A HEALTH PROMOTION AND HEALTH SCREENING PROTOCOL FOR KINDERGARTEN THROUGH FIFTH GRADERS

By

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ABSTRACT

A HEALTH PROMOTION AND HEALTH SCREENING PROTOCOL FOR KINDERGARTEN THROUGH FIFTH GRADERS

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The health of Roscommon County elementary age children are a concern to various community members. Specifically, a school-link committee formed to begin to address these children's needs. A consensus agreement is that prevention and early detection of problems allows for optimal health for children who in turn will learn better.

A protocol implemented in a school-link program specifically targeted at health promotion and health screening services for children in the elementary grades would provide an avenue for prevention and early detection of problems.

This project develops a health promotion and health screening protocol for children in kindergarten through fifth grade, to be utilized in a school-link clinic. The emphasis in utilizing resources in the community with a nurse practitioner in the school and to collaboratively plan and implement interventions as indicated.

DEDICATION

I would like to dedicate this scholarly project to my loving husband, Parish, for words cannot do justice to the love and support he has given to me. I also want to devote this to my children, Preston, Paige and Parker, and their Creator. They served as gentle reminders of what has true value and worth in life.

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The concept health is being redefined as medical discoveries emerge due to the advances in technology. Despite these changes, one old adage remains true: an ounce of prevention is worth a pound of cure. Currently, a number of factors have contributed to the switch from "disease" being the focus to "wellness" behaviors that enhance the quality and quantity of one's life. Health professionals and the general public are taking an increased interest in health promotion at all ages. Evidence of this is seen in the increasing number of school systems incorporating some type of school-based clinic for delivering health care. The American Heart Association (ANA, 1991) reports that nearly one in two Americans die of cardiovascular disease. In Harrell and Frauman's (1994) study cited (Berenson et al., 1987; Cresanta et al., 1986; Newman et al., 1986; and Strong, 1983) that it begins in childhood even though it is seldom manifested clinically before the fourth or fifth decades of life. Specifically, a school-based clinic could impact those behaviors that are risk factors for cardiovascular disease.

Prevention and early detection are two approaches to take in addressing these risk factors. The first approach would be in preventing an unhealthy behavior such as, smoking. Statistical data reveals smoking primarily begins in childhood and adolescence (U.S. Department of Health and Human Services, 1989). So, if these children do not begin smoking by eighteen years of age then they will probably abstain from it. Thus, educational material could be presented on the affects of smoking. The second approach would be through early detection of a problem, such as obesity or overweight. By monitoring the height and weight of the children it would provide early detection of potential problems. The major global goal is to improve the health status of children in grades K-5 which results in an increase in academic achievement (Lavin, Shapiro, &

Weill, 1992) as well as laying the foundation for developing a healthy lifestyle (Holschneider & Stern, 1993). Thus, a prime opportunity exists to impact the health of children by laying a prevention foundation at school where they spend the majority of their waking hours.

BACKGROUND OF THE PROBLEM

Roscommon County, a rural area, includes Michigan's largest inland lake, Houghton Lake. Higgins Lake and St. Helen also provide lakes to aid in the promotion of the tourist industry, the main industry of the county. The 1990 Census reported a total population of 19,776 with 21.1% (4,173) under the age of 18 and 24.9% (4,933) 65 years and older. Out of the 4,173 primarily white children, one in four lives in poverty. Those who live below the poverty consist of 42.5% living with both parents and 49.9% live only with mother. The Michigan Kids Count Data (1992) statistics for Roscommon County revealed a few improvements compared to 1991 data in the well-being of children in the following areas: special education enrollment, juvenile arrests and births to teens. On the other hand a number of areas were identified as being worse. Some of these areas which showed a decline were the: entire category of "child poverty"; child deaths (ages 1 to 14); child safety in out-of-home care; child abuse and neglect victims; high school dropouts; children receiving free/reduced lunches; and teen violent deaths.

