school aged children who did not have other access; SBHCs were promoted as a way to provide basic pediatric healthcare to underserved children (Friedrich, 1999; Gustafson, 2005). Another focus of SBHCs was reproductive care instrumental in prevention of teen pregnancy (Brown & Bolen, 2008; Lear, 2007). The SBHC model is an excellent method for providing care to children in their own community, while dissolving financial and transportation barriers, and demonstrating improved school attendance (Friedrich, 1999; Gustafson, 2005; Wade & Guo, 2010). SBHCs are important to communities and families in closing these healthcare gaps, they continue to provide care in a very cost effective manner; however, one significant issue is sustainability and reimbursement (Gustafson, 2005; Silberberg & Cantor, 2008). Lear, Barnwell and Behrens (2008) describe SBHCs as a critical piece in healthcare reform and emphasize the importance of the role of the SBHC in the restructuring of the healthcare systems. NAPNAP (2008) and the National Association of School Nurses (NASN, 2010) support SBHCs as a method to close the healthcare gap for children.

Problem Statement

Do SBHCs provide quality healthcare to children? Is that healthcare comparable to current standards? How should elementary safety net type SBHCs be evaluated? The purpose of this capstone was a program evaluation to examine outcomes of a SBHC as SEHE providers in order to determine if basic standards were met. The SBHCs being evaluated were elementary level safety net SBHCs in Central California.

Description of Project

This project articulates the value of a SBHC for children's access to healthcare, attendance at school, and academic achievement, while specifically focusing on evaluating the efficacy of SEHE at a SBHC system in Central California. Based upon the national Early and Periodic Screening, Diagnosis and Treatment (EPSDT) guidelines (AAP, 2008), SEHE have specific components identified to insure child health through early identification and treatment of health conditions before they become complex and expensive to treat. The outcomes measured include completeness of the exam based upon EPSDT recommendations, treatment, follow-up or referral of any significant or abnormal findings, and communication of examination results to the school.

CHAPTER 2

THEORETICAL FRAMEWORK

SBHCs are staffed mostly with nurse practitioners (NPs) who have a different educational background, philosophy and scope of practice than traditional physician providers: the Shuler Nurse Practitioner Practice Model (SNPPM) is based upon that philosophy (Shuler & Davis, 1993). NPs provide an incomparable perspective and contribution to primary care that includes holistic and humanistic care incorporating concepts of health maintenance and promotion, patient education and counseling, patient advocacy, collaboration and patient centered care (Shuler & Huebscher, 1998). The SNPPM is a unique combination of the medical model and nursing metaparadigm and provides the NP with the missing link required for comprehensive wellness based care (Shuler & Huebscher, 1998), naturally leading into the wellness model of pediatric primary care provided by pediatric NPs. NAPNAP (2008) endorses the use of PNP's in SBHC as primary care providers.

The SNPPM recognizes people as holistic, with thoughts and feelings, intrinsic values and worth, interacting with their environment in a dynamic state of health (Shuler & Davis, 1993). This is an open systems model, with impact on NP practice at theoretical, clinical, educational and research levels, which is designed to blend nursing and medicine with research to positively affect clinical practice; including providing patients with education and information enough to become active participants in their own healthcare (Shuler & Davis, 1993). NPs have the ability to influence the outcomes of patient care through modeling of lifestyle practices that improve wellness (Shuler & Davis, 1993). Use of this model in a nurse practitioner managed practice works well for

appraisal of a program such as a SBHC; evaluating the efficacy of SEHE provided by NPs in a SBHC correlates well with the model's format.

While the SNPPM model defines and supports the care provided by nurse practitioners in SBHCs, an additional model facilitates the process of evaluation. The National Initiative for Children's Health Care Quality (NICHQ, 2008) recommends use of a Plan-Do-Study-Act model in program evaluation, especially for program evaluation of any child health system. This additional theoretical framework can guide the process being undertaken. NICHQ (2008) describes a two part model for improvement that includes asking of three questions to determine course of action, and then utilizing the Plan-Do-Study-Act process to improve quality of care provided. The Plan-Do-Study-Act cycle begins with the Plan, which involves setting objectives, examining current practices, and planning the cycles. The Do section involves actually carrying out the plan and documenting any identified problems and unexpected observations. The Study cycle involves analysis of data, matching it to any predictions, and summarizing what was learned. The Act phase describes instituting changes to improve care and setting up plans for the next Plan-Do-Study-Act cycle (NICHQ, 2008). NASBHC also recommends use of the Plan-Do-Study-Act cycles in planning for and evaluation of SBHC (NASBHC, 2010).

CHAPTER III

LITERATURE REVIEW

Literature available related to the impact of school based health centers on child health is substantial; however, existing literature on outcomes of SEHE is scarce. There are multiple studies showing SBHCs improve healthcare outcomes and diminish healthcare disparities; they have a positive impact on school attendance and academic achievement, and facilitate healthcare access, while striving to provide quality healthcare for these underserved children. Recent studies are summarized in the literature review, beginning with the importance of SEHE, progressing to history of SBHCs, continuing with studies outlining SBHC effects on healthcare outcomes of chronic illness, effects on school attendance, healthcare access, academic achievement, and culminating with information on quality of care provided in SBHCs.

Importance of SEHE

The federally funded EPSDT program, which is required in every state, mandates all providers receiving EPSDT reimbursement perform these assessments on children of specific ages based upon the periodicity schedule, and has been in place for 40 years (AAP, 2008). SEHEs facilitate identification of children's health conditions at an early age where the condition can be treated promptly so the child has an ability to learn without interference from health issues. Many states require the SEHE and the state Medicaid agency reimburses the SBHC for performing the SEHE. It is the responsibility of the SBHC to perform the SEHE, to treat, recheck or refer for any positive findings, and communicate all findings of the SEHE to the child's school (AAP, 2008).

Clemens and Nunnaly (2002) describe using the kindergarten health assessment report (KHAR) as a health report card of the school system. Their analysis of one North Carolina county reports KHAR identified health concerns that could interfere with academic success. Evaluation of 3,952 KHAR forms was completed. About one third of children had some abnormal test results or other conditions, including obesity, speech or language delays, asthma, allergies, anemia, mental health issues or failed vision or hearing screening (Clemens & Nunnaly, 2002). This study determined children of lower socioeconomic status were significantly more likely to have some of these health conditions. Their recommendations emphasized the importance of SEHE in early identification of health conditions that can impede learning. They found that children at greater risk of conditions interfering with academic achievement were those of lower socioeconomic status. Their ultimate findings confirm the importance of the SEHE as an excellent indicator of the health of children (Clemens & Nunnaly, 2002).

Clemens, Doolittle and Hoyle (2002) describe the kindergarten health assessment report (KHAR) similar to Clemens & Nunnaly (2002), but focused on the completeness of the report itself. They report the biggest indicators of school readiness such as developmental screening, vision, and hearing were only documented 55% of the time. Children who were over or under weight were not classified as such 75% of the time; the forms themselves were incomplete more than 80% of the time. In addition, children with positive findings were not flagged for recheck or referral. Their biggest concern was lack of identification and correction of potential health issues that can interfere with academic success. An identified weakness of the study was that only the state reporting forms were reviewed; the children's medical records were not examined. The authors

acknowledged chart review would provide more information (Clemens, Doolittle & Hoyle, 2002). These study results emphasize the importance of actual chart review for this project, as opposed to simply reviewing SEHE reports.

The British system requires a school entry medical (SEM) examination on an annual basis, and the literature is full of questions regarding efficacy of these examinations (Barlow, Stewart-Brown & Fletcher, 1998). This systematic review published in 1998 described the British system of SEM from 1962-1996 and included an initial identification of 64 studies but included only 16 of them. Acknowledgement of the value of early identification, treatment or referral of health problems that interfere with academic success was clear (Barlow, Stewart-Brown & Fletcher, 1998). The British system is additionally described by Laing and Rossor, (1999) as evolving over time from the physician based complete examinations to health assessment interviews performed by the school nurse. Laing and Rossor (1999) describe the importance of identifying children with health conditions that interfere with academic success as early as possible. Further description of the universal approach (all children receive the physician performed exam) compared to the selective approach (all children/parents interviewed by nurse and children with positive interview findings are selected for referral to the school physician) (Laing & Rossor, 1999) affirms the continued need for these health assessments.

One of the earliest articles on SEHE was written by Meyerstein in 1969. This paper gives an interesting historical perspective in its discussion affirming that schools of that time period should not have any interest in child health as there is not any confirmed relationship between health and scholastic performance (Meyerstein, 1969). He

continues with the discussion that the primary accountability for child health is parental responsibility, and that the quality of the exam lies more with the provider, which really should be the child's family physician rather than a school physician, a common role in the 1960's. An additional point of interest is the time frame allowed for examination. The article describes school physicians performing SEHE at the rate of 12-15 per hour, with one report referring to a routine well exam being 5.1 minutes and an exam of a sick child being 3.5 minutes. The conclusion of the article was to recommend that all laws relating to SEHE should be repealed (Meyerstein, 1969). Interestingly, this article was published in 1969, and no articles published since have advocated abolition of SEHE.

History of SBHCs

SBHCs began as early as the 1970's on the east coast (Friedrich, 1999) and in the 1980's in California (Lear, 2007). In California, SBHCs were developed to provide reproductive services for teens and were seen as an excellent way to decrease teen pregnancy and transmission of sexual diseases (Lear, 2007). Over time, it became apparent that elementary SBHCs were a way to eliminate some of the barriers to healthcare access; primarily those of transportation, finances, language, and trust (Lear, 2007). In 2005, NASBHC reported 20% of SBHCs are at the elementary level, and 40% of SBHCs have a separate school nurse office that is not part of the SBHC (Mandel, 2005).