Community and professional concerns have risen over these issues. This concern lead to the development of the School Links Committee, made up of educators, administrators of schools, administrators of local health care organizations, health care service providers, and business leaders in Roscommon County. This committee has been meeting for two years to address the health needs of the children and families of Roscommon County. The concerns of the community members in their various roles is consistent with the statistical results indicating there is a concern for the children's health needs of Roscommon County.

PURPOSE

The purpose of this document is to develop a protocol for health promotion and health screenings for, kindergarten through fifth grade children in a school-link clinic. The protocol developed will be utilized by a nurse practitioner who will deliver the appropriate health promotion and health screening services for kindergarten through fifth graders based on the growth and developmental stages of the children. The goals of the protocol are both short and long term. The short-term goals are determined by the objectives within the protocol (ex. identify the different food groups and give an example of food within each food group). The short and long-term goals are developed by a collaborative arrangement with the other participating organizations (ex. local health department will contribute to the goal setting regarding immunizations). Some overall goals of the program are: (1) a decrease in school absenteeism; (2) early recognition of health problems; and other goals as determined by the multidisciplinary group.

CONCEPTUAL DEFINITIONS

It is imperative that a clear and concise understanding of the key concepts be established in the beginning to ensure in the consistent development and utilization of the protocol. The definition may evolve from what the concept is as well as what it is not. The key concepts include: health promotion, health screening, school-link clinic, client, and health care providers.

Health Promotion

The first concept to be defined is "health promotion". Pender (1987) cited health promotion as activities directed toward increasing the level of well being and maximizing the health potential of individuals, families, communities, and society. To clarify further, health promotion is not focused on a disease or problem as compared to prevention which

are measures taken to "prevent" some type of disease or health problem from occurring. Health promotion are those activities done to enhance those health behaviors already existing or to develop new behaviors. Some examples of health promotion behaviors in the targeted group are: routine dental care, healthy eating, and sports and/or recreational activity. It is important to note that health promotion and illness prevention go hand in hand at working together to achieve the optimal level of health for the individual, family, and/or community (Rustia, 1982).

Health Screening

Health screening is best defined by Last (1980) as the examination by a single test or procedure of a well population for the purpose of detecting those who may have an unrecognized disease or defect. The goal of health screening is to determine those suspected with a disease from those who are not. A diagnosis is not made at this point. The Clinician's Handbook of Preventive Services (1994) outlines the appropriate screening tests for individuals based on the recommendations of Frame and Carlson (1975) who identified that certain circumstances must exist in order for a screening test to be of benefit. However, many others have contributed to identifying those circumstances needed for a screening test to be useful. Six specific circumstances must exist. The first is that the condition must have a significant effect on both the quality and quantity of life. Secondly, acceptable methods of treatment must be available. Thirdly, the condition must have an asymptomatic period whereby detection and treatment would significantly decrease morbidity or mortality. And treatment within the asymptomatic period must produce a more significant result as opposed to waiting until symptoms appear. Fifthly, during this asymptomatic period the tests must not only be available, but also at a reasonable cost. And finally, the incidence of the condition must be sufficient to justify the screening cost. Some examples of health screening tests for the selected group are: hearing, vision, and body measurement (ex. height and weight).

School-Link Clinic

The next concept to be defined is school-link clinic. A school-link clinic is a system set up within the school environment. This clinic provides comprehensive primary care to children by a team of health professionals. The illness prevention aspect of primary care is emphasized for this targeted population. The literature primarily uses the term, school-based clinic, and defines this clinic in who it serves and what services it provides. The term school-link clinic has been selected because of the concept of "link" implying the joining of two items/services. Similarly, the individual rings of a chain are links which can then join two items together so the school serves as the link to join the child to the health care system. Despite the difference in the terminology of the concept, the similarities in the goals of school-based and school-link are the same. From this point on the term school-link clinic will be utilized. The goal of the school-link clinic is to: (1) seek to prevent (promote) or identify (screening) client health or health-related problems; and (2) intervenes to modify or remediate these problems (NASN, 1988).