As early as 1998, Kaplan, Brindis, Naylor, Phibbs, Ahlstrand and Melinkovich (1998) recognized the impact of SBHCs on the health of children. Their classic article on SBHCs described the increase of these centers from 40 in 1985 to over 900 in 1996, with about one third being in elementary schools (Kaplan, et.al., 1998). Retrospective

analyses of elementary SBHCs utilization in an underserved Hispanic population showed about two thirds of the diagnoses were medical and one third mental health diagnoses (Kaplan, et.al, 1998). Their conclusions that a SBHC can be an ideal location for providing culturally sensitive and comprehensive healthcare to otherwise underserved students were ahead of their time (Kaplan, et.al, 1998).

Kirchofer, Teljohann, Price, Dake and Ritchie (2007) describe levels of parental support for school health personnel. In a random sample survey, parental perceptions of school nurses, school social workers and school counselors were evaluated. The results showed parents were willing to pay additional taxes to insure their child had access to these services, but parents were also aware these are the first positions to be cut in poor economic times (Kirchofer, et.al, 2007).

SBHC Outcomes

With the increase in chronic illnesses, such as obesity, diabetes, asthma, mental illness, and dental caries, SBHCs are the perfect solution to address these healthcare disparities and demonstrate improved healthcare outcomes (Silberberg & Cantor, 2008). Outcomes such as decreased emergency room visits and hospitalizations (Young, D'Angelo & Davis, 2001), and increased immunization rates are demonstrated in children who have access to SBHC (Silberberg & Cantor, 2008). In addition, Silberberg and Cantor (2008) describe increased satisfaction with healthcare provided over typical health maintenance organizations and propose that third party reimbursement be available to SBHCs similar to other healthcare providers.

Additional studies support SBHCs improving healthcare access and delivering positive outcomes (Mavis, et al., 2009; Berti, et al., 2001). In an inner city school district

with a majority of students having limited healthcare access, Mavis, et.al (2009) outlined primary, secondary and tertiary care provided at a comprehensive SBHC, demonstrating 75% of activities were direct patient care, compared to 29% of time in direct patient care for residents in an internal medicine clinic (Mavis, et al., 2009). Berti, et al., (2001) describe a safety net type of SBHC improving health outcomes of children who have limited access to healthcare. Noting an increasing numbers of homeless children accessing SBHCs in East Harlem, New York, they studied the health issues of these homeless children and compared them to home dwelling children (Berti, et.al, 2001). Their results supported the use of SBHC to improve healthcare outcomes for homeless children, getting them well and ready to learn; and highlighted the importance of NPs as service providers in SBHCs (Berti, et.al, 2001).

SBHCs Impact School Attendance

One of the biggest issues with academics is attendance; children cannot learn if they are not at school. Chronic illness is well known as one of the major reasons for children missing school. SBHCs are in the position to improve attendance by insuring children are healthy and ready to learn; children need preventive healthcare. SEHE are a prime resource to facilitate children's health and readiness to learn. Foy and Hahn (2009) completed a 4 year prospective study examining exclusion rates of first graders who did not have a SEHE. The SBHC had a collaborative arrangement with a local School of Osteopathic Medicine. Their results demonstrated a 74% reduction in exclusion rates related to SEHE for children through the use of a SBHC in an underserved area of Northern California. Not only did the increased compliance with SEHE requirement improve attendance, it also provided the school with more funding based upon average

daily attendance (ADA) when the children were not excluded for lack of SEHE (Foy & Hahn, 2009).

Clayton, Chin, Blackburn, & Echeverria (2010) describe four comprehensive SBHC systems within California that provide comprehensive healthcare services; examples include asthma, obesity, dental health and mental health services. SBHCs are often part of a community and provide primary, secondary, and tertiary preventive care to children of that community and school. Strengths of SBHCs include eliminating common barriers such as transportation and language, and providing face-to-face interaction that means much more to children and families than automated voice mails (Clayton, Chin, Blackburn, & Echeverria, 2010).

The concept of seat time (the time that a student is available to learn) is important for educators, as children who are not in their seats cannot learn. Brown and Bolen (2008) described a 32% decrease in absences from school when SBHCs were utilized; describing SBHCs as places where healthcare access obstacles can be removed through provision of primary and preventive healthcare services. VanCura (2010) examined relationships between SBHCs and loss of seat time in two urban high schools in Western New York, analyzing a convenience sample of 764 students within two schools. The study compared students with access to a SBHC to other students without access to a SBHC (VanCura, 2010). Results showed students with access to SBHCs were less likely to leave school early and more likely to stay at school in their seats than their non-SBHC counterparts. Students not using a SBHC lost three times the amount of seat time compared to those using a SBHC (VanCura, 2010). Although this study focused on high

school students, these definitive data have implications at all levels. No similar studies were found addressing attendance issues in elementary SBHCs.

SBHCs Improve Healthcare Access

Richardson and Wright (2010) describe SBHCs as one of the best places for children to access healthcare. Their description of SBHCs as a potential core of healthcare reform is unprecedented. SBHCs are located at the schools where children attend and are a part of their local community (Richardson & Wright, 2010). Likewise, Silberberg and Cantor (2008) depict the SBHC as a necessary ingredient in providing healthcare for children, as there are a large number of children without health insurance, without providers, and without access to healthcare. These gaps in healthcare continue to grow and changes in healthcare policy are required to close the gaps; SBHCs thrive as a method of closing these gaps.

Healthcare access has been shown to be positively impacted by having school based or school linked health centers available to children of the local community (Soleimanpour, Geierstanger, Kaller, McCarter & Brindis, 2010; Guo, Wade, Pan & Keller, 2010, Johnson & Hutcherson, 2006). These studies evaluated the impact of SBHCs on access to care for children and adolescents, as well as examining physical and mental health outcomes. Positive reports regarding confidentiality, costs, convenience and youth-friendly staff, the SBHC demonstrated increased access to healthcare, as well as improvement in other mental and physical health factors (Soleimanpour, et al., 2010). This evaluation of SBHCs providing access to care in a racially diverse and very underserved area of Northern California demonstrated that healthcare provided within a

school setting improves access, health promotion, disease prevention, management of illness and elimination of health disparities (Soleimanpour, et.al, 2010; Guo, et.al, 2010).

Carpenter and Mueller (2001) describe a nurse managed SBHC in a low income school district in rural Texas, covering 174 square miles, with no other access to healthcare within the school district (no pediatricians, emergency rooms, hospitals or pharmacies). The SBHC provides typical primary and community healthcare services, as well as mental health services in a school district with approximately 5,400 student enrollment (Carpenter & Mueller, 2001). In this qualitative case study, parents were asked about their utilization of the SBHC. Results illustrated this SBHC provided healthcare not otherwise available to about 1,700 students during the 1998-99 years in the school district (Carpenter & Mueller, 2001). Children in the school district were referred to the SBHC by the school nurse; and parents reported using the SBHC because of location, cost, accessibility and confidence that care received was in the best interests of their children (Carpenter & Mueller, 2001).

Adams and Johnson (2000) evaluated elementary SBHCs as a potential source of reduced healthcare costs and savings to Medicaid programs. Medicaid claims data for children in an Atlanta, Georgia, school district with a SBHC were compared to those in a district without a SBHC; examining visits for children ages 4 through 12 years. Results demonstrated significantly lower use of emergency rooms, lower inpatient expenses, and less use of medications with increased preventive expenses from the EPSDT program (Adams & Johnson, 2000). In addition, children with asthma had less emergency room use in the school district with a SBHC compared to children in the school district without a SBHC (Adams & Johnson, 2000). Likewise, Young, D'angelo and Davis (2001)

demonstrated decrease emergency room use by students enrolled in a SBHC. They describe SBHCs as eliminating barriers to healthcare access, insurance, transportation, and parental work days. This study, specific to elementary SBHCs, describes the SBHC as integrating medical and academic factors in facilitating children's success in life while simultaneously decreasing non-urgent emergency room visits through provision of quality healthcare for children (Young, et al., 2001).

Guo, Wade, Pan and Keller (2010) compared school districts in Ohio with and without SBHCs to evaluate the effectiveness of the SBHC on elimination of healthcare disparities and improving healthcare access over a 5 year period. Data available through the Medicaid and school systems were used to evaluate healthcare costs (total dollars paid by Medicaid per student) and the cost of implementing and running a SBHC program (Guo, et.al, 2010). Through statistical analysis, this study showed a positive cost benefit analysis along with decreased disparities in healthcare access; the results of the study are monumentally important for improvement of healthcare access for children (Guo, et.al, 2010).

In a similar article by Wade and Guo (2010), the authors describe health-related quality of life (HRQOL) as being improved for children utilizing their comprehensive SBHC. In a prospective 3 year study, the authors examine self reported HRQOL in children using a SBHC compared with children not using services available at a SBHC. Their focus was on students with asthma and mental health illnesses, which comprise a significant part of health issues related to school success and HRQOL (Wade & Guo, 2010). The authors assessed pediatric HRQOL annually over a 3 year period, including parents and children. Data analysis demonstrates SBHCs make a difference in HRQOL

for children and families; the authors suggest pediatric HRQOL may be useful as an outcome measurement for the effectiveness of SBHCs.