Client

The term client has been interjected here and refers to those children who are in grades kindergarten through fifth (K-5) and attend public school in Roscommon County with the exception of those children who attend COOR Intermediate School District. When addressing an individual, the focus is on the health state, or concerns of the person (ex. sore throat). When the client consists of a family or group (ex. fifth graders), the focus is on the health state of the entire unit. And when addressing the client as a community, the focus is on the personal and environmental health and health risks of the population group. The nursing actions are directed at the disease or injury prevention through health promotion and health screening (Adapted from ANA, 1991b).

It is vital to note the role of the child's family as a key component in determining who the client is. Family functions can be divided into two main areas: (1) providing material support and supervision; and (2) providing effective and cognitive support, socialization, and education (Schor, 1995). Both of these functions are essential for the child's health and development. Additionally, it is the quality of interactions between the child and parent that is the key to optimal child development (Barnard & Kelly, 1989). In fact, family members tend to resemble one another in terms of health behaviors and health status (Schor, 1995). Green (1995) noted the term "contextual pediatrics" referring to the practice of viewing the child, family, and community as part of a seamless continuum. Thus, the need to incorporate the family into the child's health care plan is essential for the success.

Health Care Providers

One of the main primary health care provider's should be a licensed, professional nurse in an advanced practice whose focus is on the health needs of clients in the school community (K-5) and whose practice is in a school-link clinic (Adapted from ANA, 1983). This nurse in advance practice may be either a family nurse practitioner (FNP) or a pediatric nurse practitioner (PNP). In addition there are other health care providers who are essential to being members of the health team for these children. These may include nurses, physicians, dentists, dental hygienists, counselors, social workers, nutritionist/dietitians, and various therapists. Various service organizations and vendors may also serve as providers on this team. Significant other members of the team consists of the teachers and family members. Family members may also include an individual(s) who are significant to that client (Adapted from ANA, 1991b).

CONCEPTUAL MODEL

Rustia (1982) has developed the Rustia School Health Promotion Model which integrates the health-related functions existing within education, service and environmental maintenance components of a school system. This model evolved after reviewing the current systems and relationships between them. The primary system, school systems, are organized into three areas -- education, service and environmental maintenance (Rustia, 1982). The model (Figure 1) provides the framework to organize these three areas into a program. It establishes direct links between the functional components and between the health care providers and other disciplines by utilizing integration (Rustia, 1982) and therefore it is proposed as the basis for the development and implementation of this protocol. Rustia (1982) found a lack of communication between and within disciplines. There are differences in the perceptions of responsibility to students and the approach taken to carry these out. When health and educational issues arise there is a lack of uniformity in interpreting responsibilities within policies and procedures which creates inconsistencies and feelings of mistrust between parents and school personnel (Rustia, 1982). The lack of a key person who is able to speak a common language among all disciplines on matters where relationships existed between health and education, and who could interpret and analyze issues within a framework to integrate the psychosocial and biological elements with education, also contributes to a fragmented, inefficient and inconsistent health-related services.

The nursing discipline would be the best provider responsible for administrating and implementing health program activities because of the role characteristics of a nurse in advance practice. This individual needs to be knowledgeable in health and developmental needs of children and needs skills in health assessment, communication and interpersonal relationships, program planning and evaluation, administration,