Johnson and Hutcherson (2007) describe utilization of comprehensive elementary SBHCs in Georgia from 1998-2003, including dental and mental health in addition to typical SBHC services. Their findings delineate that care provided is comparable to the prevalence of these diagnoses in general pediatrics, notably asthma (Johnson & Hutcherson, 2007). Similarly, SBHCs in Bronx, New York, are sole providers of healthcare in their school sites, which includes the nurse's office in the school and the nurse practitioner in the health center itself (Baquiran, Webber & Appel, 2002). These safety net type SBHCs are described as a primary source of healthcare for children in some inner city schools in New York.

SBHCs Influence Academic Achievement

CSHCA (2010a) sponsored a monograph entitled "*Ready, Set, Success! How to Maximize the Impact of SBHC on Academic Achievement*"; this monograph links methods of utilizing SBHCs to improved academic achievement through improved school attendance and teacher support. Murray, Low, Hollis, Cross and Davis (2007) completed a systematic review of the literature regarding coordinated school health programs (CSHPs), including SBHCs, and their impact on academic achievement. CSHPs provide coordinated and organized activities, policies and events related to comprehensive health, involving school, family, and community and include having a SBHC as part of the CSHP (Murray, et.al, 2007).

The results showed the most significant positive impact of CSHP on the subject of academic achievement was in children with asthma utilizing health education and

parental involvement (Murray, et.al, 2007). Overall, strong evidence found positive effects of school health programs on academic outcomes (Murray, et.al, 2007). Schools that incorporated social skills training within health education, increased physical activity, improved nutrition (breakfast programs), health services, mental health services, and parental and community involvement demonstrated enhanced academic outcomes (Murray, et.al, 2007).

Ehrlich (2008) describes implementation of a CSHP in a small school district in Mississippi that served children who lived in poverty, resulting in decreased drop-out rates and increased graduation rates. Students stayed in school and performed better in almost every area in almost every grade; the school district state ranking rose from 59th to 14th between 1996 and 2005. Similar results occurred in a school district in Tennessee between 2002 and 2006, demonstrating improved achievement and student health, along with decreased drop-out rates and increased graduation rates. Overall, the Ehrlich (2008) article supports use of a coordinated school health program, which includes the use of SBHCs.

Strolin-Goltzman (2010) completed a retrospective study demonstrating the presence of a SBHC on campus is associated with improved learning. The results suggest elimination of barriers affecting student ability to learn can be obtained through a partnership with a SBHC. The sample was drawn from 1,373 schools, about 30% chosen for the study; sample size was analyzed based upon numbers of schools rather than individuals (Strolin-Goltzman, 2010). Utilizing a purposeful sample of schools with a SBHC (n=208), matched to demographically similar schools without SBHC (n=208), focus groups were held in the community. Results of these discussions led to four

characteristics of positive learning environments: communication, engagement, academic expectations and school readiness. Surveys utilizing Likert Scale type questions were also employed, asking questions about academic expectations, safety and respect along with qualities such as communication, and relationships (Strolin-Goltzman, 2010). Results from the study showed a positive correlation between having a SBHC and perceptions of a more optimal learning environment. They suggest elimination of barriers may improve readiness to learn in lower performing students (Strolin-Goltzman, 2010).

Dilley (2009) discussed links between risk taking behaviors and academic achievement. Risk taking behavior of middle and high school students leads to decreased graduation rates, while improving health factors of these students can facilitate improved academic achievement. Descriptions of healthcare disparities, such as poverty, discrimination, unequal healthcare access, lack of nutrition, poor exercise, safety, etc., leads to decreased academic achievement (Dilley, 2009). The Washington State Youth Health Survey Report (Dilley, 2009) describes health and education as inextricably linked; interventions addressing positive factors such as health promotion and supportive health services diminished risk factors and therefore improved academic achievement (Dilley, 2009). Additional findings regarding worksite wellness for employees was a good investment in creating a healthier school, which led to improved student health and learning (Dilley, 2009). Another factor examined in this study was determination of effective school based interventions for health and achievement, including hand-washing, communications, breakfast programs, increased physical activity, cognitive and social skills training, chronic disease management, and having a SBHC; these interventions

strengthened the link between improved health status and decreased academic risk (Dilley, 2009).

NASBHC (2005) posted its position statement documenting the relationship between school-based health centers and student academic accomplishments. There are known factors such as substance abuse, emotional issues, physical or psychological abuse, low self-esteem, chronic medical illness, and lack of healthcare that negatively impact academic performance. Conversely, factors such as high levels of resiliency, connectedness to school and community and developmental assets can positively impact academics (NASBHC, 2005). The position statement lists a variety of services and programs that can be provided by SBHCs and discusses their potential benefits to the school and the educational system (NASBHC, 2005). One major premise of this statement is that SBHCs should be held accountable to deliver quality healthcare services to students and families in the community that they serve yet should not be held accountable for outcomes they are not designed to achieve (NASBHC, 2005). This makes it important to examine each SBHC outcomes in relationship to its individual mission.

SBHCs Provide Quality Care

Quality improvement (QI) and program evaluation are well correlated in several evaluation tools (NASBHC, 2010, Center for Health and Health Care in Schools [CHHCS], 2001). QI assessments are utilized nationally for program evaluation and incorporate strategy to strengthen quality of care provided in SBHCs. Booker, Schluter, Carrillo, and McGrath (2011) completed a QI initiative in SBHCs throughout New Mexico. They determined providers may overestimate their use of evidence based

practice, or best practices. Hence, quality improvement audits can create changes in specific clinical practices, leading to improvement in effectiveness and efficiency in SBHC settings.

Chronic illnesses such as asthma and obesity are cost prohibitive if not appropriately treated, leading to disability and lost school or work days. Mansour, Rose, Toole, Luzader and Atherton (2008) reported the results of a quality improvement initiative applied in a SBHC treating children with asthma. These children had decreased emergency visits and activity restrictions when they accessed healthcare through a community based SBHC. Oetzel, Scott and McGrath (2009) reported on a quality improvement initiative to change practice in treating children with obesity. Their results showed SBHC staff with training in pediatric obesity management can make a difference in the current obesity epidemic (Oetzel, Scott & McGrath, 2009). An additional study by Allison, Crane, Beaty, Davidson, Melinkovic and Kempe (2007) describe children who used SBHC as a safety net had better access to quality care when compared to traditional outpatient care providers. Gance-Cleveland, Costin and Degenstein (2003) reported on a Colorado QI program that established baseline standards for SBHCs and their providers. The Colorado QI program reported a very high rate of ease of getting an appointment, but immunization rates in the 27-98% range showed a need for improvement with some immunizations. The program evaluation identified areas of need for improvement in care and documentation of care provided, and goals were set for each year to facilitate improvement (Gance-Cleveland, Costin & Degenstein, (2003).

To adequately evaluate a SBHC program, one must first determine the type of SBHC (comprehensive medical home or safety net) and educational level (elementary,

secondary), along with types of services provided. Comprehensive SBHCs that are sponsored by hospitals, medical centers, rural or federally qualified health centers, or public health departments are often considered more comprehensive in care provided (Mavis, et.al, 2009). These providers often deliver medical services along with mental health, dental care, management of chronic illnesses such as obesity, asthma, reproductive services at the secondary level, and have 24 hour emergency coverage (Mavis, et.al, 2009). Conversely, SBHCs sponsored by school districts are more likely to be safety net types and are not considered medical homes; they often provide treatment more for minor illnesses and injuries, focus on school attendance, do not treat most chronic conditions, or provide mental health, dental care and obesity services (Hackbarth & Ball, 2005; Mavis, et.al, 2009). Elementary SBHCs usually do not provide reproductive services (Bavin, 2010), but often are well integrated into their communities and provide excellent referral services for conditions not treated.

SBHC Program Evaluations

In general, the purpose of program evaluation includes gaining insight, changing practice, assessing effects of practice change, and positively affecting the stakeholders (Milstein & Wetterhall, 1999; Hackbarth & Ball, 2005). NASBHC (2010) outlines seven fundamental principles of school based health centers, which provide a guide for evaluating SBHC. The principles include evaluation of how the SBHC supports the school, responds to the community, and focuses on the student, monitoring care delivery, advancing health promotion, implementing effective systems, and providing leadership in adolescent and child health (NASBHC, 2010). Each of these specific items contains objectives that lend themselves to a program evaluation. Hackbarth and Ball (2005)

describe the special importance of making sure the evaluation process itself matches the type and philosophy of the SBHC.

The Centers for Disease Control (CDC) (2011) provides a framework for evaluation of public health providers, describing steps in planning or preparing for program evaluation. These steps include examination and summary of the elements of the program, deciding on a framework, clarifying the steps to be taken, reviewing standards, and insuring there are no misconceptions regarding the program evaluation purpose and methods. The CDC also provides guidelines for carrying out the program evaluation (1999). The first step is to engage stakeholders, usually accomplished by meeting with all staff involved in the SBHC program being evaluated and outlining plans for program evaluation. It is important to develop objectives reflective of the mission and vision statements of the program being evaluated, and to set priorities for areas needing evaluation. Part of this step includes insuring there is readiness for change.

Step two is to describe the program: Clovis Unified School District (CUSD) sponsors two SBHCs, both located on Title 1 (lower socioeconomic settings with increased federal funding) elementary school campuses, both safety net type SBHCs. The services provided include well baby and child care, immunizations, skin tests for Tuberculosis (PPD), treatment of minor illness (colds, ear infections, asthma, rashes) and injury (sprains, strains, abrasions), sports screenings, and WIC screenings. Services are provided for children from birth through age 18, serving primarily uninsured, Medicaid, and underinsured children who would typically fall through the cracks in accessing and receiving healthcare.

The third step is to focus on the evaluation design. This program evaluation will encompass adaptation of the NASBHC/CHHCS SBHC program evaluation tool and correlate with EPSDT recommendations to fit this particular program, focusing on three outcomes of SEHE. The three outcomes are:

- 85% of all components of SEHE are completed (or noted why they are not completed)
- 85% of SEHE will indicate treatment, follow-up or referral of any positive findings
- 85% of SEHE will indicate communication with the school regarding the results

The fourth step is gathering evidence, actually evaluating the program by focused chart review, and analyzing data accumulated. Steps five and six involve justification of conclusions, analyzing the results of the study and making plans for change based upon results of the study.

CHAPTER IV

METHODOLOGY

Design, Setting, Sample

This project consisted of a retrospective chart review evaluating SEHE outcomes (completion of the SEHE based upon EPSDT guidelines, acting upon any positive findings, either through treatment, follow-up or referral, and communication with schools regarding the findings of the SEHE). The setting was an elementary safety net SBHC in Central California.

The target population was children receiving SEHE in California; the accessible population was children receiving SEHE through the Clovis Unified School District SBHC. The actual sample was drawn from the accessible population, which was a minimum of 100 patients. Sample size of 100 was determined to be reasonable based upon time available to complete the project. Charts were selected systematically from the appointment calendar, going backwards in the calendar picking every other name of patients seen for SEHE during the last 1 to 2 years at each site.

Ethical Considerations

After successful defense of the proposal, IRB consent was obtained. A letter of support was obtained from Clovis Unified School District. Patient charts are in paper format; there is no way to avoid seeing the names of the patients. Each patient chart was given a code number, names of children did not appear anywhere on the data collection sheet, no chart copies were made. Data were recorded directly from the chart into the Software Package for Social Science (SPSS) spread sheet. The data collection forms

were then destroyed. These strategies prevented any potential for inadvertent patient identification.

Procedure

To successfully evaluate SEHE outcomes in an elementary safety net SBHC, the Plan-Do-Study-Act model was utilized. In the 'Plan' step, the process began with a meeting of all staff to engage stakeholders in order to insure readiness for change. The mission statement of the SBHC was reviewed. Once program evaluation objectives were confirmed, they were linked to the EPSDT guidelines, NASBHC and CSHCA evaluation tools. Examples included determining if blood pressures were taken or BMI percentiles noted. The 'Do' part of the model led to evaluation of SEHE components required by EPSDT and endorsed by NASBHC and CSHCA. The data collection form (spread sheet) developed to evaluate the outcomes included:

- All components completed and documented per EPSDT recommendations (or noted why not completed, for example, patient unable to void for urinalysis)
- All identified problems treated, rechecked or referred
- The information about the SEHE results communicated to the school

Data Collection

The identified agency undergoing program evaluation is an elementary level safety net type of SBHC system, with two different sites; both SBHCs are located on elementary school campuses in high poverty communities and are Title 1 schools. The sites evaluated are the Pinedale Children's Health Center (opened in 1993), located at Pinedale Elementary School and the Fancher Creek Children's Health Center (opened in 2002) located at Fancher Creek Elementary School; both sites were initially grant funded.

Services include basic pediatric healthcare to undeserved children, including SEHE. Patient charts of those receiving SEHE were systematically chosen through review of retrospective SBHC appointment calendar, every other name was chosen for chart review until a minimum of 100 charts was obtained. Based upon existing tools utilized for outcome evaluations of SBHCs, a data collection list was developed (See Appendix D). The criteria on this list were then applied to an SPSS spread sheet. Utilizing SPSS for data collection and analysis, charts were reviewed for outcomes as noted on the data collection form. Transcription of the data directly into SPSS prevented any potential transcription errors. At the end of the data collection process, all of the data were analyzed using SPSS.

Data Analysis

The numbers were added to determine the percentage of total charts and outcomes meeting criteria. The goal utilized for EPSDT audits was 85% (Child Health and Disability Prevention Program [CHDPP], 2008). Continuing the Plan-Do-Study-Act, within the 'Study' part, data were analyzed to determine if the outcomes of this program were met appropriately. Tabulation of data occurred through use of the data collection form developed for this purpose. Analysis was completed using SPSS version 18 (2010), including demographics in terms of age, sex, site, and insurance type. In order to 'Act' on these results, another stakeholder meeting was held to discuss the results and plan for changes needed based upon study results. The Act portion of the model will be addressed in the conclusion section.

Resources

Resources required included availability of charts for review (as much as 10-12 hours to locate and pull identified charts) and time to review the charts (chart review was completed by UNDNP student), which required up to 20 minutes per chart (minimum of 35 hours). Each chart was reviewed for completed items. Use of SPSS facilitated data collection, analysis, and evaluation. Funding requirements were absorbed by the student. Descriptive statistics were used.

Project Timeline

This project took place in three phases. The first phase was proposal completion (March, 2011), project proposal defense (April, 2011), and IRB approval (planned for May, 2011 but occurred in June, 2011); completion date of this first phase was June 30, 2011. The next phase, meeting with stakeholders, took place on June 5, 2011, and continued with gathering charts and collecting data (July, 2011). This second phase concluded with analysis of the data (Fall, 2011). The final phase included writing of the analysis, completing this paper (December, 2011), and concludes with final oral defense of the project (February, 2012).

RESULTS

Upon review of the electronic calendars of the two health centers from June 2010 to September 2011, there were 330 appointments scheduled for children to have SEHE. A list of names was made from the electronic calendar (160 from SBHC A and 170 from SBHC B), and a coin was tossed (heads was every odd chart and tails was every even chart). Tails was the result of the coin toss. Every second name was highlighted (165) and those charts were pulled for a total of 135 charts reviewed (71 from SBHC A and 64 from SBHC B). Names not yielding suitable charts were due to incorrect calendar entry

of visit type (entered as SEHE but was seen for sick visit), wrong age in appointment calendar, or patient did not show up for appointment.

Demographically, children were noted to be anywhere from 4 to 7 years of age; about 50% were 6 years old. The population was 57% female and 43% male. Ethnicity was mixed, with most patients being white (41%) or Hispanic (39%). Insurance status was mixed, 55% were on Medi-Cal, 12% were uninsured and the other 32% had private insurance. SBHC A was represented with 52% of available charts and 48% were from SBHC B.

Table 1-Patient Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	11	8.1	8.1	8.1
	5	40	29.6	29.6	37.8
	6	69	51.1	51.1	88.9
	7	15	11.1	11.1	100.0
	Total	135	100.0	100.0	

Table 2-Patient Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	58	43.0	43.0	43.0
	Female	77	57.0	57.0	100.0
	Total	135	100.0	100.0	

Table 3- Patient Insurance Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Insurance	16	11.9	11.9	11.9
	Medi-Cal	75	55.6	55.6	67.4
	Private	44	32.6	32.6	100.0
	Total	135	100.0	100.0	

Table 4- Patient Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Answered	1	.7	.7	.7
	Asian	8	5.9	5.9	6.7
	Black	8	5.9	5.9	12.6
	Filipino	2	1.5	1.5	14.1
	Hispanic	53	39.3	39.3	53.3
	White	56	41.5	41.5	94.8
	Other	6	4.4	4.4	99.3
	Mixed	1	.7	.7	100.0
	Total	135	100.0	100.0	

Aside from demographics, 23 separate areas were examined in each chart for review. The site of SEHE was noted. Items reviewed include basic parameters such as height and percentile, weight and percentile, body mass index (BMI) and percentile. Also assessed were blood pressure and vital signs, initial or interval health history, tobacco exposure, tuberculosis risk, and developmental and social history. Incorporated into the general physical examination were specific dental exams, vision and hearing

screening, urinalysis, hemoglobin, immunization status, anticipatory guidance, treatment or referral of positive findings and school notification of findings. All parameters evaluated were over the minimum 85% except for hemoglobin.

Table 5-Percentage of Charts with Documented Compliance

	N	Percentage
Height	135	1.00
Height %ile	135	1.00
Weight	135	1.00
Weight %ile	135	1.00
BMI	135	.98
BMI Percentile	135	.97
Blood Pressure	135	.99
Temp, Pulse, Respiration	135	.99
Initial or Interim History	135	1.00
Tobacco Screen	135	.93
Tuberculosis Screen	135	.93
Developmental Assessment	135	.99
Psychosocial Assessment	135	.99
Dental Assessment	135	.99
Hemoglobin	135	.81
Urine Dipstick	135	.92
Complete Physical Exam	135	1.00
Vision Assessment	135	1.00
Hearing Assessment	135	.99
Immunizations Addressed	135	1.00
Anticipatory Guidance	135	.97
School Notified	135	.93
Findings Treated, Referred, Follow-up	135	.99
Valid N	135	

Discussion

After completion of the data collection and review process, another meeting of stakeholders was convened. During this meeting, the preliminary results were presented

and discussed. It was decided that all ages of well child forms would be revised to facilitate reminders specifically about hemoglobin, but additionally about any items less than 95% (tobacco screen, tuberculosis screen, urinalysis, and school notification). It was also decided that both the health history form and the patient information-consent form would be revised to include questions such as tobacco smoke exposure, TB risk, and lead exposure to insure that these important items would not be missed in future SEHE. As of December, 2010, these forms have all been revised, approved, and are in use. There is a scheduled review in March 2012, to determine if further changes need to be made.