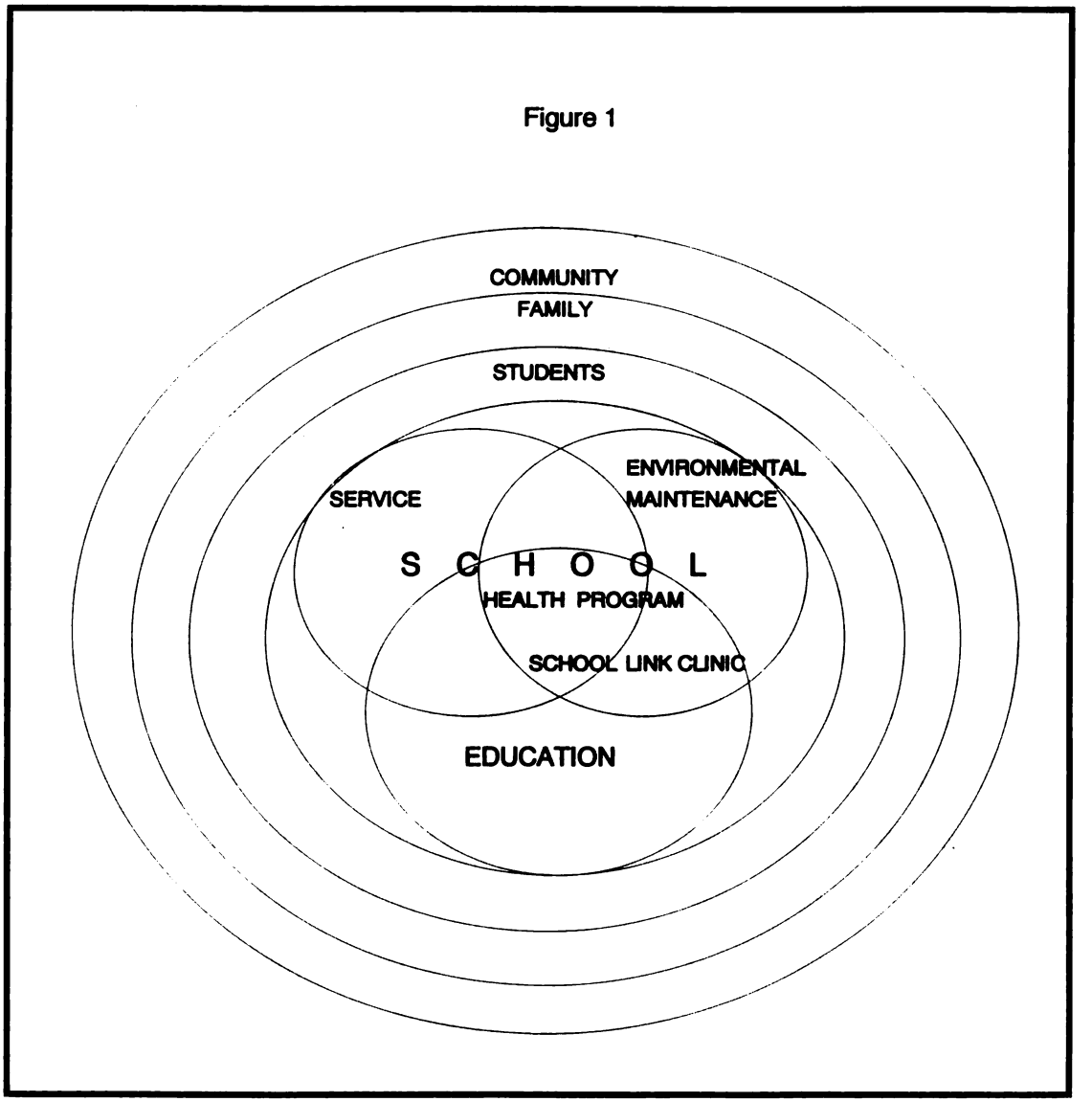

Figure 1: Rustia's School Health Promotion Model

including policy formation and systematic investigation. The nurse would need to be knowledgeable in methods of utilizing health services and resources within the community. Also, the nurse would be responsible for coordinating team activities at school and for supervising the activities of all nurses providing direct care services to target populations (Rustia, 1982). The requirements of this role matches those role characteristics of a nurse in advance practice in which he/she would utilize those role characteristics such as: administrator, collaborator, communicator, coordinator, clinician, and educator. Thus, the gap would be bridged between disciplines paving the way for the delivery of a concise and efficient health program.