Evaluation

A program evaluation examining the efficacy and quality of SEHE in SBHC was undertaken for this project. The mission statement was reviewed with stakeholders to identify the program goals, objectives, and priorities. Outcomes to be measured through implementation of the program evaluation project were:

- 85% of all components recommended by EPSDT were completed
- 85% of all positive findings were treated, followed up or referred to another provider
- 85% of all significant findings on SEHE were communicated to the school of attendance

Chart reviews indicated almost all of the EPSDT recommended components were completed at or above the 85% compliance rate. Each chart was examined individually to determine if all aspects of the SEHE were completed as listed in the EPSDT schedule (Appendix C). Children with positive findings were received treatment, scheduled for

follow-up, or referred for further care (99%). Examples of positive findings needing treatment were upper respiratory infection, reactive airway disease, otitis media, impetigo, or musculoskeletal injury. Examples of diagnoses needing follow-up were an abnormal urine dipstick, failed vision or hearing for recheck, anemia; those diagnoses needing referral included dental caries, developmental or language delays, or an orthopedic problem. Documentation of SEHE report being communicated to the school was noted (93%); this included an indication of a copy of the report given to the parent or sent to the school by mail or fax. Initially, there was no notification of findings being communicated to the school on all charts from SBHC B. There was, however, documentation in the school district's nursing computer program that the physical was received and reviewed.

All items were totaled for percentages; the expected percentage compliance was greater than 85%, (which is the standard utilized by EPSDT) in all except for hemoglobin. This identified area that did not reach the 85% rate is targeted for improvement. When the stakeholders met to review results, changes in the program were instituted. These changes included alteration of all well child exam forms by age group, health history form, patient information and consent. Also included, was a reminder to the staff involved about the importance of having hemoglobin checks during SEHE. Revision of these forms will lead to increased compliance with factors reviewed for future program evaluations. Future goals will be set to continue program and outcome evaluation on a yearly basis.

Conclusion

It is apparent by this small study that SBHCs can provide quality care and meet the national standards for SEHE. This is crucial for children today who have limited access to healthcare related to uninsured status or lack of Medicaid providers. SBHCs are providers that fill this healthcare gap for children. This study demonstrates the quality of any program is impacted by the people implementing it; the PNP role is crucial to success of SBHCs. SBHCs are clearly an outstanding method for improving school attendance, academic achievement, healthcare access and improved health outcomes for children. These underserved children and families can and should utilize safety net SBHCs as a crucial link to health and to successful learning. Children who are healthy and ready to attend school will become society's future leaders.

APPENDICES

Appendix A-Nursing 786, Proposed Project Timeline- Roberta Bavin

Section of proposal	Dates
Title page, Table of contents	3/30/11
Body of the paper: Background and significance of proposed project/intervention	
Problem statement or purpose – identification of the challenges, problems, situations, opportunities leading to the proposed project.	1/15/11
Project and/or research questions as appropriate	1/15/11
Policy implications	1/29/11
Body of the paper: Theoretical framework	
model, framework, or concept that supports project	2/3/11
Body of the paper: Project description	2/25/11
literature review and synthesis – using evidence-based literature to support project/intervention	2/25/11
Project objectives / specific aims	1/29/11
Body of the paper: Project design / methodology for implementation	
Evidence-based project / intervention plan – describe in detail the project plan	2/25/11
Timeline of project phases	2/25/11
Resources required – personnel, technology, funding, etc.	2/25/11
Support resources – personnel, technology, funding, etc.	2/25/11
As appropriate, marketing plan, financial plan/budget that justifies the need, feasibility, and sustainability of the proposed project.	2/25/11
IRB approval or exemption, as appropriate	4/25/11
Statement of mutual agreement with agency/site/mentor (as appropriate)	2/25/11
Body of the paper: Evaluation plan	
For each objective, include specific details as to how your project will be evaluated. What evidence-based measures/instruments will be applied to the evaluation plan for each objective? What method of analysis will be used for each objective?	3/11/11
Appendices	
Detailed timeline	4/1/11
Detailed and specific project tasks	4/1/11
Instruments/tools/measures	4/1/11
Copyright permission	4/1/11
IRB approval	4/25/11
Defense of Proposal	4/5/11
Revisions	4/29/11
Implementation of project	Summer, 2011
Final Writing of paper	Fall/Spring, 2012
Final Project Defense	April 2012

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Recommendations for Preventive Pediatric Health Care

Bright Futures/American Academy of Pediatrics

Bright Futures.
promoting and health promotion for infants, children, adolescents, and their families™

Each child and family is unique; therefore, these **Recommendations for Preventive Pediatric Health Care** are designed for the care of children who are receiving competent parenting, have no manifestations of any important health problems, and are growing and developing in satisfactory fashion. **Additional visits may become necessary** if circumstances suggest variations from normal.

Developmental, psychosocial, and chronic disease issues for children and adolescents may require frequent counseling and treatment visits separate from preventive care visits.

These guidelines represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to emphasize the great importance of **continuity of care** in comprehensive health supervision and the need to avoid **fragmentation of care.**

The recommendations in this statement do not indicate an exclusive course of treatment or standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

AGE	PRENATAL[1]	NEWBORN[2]	3–5 d[3]	By 1 mo	2 mo	4 mo	6 mo	9 mo	12 m	15 mo	18 mo	24 mo	30 mo	3 y	4 y	5 y	6 y	7 y	8 y	9 y	10 y	11 y	12 y	13 y	14 y	15 y	16 y	17 y	18 y	19 y	20 y	21 y
HISTORY																																
Initial/Interval	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
MEASUREMENTS																																
Length/Height and Weight		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Head Circumference		•	•	•	•	•	•	•	•	•	•	•	•																			
Weight for Length		•	•	•	•	•	•	•	•	•	•	•	•																			
BMI/A Alternative														•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Blood Pressure		★	★	★	★	★	★	★	★	★	★	★	★	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SENSORY SCREENING																																
Vision		★	★	★	★	★	★	★	★	★	★	★	★	★[4]	•	•	•	•	•	•	•	•	★	•	★	•	★	•	★	•	★	★
Hearing		•	★	★	★	★	★	★	★	★	★	★	★	★	•	•	•	★	•	★	•	•	★	•	★	•	★	•	★	•	★	★
DEVELOPMENTAL/BEHAVIORAL ASSESSMENT																																
Developmental Screening[5]											•		•																			
Autism Screening[6]											•	•	•																			
Developmental Surveillance[7]		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Psychosocial/Behavioral Assessment		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Alcohol and Drug Use Assessment																						★	★	★	★	★	★	★	★	★	★	★
PHYSICAL EXAMINATION[10]		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PROCEDURES[11]																																
Newborn Metabolic/Hemoglobin Screening[12]		•																														
Immunization[13]		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Hematocrit or Hemoglobin[14]						•			•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Lead Screening[15]								★	●or★[16]		★		★	★	★	★	★	★	★	★	★											
Tuberculin Test[17]					★			★	★		★		★	★	★	★						★	★	★	★	★	★	★	★	★	★	★
Dyslipidemia Screening[18]																						★	★	★	★	★	★	★	★	•	•	•
STI Screening[19]																						★	★	★	★	★	★	★	★	★	★	★
Cervical Dysplasia Screening[20]																						★	★									
ORAL HEALTH[21]							★	★	●or★		●or★		●or★	●or★	●[22]																	
ANTICIPATORY GUIDANCE[23]	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

1. If a child comes under care for the first time at any point on the schedule, or if any items are not accomplished at the suggested age, the schedule should be brought up to date at the earliest possible time.
2. A prenatal visit is recommended for parents who are at high risk, for first-time parents, and for those who request a consultation. Parents should establish pediatric care before the baby's birth to facilitate discussion of benefits of breastfeeding and planned method of feeding per AAP statement "The Prenatal Visit" (2001) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;107/6/1455).
3. Every infant should be evaluated for hearing, jaundice, and instruction and support offered, before discharge from the hospital, per AAP statement "Breastfeeding and the Use of Human Milk" (2005) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;115/2/496). For infants discharged less than 48 hours after delivery, an evaluation within 48 hours of discharge is appropriate per AAP statement "Hyperbilirubinemia in the Newborn" (2004) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;114/1/297).
4. Vision screening is mandatory at 3 years of age per AAP statement "Eye Examination in Infants, Children, and Young Adults by Pediatricians" (2003) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;111/4/902). Preschool assessment of strabismus and amblyopia is recommended at least once between the ages of 4 and 6 years.
5. Recommended developmental screening using a validated tool should be performed at visits before age 3 years.
6. If the patient is unresponsive, rescreen within 6 months per the AAP statement "Eye Examination in Infants, Children, and Young Adults by Pediatricians" (2003) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;111/4/902).
7. All newborns should be screened per AAP statement "Year 2000 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs" (2000) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;106/4/798), and "Year 2007 position statement: Principles and guidelines for early hearing detection and intervention programs" (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;120/4/898).
8. AAP Council on Children With Disabilities, AAP Section on Developmental Behavioral Pediatrics, AAP Bright Futures Steering Committee, and Medical Home Initiatives for Children With Special Needs Project Advisory Committee. "Identifying infants and young children with developmental disorders in the medical home: an algorithm for developmental surveillance and screening" Pediatrics. 2006;118:405–420 (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;118/1/405).
9. Bernstein AS, Ringham RM. Late preterm birth: a unique risk period for breastfeeding dyads. Clin Perinatol. 2007;34(2):273–284, vii (URL: http://aapolicy.aappublications.org/cgi/content/full/115/1/102).
10. At least twice during adolescence, with appropriate physical examination if indicated, with infant totally unclothed, older child undressed and sufficiently draped.
11. These may be modified, depending on entry point into schedule and individual need.
12. Test for hemoglobinopathies in all infants, regardless of risk, by 12 months of age. Repeat test for iron deficiency anemia, per recommendations of AAP Committee on Nutrition, "Iron Deficiency Anemia" (1999) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;103/5/1043).
13. Vaccines may be administered earlier than shown, based on individual need.
14. See AAP *Pediatric Nutrition Handbook* 5th Edition (2003) for a discussion of universal and selective screening options. See also AAP statement "Iron Deficiency Anemia" (1999) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;103/5/1043).
15. For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) (URL: http://aapolicy.aappublications.org/cgi/content/full/pediatrics;116/4/1036).
16. Perform risk assessments or screens as appropriate, based on universal screening requirements for patients with Medicaid or CHIP coverage.
17. Tuberculosis testing per recommendations of the Committee on Infectious Diseases, published in the current edition of *Red Book: Report of the Committee on Infectious Diseases* (2006) (URL: http://aapredbook.aappublications.org/cgi/content/full/2006/1/1).
18. "Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) Final Report" (2002) (URL: http://nhlbi.nih.gov/guidelines/cholesterol/atp3_rpt.htm). Recommendations for Dyslipidemia Screening and Management from Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents: Summary Report" (2005) (URL: http://circ.ahajournals.org/cgi/content/full/112/13/1916).
19. All sexually active girls should have screening for cervical dysplasia as part of a pelvic examination beginning within 3 years of onset of sexual activity or age 21 (whichever comes first).
20. At least annually, assess risk factors and counsel regarding sexual health risk assessment. If the primary water source is deficient in fluoride, consider oral fluoride supplementation.
21. At least twice a year, perform risk assessment to determined whether the patient has a dental home. If the patient does not have a dental home, a referral should be made to one. If the primary water source is deficient in fluoride, consider oral fluoride supplementation.
22. Additional topics may be added annually by age as listed in Bright Futures Guidelines, Hagan, JF, Shaw JS, Duncan PM, eds, *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*. 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2008).
23. Risk assessment.

KEY
●= to be performed ★= risk assessment to be performed, with appropriate action to follow, if positive ●——●——● = range during which a service may be provided, with the symbol indicating the preferred age

State of California—Health and Human Services Agency

Department of Health Care Services
Child Health and Disability Prevention (CHDP) Program

REPORT OF HEALTH EXAMINATION FOR SCHOOL ENTRY

To protect the health of children, California law requires a health examination on school entry. Please have this report filled out by a health examiner and return it to the school. The school will keep and maintain it as confidential information.

PART I TO BE FILLED OUT BY A PARENT OR GUARDIAN

CHILD'S NAME—Last	First	Middle	BIRTH DATE—Month/Day/Year

ADDRESS—Number, Street	City	ZIP code	SCHOOL

PART II TO BE FILLED OUT BY HEALTH EXAMINER

HEALTH EXAMINATION

NOTE: All tests and evaluations except the blood lead test must be done after the child is 4 years and 3 months of age.

REQUIRED TESTS/EVALUATIONS	DATE (mm/dd/yy)
Health History	___/___/___
Physical Examination	___/___/___
Dental Assessment	___/___/___
Nutritional Assessment	___/___/___
Developmental Assessment	___/___/___
Vision Screening	___/___/___
Audiometric (hearing) Screening	___/___/___
Tuberculin Test (Mantoux/PPD)	___/___/___
Blood Test (for anemia)	___/___/___
Urine Test	___/___/___
Blood Lead Test	___/___/___
Other	___/___/___

IMMUNIZATION RECORD

Note to Examiner: Please give the family a completed or updated yellow California Immunization Record.
Note to School: Please record immunization dates on the blue California School Immunization Record (PM 286).

VACCINE	DATE EACH DOSE WAS GIVEN				
	First	Second	Third	Fourth	Fifth
POLIO (OPV or IPV)					
DtaP/DTP/DT/Td (diphtheria, tetanus, and [acellular] pertussis) OR (tetanus and diphtheria only)					
MMR (measles, mumps, and rubella)					
HIB MENINGITIS (Haemophilus Influenzae B) (Required for child care/preschool only)					
HEPATITIS B					
VARICELLA (Chickenpox)					
OTHER					
OTHER					

PART III ADDITIONAL INFORMATION FROM HEALTH EXAMINER *(optional)* and RELEASE OF HEALTH INFORMATION BY PARENT OR GUARDIAN

RESULTS AND RECOMMENDATIONS

Fill out if patient or guardian has signed the release of health information.

☐ Examination shows no condition of concern to school program activities.

☐ Conditions found in the examination or after further evaluation that are of importance to schooling or physical activity are: *(please explain)*

I give permission for the health examiner to share the additional information about the health check-up with the school as explained in Part III.

☐ Please check this box if you ***do not*** want the health examiner to fill out Part III.

Signature of parent or guardian _____ Date _____

Name, address, and telephone number of health examiner

Signature of health examiner _____ Date _____

If your child is unable to get the school health check-up, call the Child Health and Disability Prevention (CHDP) Program in your local health department. If you do not want your child to have a health check-up, you may sign the waiver form (PM 171 B) found at your child's school.

PM 171 A (09/07) (Bilingual)

CHDP website: www.dhcs.ca.gov/services/chdp

Appendix D-Data Collection Sheet-Sample

Pt ID number											
Height											
Height Percentile											
Weight											
Weight Percentile											
BMI											
BMI Percentile											
Blood Pressure											
Initial/Interim Health History											
Complete Physical Assessment											
Develop./Behav. Surveillance											
Psychosocial Assessment											
Dental Assessment											
Nutrition Assessment											
Anticipatory Guidance											
Tobacco Assessment											
Visual Acuity											
Audiometric/Hearing											
TB risk assessment											
TB skin test											
Hemoglobin											
Urine Dipstick											
Immunizations given											
Communication with School											
Positive findings TX/FU/Refer											
Male											
Female											
Age 4 years											
Age 5 years											
Age 6 years											
Age 7 years											
Insurance-Uninsured											
Insurance-Medi-Cal											
Insurance-Private											
Ethnicity-Asian											
Ethnicity-Hispanic											
Ethnicity-African-American											
Ethnicity-White											
Ethnicity-Philipino											
Ethnicity-Other/Mixed											
Ethicicty-Not Answered											

UNLV
UNIVERSITY OF NEVADA, LAS VEGAS
Office of Research Integrity
Human Subjects

IRB Received Date Stamp—Office Use Only	IRB Protocol Number—Office Use Only

Exempt Research Application Form

Applicable Policy – 45 CFR 46.101 (b)

Instructions:

1. CITI certification (www.citiprogram.org) must be current at the time of protocol submission.
2. Complete this application if you believe your study qualifies as exempt research based on the categories below. The UNLV IRB will make the final determination of exempt research projects. The exempt determination must be granted in writing by the UNLV IRB before research can begin on the project.
3. Exempt research must adhere to the same ethical principles governing all research.
4. Exempt applications must include copies of informed consent/information sheets, questionnaires/surveys, advertisements, etc.
5. If the IRB determines the research to be non-exempt, the project must be resubmitted with the completed Research Protocol Proposal Form to again proceed through the IRB review process.
6. Submit the protocol package via email to ORI – Human Subjects (IRB@unlv.edu) from the Principal Investigator's UNLV email address.

Note:

1. Handwritten and hand delivered forms will not be accepted.
2. INCOMPLETE FORMS WILL BE RETURNED.

1. Duration of Study

Anticipated Time to Complete the Study: 1 year

2. Research Protocol Title

ELEMENTARY SCHOOL BASED HEALTH CENTERS AS PROVIDERS OF SCHOOL ENTRY HEALTH EXAMS: DO THEY MEET THE STANDARDS?

3. Investigator(s) Contact Information

(The PI must be a UNLV faculty member in all cases involving studies carried out by students or fellows.)

A. Principal Investigator *(Name and Credentials)*: PATRICIA ALPERT

☒ Faculty ☐ Faculty Advisor

Department: Nursing Mail Stop: _____ Phone Number: _____

E-Mail Address: patricia.alpert@unlv.edu

B. Student/Fellow Investigator *(Name and Credentials)*: _____

☐ Undergraduate ☐ Masters ☒ Doctoral ☐ Fellow

Department: Nursing Mail Stop: _____ Phone Number: 559-259-6469

E-Mail Address: robertab@sbcglobal.net

C. Please complete (if applicable)

Protocol Coordinator *(Name and Credentials)*: _____

Phone Number: _____ E-Mail Address: _____

Co-Principal Investigator *(Name and Credentials)*: _____

☐ Faculty

Department: _____ Mail Stop: _____ Phone Number: _____

E-Mail Address: _____

4. Risk Assessment

4.1 In order for your study to qualify as exempt, it may only involve minimal risk. By Federal Regulations at 45CFR46.102(i), "*Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.*"

Does your study meet the definition of minimal risk as defined above? ☒ Yes ☐ No

Describe the risks to project participants (e.g., breach of confidentiality) and explain how they will be minimized, this should include a description regarding how participants' confidentiality will be protected (e.g., data collected for the study will be kept on a password protected desktop computer in a locked office). There are minimal risks to participants, only potential breech of confidentiality. This study is a retrospective chart review of paper charts. Each patient chart will be given a code number, names of children will not appear anywhere on the data collection sheet, no chart copies will be made. Data will be recorded on the data collection form and then entered into a spread sheet. Spread sheet will be kept on a password protected laptop computer in the student's locked home. The data collection forms will then be destroyed. These strategies will prevent any potential for inadvertent patient identification.

5. Category of Exemption: Please indicate your exemption category choice by completing the relevant categories from the list below. Please note: The Federal regulations do not permit any new categories and only the IRB may determine which research activities qualify for an exempt review.

KEY: Solid box: All items in the box must be true | Dotted box: One item in the box must be true

☐ **Category 1** (All of the following are true):

- ☐ Research conducted in established or commonly accepted educational settings
- ☐ The research involves normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods
- ☐ The research is **NOT** subject to FDA regulation (e.g.; drug, devices, or biologics)
- ☐ The research does **NOT** involve prisoners as participants

☐ **Category 2** (All of the following are true):

- ☐ The research involves the use of one or more of the following:
  - ☐ Educational tests (cognitive, diagnostic, aptitude, achievement)
  - ☐ Survey procedures
  - ☐ Interview procedures
  - ☐ Observation of public behavior
- ☐ When the research involves children as participants, the procedures are limited to:
  - ☐ Educational tests (cognitive, diagnostic, aptitude, achievement)
  - ☐ Observation of public behavior where the investigator(s) will **NOT** participate in the activities being observed
- ☐ Information obtained is recorded in such a manner that either:
  - ☐ Participants **CANNOT** be identified, directly or through identifiers linked to the participants.
  - ☐ Both of the following are true:
    - ☐ Participants **CAN** be identified, directly or through identifiers linked to the participants.
    - ☐ Any disclosure of the participants' responses outside the research could **NOT** reasonably place them at risk of criminal or civil liability or be damaging to t eir

financial standing, employability, or reputation.

☐ The research is **NOT** subject to FDA regulation (e.g.; drug, devices, or biologics)
☐ The research does **NOT** involve prisoners as participants

☐ **Category 3** (All of the following are true):

☐ The research is **NOT** exempt under Category 2 above
☐ The research involves the use of one or more of the following
- ☐ Educational tests (cognitive, diagnostic, aptitude, achievement)
- ☐ Survey procedures
- ☐ Interview procedures
- ☐ Observation of public behavior

☐ Either of the following is true
- ☐ The participants are elected or appointed public officials or candidates for public office
- ☐ Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter

☐ The research is **NOT** subject to FDA regulation (e.g.; drug, devices, or biologics)
☐ The research does **NOT** involve prisoners as participants

☒ **Category 4** (All of the following are true):

☒ The research involves the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens (i.e., the reviewed materials currently exist and are **NOT** prospectively collected). **Indicate in protocol the data collection date range.**
☒ At least one of the following is true:
- ☐ These sources are publicly available
- ☐ Information[1] is recorded in such a manner that both of the following are true:
  - ☒ Participants cannot be directly identified
  - ☒ Participants cannot be identified through identifiers linked to them

[1] *Protocol must contain what information is recorded and how it is recorded.*

☒ The research is **NOT** subject to FDA regulation (e.g.; drug, devices, or biologics)
☒ The research does **NOT** involve prisoners as participants

☐ **Category 5**[2] (All of the following are true):

☐ The project is a research or demonstration project
☐ The project is conducted by or subject to the approval of Department or Agency heads
☐ The project is designed to study, evaluate, or otherwise examine: (i) Public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs
☐ The program under study delivers a public benefit (e.g., financial or medical benefits as provided under the Social Security Act) or service (e.g., social, supportive, or nutrition services as provided under the Older Americans Act)
☐ The project is conducted pursuant to specific federal statutory authority
☐ There is no statutory requirement that an IRB review the project
☐ The project does not involve significant physical invasions or intrusions upon the privacy of participants
☐ The research is **NOT** subject to FDA regulation (e.g.; drug, devices, or biologics)
☐ The research does **NOT** involve prisoners as participants

[3] *According to OHRP, this exemption is most appropriately invoked with authorization or concurrence by the funding agency.*

☐ **Category 6 (All of the following are true):**

☐ The research involves a taste and food quality evaluation and consumer acceptance studies
☐ One of the following is true:
- ☐ Wholesome foods without additives will be consumed
- ☐ A food will be consumed that contains a food ingredient and both of the following are true:
  - ☐ The food ingredient is at or below the level to be safe
  - ☐ The food ingre ient is for a use found to be safe
- ☐ A food will be consumed that contains an agricultural chemical or environmental contaminant and one of the following is true:
  - ☐ The agricultural chemical or environmental contaminant is at or below the level found to be safe by the Food and Drug Administration
  - ☐ The agricultural chemical or environmental contaminant is at or below the level approved by the Environmental Protection Agency
  - ☐ The agricultural chemical or environmental contaminant is at or below the level approved by the Food Safety and Inspection Service of the U.S. Department of Agriculture

☐ The research is **NOT** subject to FDA regulation (e.g.; drug, devices, or biologics)
☐ The research does **NOT** involve prisoners as participants

6. Research Team Members: *List all research team members (including PI) who will have contact with subjects, have contact with subjects' data or biological samples, or use subjects' personal information. If needed, see the Additional Research Team Member Form.*

NAME and DEPARTMENT	ROLE IN PROTOCOL	SPECIFIC EXPERIENCE WITH ROLE IN PROTOCOL	ROLE IN CONSENT PROCESS
EXAMPLE: Dr. Chris Researcher, Research Department	EXAMPLE: Developed protocol, collecting data, analyzing data, writing report	EXAMPLE: Has had 7 years of conducting and publishing human subjects research at a university	EXAMPLE: Recruiting subjects, writing the consent form, consenting subjects, answering questions
Roberta Bavin, RN, MN, CPNP	Developed protocol, collecting data, analyzing data and writing report		

7. Project Details

A. Describe the purpose of the project and how you will conduct it. *Clearly describe any procedures to be used during the conduct of the study. In addition, describe the recruitment process and include copies of all recruitment materials to be used for this study.* _____

B. Maximum number of subjects: 200

C. Describe study population/specimens/data to be studied (e.g., healthy adults age 18-45). *Please note that research involving prisoners is not eligible for exemption; and research involving children has more restrictive exemption criteria (see letter F below for additional details)*. Charts will be reviewed of children receiving school entry health examinations at a school based health center in central California.

D. Describe the consent process for enrolling subjects into this study including whether an oral or written consent process will be used. _____

D.1. If you are not obtaining consent, please provide your rationale: Retrospective Chart Review

E. Describe how the data will be protected (include location, length of time and disposition of data). Each patient chart will be given a code number, names of children will not appear anywhere on the data collection sheet, no chart copies will be made. Data will be recorded on the data collection form and then entered into a spread sheet. The data collection forms will then be destroyed. These strategies will prevent any potential for inadvertent patient identification.

F. If you will be using a questionnaire, survey or interview procedure, please indicate the setting where the research will take place (**NOTE**: Interview or survey research involving children cannot be exempt from IRB review.):

- ☐ Classroom
- ☐ UNLV
- ☐ Subjects' home (e.g., mailed survey)
- ☐ Electronic/internet forum
- ☐ Other, please specify: _____

8. Category 4 Details (Complete if you selected category #4 in section 5 above)

8.1 If you selected category 4 in section 5 above and your project involves the collection of data (e.g., medical records/chart review/academic records/database research), answer the following:

Note: If you are recording identifiable information from medical records, charts, academic records, or recording the medical record number or code linking information to the medical/academic record number, the project cannot be exempted under the federal regulations. A Protocol Proposal Form must be submitted for such studies.

a) Identify the source of the data: patient charts

b) Provide the date range of the data to be collected. Include specific dates and state whether the data will be in existence at the time you submit this application to the IRB: May 2009 to May 2011

c) Provide the estimated number of subjects whose data will be collected for the study: 100-200

d) Indicate how the study data will be recorded so that it is not identifiable (e.g. study data will not include direct identifiers or a code linking data to subjects' identity): Each patient chart will be given a code number, names of children will not appear anywhere on the data collection sheet, no chart copies will be made. Data will be recorded on the data collection form and then entered into a spread sheet. The data collection forms will then be destroyed. These strategies will prevent any potential for inadvertent patient identification.

e) Indicate who will access the medical records and how they have valid clinical access to these records (e.g., involved in the patients' care). Valid clinical access is defined as individual normally having access to the records as part of their usual clinical activities): The student researcher works within the system and has access to the charts

f) Attach a copy of the data collection sheet that details the data that will be collected for this project. If a data collection sheet is not being attached to this application, please explain why: _____

9. Financial Information

9.1 Will subjects be paid or otherwise compensated for research participation? ☐ Yes ☒ No

If yes, please respond to the following questions:

a) Describe the nature of any compensation to subjects. Include cash, gifts, research credit, etc. _____

b) Provide a dollar amount, if applicable, and indicate method of payment. _____

☐ Cash ☐ Check ☐ Research Credit ☐ Other: _____

c) When and how is the compensation provided to the subject? _____

d) What is the effect on compensation if a subject does not complete the study? _____

9.2 Is there any internal or external funding (e.g., grants, contracts, gifts, etc.) ☐ Yes ☐ No

If yes:

a) Name of Sponsor or UNLV Grant Program: _____

b) Attach a copy of the proposal and/or award document.

10. Protected Health Information (PHI): All projects must indicate whether PHI will be used and/or disclosed as part of the research. Please select *one* of the following:

☐ The activity is *exempt* from research HIPAA requirements as no PHI is used or collected *(Information collected must have all 18 elements as defined by the HIPAA Privacy Rule removed so that an individual or the individual's relatives may not be identified)*

☐ A *waiver* for use and/or disclosure of PHI is requested (*submit a request for waiver of HIPAA Authorization*)

☐ *HIPAA Authorization* for use and disclosure of PHI will be obtained from subjects (*submit a HIPAA Authorization form*)

☐ A *limited data set* will be utilized (*The only identifying elements from the list of HIPAA identifiers that may be included are city, state, and/or ZIP Code; elements of date; and other numbers, characteristics, or codes not listed as direct identifiers)*

Please note: A Data Use Agreement (DUA) is required to use and/or disclose information contained in a "limited data set". Please provide a copy of the executed DUA along with this submission. Submissions cannot be processed without this document.

11. Signatures of Assurance

A. Investigator's Assurance:

I certify that the information provided in this application is complete and accurate. As Principal Investigator, I have ultimate responsibility for the conduct of this study, the ethical performance of the project, the protection of the rights and welfare of human subjects and strict adherence to any stipulations designated by the IRB. I agree to comply with all UNLV policies and procedures, as well as with all applicable Federal, State and local laws regarding the protection of human subjects in research including, but not limited to the following:

- Performing the project by qualified personnel according to the approved protocol.
- Not changing the approved protocol or consent form without prior IRB approval (except in an emergency, if necessary, to safeguard the well-being of human subjects).
- Obtaining proper informed consent from human subjects or their legally responsible representative, using only the currently approved, stamped consent form.

- Promptly reporting adverse events to ORI – Human Subjects in writing according to IRB guidelines.
- Arranging for a co-investigator to assume direct responsibility, if the PI will be unavailable to direct this research personally, as when on sabbatical leave or vacation.

***FACULTY ADVISOR (IF APPLICABLE): By submitting as Principal Investigator on this research application, I certify that the student/fellow investigator is knowledgeable about the regulations and policies governing research with human subjects and has sufficient training and experience to conduct this particular study in accordance with the approved protocol. In addition:

- I agree to act as the liaison between the IRB and the student/fellow investigator with all written and verbal communications.
- I agree to meet with the student/fellow investigator on a regular basis to monitor the progress of the study.
- I agree to be available and to personally supervise the student/fellow investigator in solving problems, as they arise.
- I assure that the student/fellow investigator will promptly report adverse events to ORI – Human Subjects according to IRB guidelines.
- I will arrange for an alternate faculty advisor to assume responsibility if I become unavailable, as when on sabbatical leave or vacation.
- I assure that the student/fellow investigator will follow through with the storage and destruction of data as outlined in the protocol.

- By submitting this form electronically, I agree to the assurance as stated above.

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OBJECTIVE: To work as a part of a team in providing quality health care for underserved children. To provide educational experiences for graduate students within a positive learning environment.

QUALIFICATIONS

Providing quality health care for underserved children is my expertise. I have been a Registered Nurse (RN) for 35 years, and a Pediatric Nurse Practitioner (PNP) almost 30 years. All of my nursing experience has been in working with children. I love children, enjoy working with them, and especially enjoy working with families who are in need of health care for their children. I am passionate about issues related to equal health care access for all children

CA RN License # 262580, Exp. 6/13
CA RN, PNP Furnishing #5669, Exp. 6/13
PNCB Certified Pediatric Nurse Practitioner, Exp. 2/28/13
ANA Certified Pediatric Nurse Practitioner, Exp. 10/17
CA PHN Certificate #22724
CA School Audiometrist
CA School Health Services Credential, Exp 12/16
Medic First Aid/CPR Exp. 4/13
Languages Spoken-English, Spanish

EDUCATION

2010-present	Doctorate of Nursing Practice, University of Nevada, Las Vegas
1989-1991	Health Services Credential, CSU, Fresno
1979-1981	Master of Nursing, UCLA, Pediatric Clinical Nurse Specialist
1977-1978	Pediatric Nurse Practitioner, Valley Medical Center/CSU Fresno
1972-1976	Bachelor Of Science in Nursing, Magna Cum Laude, CSU, Fresno

EMPLOYMENT

1999- *Clovis Unified School District* Worked initially as school nurse through spring, 2001, then in fall, 2001 worked as PNP in School Based Health Center, and in April, 2002, opened a third school based health center for CUSD. Provide basic pediatric health care for children, including well child and sick child visits, immunizations, etc., in a school based clinic setting. CUSD SBHCs have more than 9000 patient encounters per school year. Precept Pediatric Nurse Practitioner students regularly. Received HRSA grant, July, 2011, to build new SBHC for CUSD.

2000-2008 *CSU, Fresno* Part time faculty, teaching one unit school nurse courses, Scoliosis and Vision Screening in the School Setting, and Pediatric Neuro-developmental screening, once or twice per year.

1996-1999 *Wichita State University* Taught undergraduate pediatric nursing in the hospital and community setting, and worked with PNP students in a seminar class and in clinical settings.

1995-1999 *Mid Kansas Pediatrics* Worked part time in a Pediatric office, comprised of six pediatricians and three PNPs, providing basic pediatric health care services in a primary care setting.

1989-1995 *Clovis Unified School District* Initially working as school nurse in two elementary schools; then was on Healthy Start grant committee, involved in CUSD first Healthy Start Grant. Worked with physician at Valley Medical Center to establish and run the CUSD first school based health center at Pinedale Elementary, which opened in October, 1993.

1992-1994 *Valley Medical Center, Children's Health Center* Worked as a PNP part time during school vacations

1981-1990 *Valley Children's Hospital* Various positions over the years, staff nurse PICU, Clinical Nurse Specialist for general pediatrics, oncology, and PICU, then focused solely on PICU during the last five years of employment, worked part time during last six months.

1981-1983 *CSU, Fresno* Taught undergraduate pediatrics, theory and clinical.

1979-1980 *UCLA Medical Center* Worked part time as a staff nurse on the Pediatrics floor, PICU, Pediatric Bone Marrow Transplant team while working on Master's Degree

1979-1979 *Madera County Health Dept.* Worked on 3 month contract doing CHDP exams (kindergarten and first grade physicals only) for Madera County as a PNP

1975-1979 *Valley Medical Center, Fresno* Staff nurse in NICU (x2yrs), PICU (x2yrs), regularly floated to Pediatrics floor and Pediatrics Burn Unit.

RESEARCH/PUBLICATIONS

Safe Surroundings: Guidelines for protecting your family. Ready, Set, Grow, Winter, 2010.

Steps to Success, Ready, Set, Grow, Fall, 2009

Home Alone-House Rules for Unsupervised Kids, Ready, Set, Grow, Fall, 2008 (Written with Peg Heinzer)

School Prep: Get Set for School. Kids Health Matters, Fall, 2007.

Scope and Standards of School Nursing Practice, ANA, content reviewer, published, 2005.

Chapter reviewer/editor for Learning Disabilities and Meningitis, Chapter writer for Turner Syndrome and Myringotomy with Tubes, Editors Betz and Sowden, Mosby's Pediatric Nursing Reference, 2007.

Fresh Air: Interview and feature of Clovis USD, Nurseweek, December 13, 2004.

An Innovative School Based Health Center. NAPNAP SBHC SIG Newsletter, Spring, 2003.

Title I vs. Non-Title I Elementary Schools: Comparable Care Rendered? NASN Newsletter, May, 2002.

Chapter Reviewer for "The Ill Breastfeeding Child" in Breastfeeding and Human Lactation, Second Edition, by Riordan, J., and Auerbach, K., 1998.

Content expert and narrator for Neurological Assessment of the Pediatric Patient, a videotape for Hospital Satellite Network, Airing, June, 1990.

Documentation in Pediatric Critical Care: More time at the bedside. Pediatric Nursing, October, 1988.

Obtaining Therapeutic Antibiotic Blood Levels in Children. Journal of Pediatric Nursing, June, 1986.

Nutritional Assessment of the Hospitalized Child. Co-author: Martha Peck. Nutritional Support Services, November, 1985.

Pediatric Cardiac Pre-Operative Teaching: A Family Centered Approach. Focus on Critical Care, June, 1983.

RECENT PROFESSIONAL ACTIVITIES

National Association of Pediatric Nurse Practitioners (NAPNAP), 1991 to present.

- School Based Health Center Special Interest Group, member, technology support 1999-2000, secretary 2000-2002, Co-chair 2002, Chair 2003 to 2009**.**
- Recent involvement in reviewing and updating NAPNAP Position Statement on School Based Health Centers and Position Statement on Access to Care
- Other projects as requested by NAPNAP Board;
- Presenter at 2010 NAPNAP conference in Chicago: The Many Faces of School Based Health Centers (the first ever electronic poster presentation)
- President Elect San Joaquin Chapter of NAPNAP, July 2009 to present.

Sigma Theta Tau, Mu Nu Charter Member, Fresno, 1990 to present, Gamma Epsilon at large 1995-1999 in Wichita, Kansas.

National Association for School Nurses (NASN) and California School Nurse Organization (CSNO), 1990 to 2005.

American Nurses Association (ANA), 1995 to 2009.

Camp Nurse, Infirmary Nursing Director, URJ Camp Newman-Swig, summer, 1993 to present.