According to Rustia's Model, school systems are generally organized into the following three areas -- service, education, and environmental maintenance. Health programs fall within the service area. There is a partial overlapping among these areas in order for the communication between disciplines to be promoted and maintaining the identity of each area which would not be seen with complete overlapping of the areas. This entire system, school, exist within the student's environment as evident by the three partial overlapping circles occurring within the student's circle. Meanwhile the student continues to be a part of the family and community as evident by that circle existing within the family circle (a bigger circle). And the family (circle) existing within the community (circle) which indicates each smaller sub-group is a part of a larger group. Hence, the community encompasses all in which there is an increase involvement of each areas resources (school, family, and community). Each of these areas are known as "targets" for health program activities in Rustia's model. Since each area exist within another area, the impact of a health problem may affect those other areas and/or be a factor in the planning stage for implementation in addressing a health concern. The above relationships that exist between the target areas are exemplified in Roscommon

County's concern for the health needs of the children, in which there has begun a multidisciplined approach in discussing these concerns.

Rustia (1982) identifies a basic assumption of this model in that healthy children learn better. Physical, emotional and social health problems affect a child's ability to learn and contributes to educational failure. The educational failure feeds into the development of poor health, creating a vicious cycle which demands the collaboration of various disciplines to stop and/or prevent this from occurring. Thus the goal of the program becomes optimal health (1982) which Rustia describes as "...attaining the highest level of functioning which the person, family or community is capable of attaining within environment limitations or within limitations imposed by specific physical, mental or social characteristics (p.111)." Health promotion in the school consists of those activities that facilitate environmental and behavioral changes in all targets (school, students, families and community) to attain optimal health. So, in order to achieve this there must be a relationship between the mission of the health program, and the target, goal, objective and nursing intervention components.

Rustia (1982) identifies three objectives by utilizing the primary, secondary and tertiary levels of prevention. And it is nursing interventions that are performed to fulfill these objectives. All three levels of prevention are necessary in developing a comprehensive school health program. However, for the development of a protocol for health promotion and health screening only two of the objectives will be addressed and only one aspect of each objective. The first, primary prevention of physical, emotional, and/or social health problems in which the promotion of health and welfare will address the health promotion aspect. An example of this is educating regarding healthy eating habits. Secondly, the secondary prevention would be through health screening by facilitating early identification of health problems. An example of this would be obtaining height and weight. By incorporating a protocol of health promotion and health screening in which the health care discipline is responsible for its implementation it

would help to ensure the delivery of a concise and consistent health program to all children in grades K-5.

The benefit of incorporating this model into one aspect of a health program for a school-link clinic is that it only uses one aspect of an entire program, thus, not as much is invested in the developing stages. So the common concerns regarding funding, restrictions, and philosophies are not as large of obstacles when implementing a "demonstration project" (Rustia, 1982). This model supports the utilization of the target areas in collecting data and developing a plan of action which helps to contribute to the goals and utilizing Rustia's model. As a result, the current statistical data and efforts of the local School Links Committee would be incorporated into developing the goals and objectives of this proposal, a protocol of health promotion and health screenings for children, K-5, in a school-link clinic.

Rustia's School Health Promotion Model was selected for several reasons. First, the model is specific for a school health program as opposed to a health promotion model. Secondly, the goal of Rustia's model is towards optimal health through primary, secondary, and tertiary levels of prevention which is consistent with the proposed protocol. In addition, Rustia selects the students, families, school personnel, and community as the targeted groups for planning interventions. A third reason is the integration format between disciplines which is a common barrier cited for the success of any program. Rustia recognizes the need for a nurse to develop and implement the program. Finally, the model is concise and has shown its effectiveness with specific goals in school settings.

On the other hand, Rustia's School Health Promotion Model does have some limitations. The primary one being that it has only been incorporated into the school setting for specific defined needs (ex. incorporating the handicap into the public schools) as opposed to being applied to an entire school health program.

REVIEW OF LITERATURE

The literature review related to health promotion/health screening for children in grades K-5 in a school-based clinic is diverse and consists of numerous articles and programs. In the following section literature pertaining to the health needs of 5-10 year olds, rural care needs, and school-link clinics will be presented.

Health Needs 5-10 year olds

The first area to address with this age group (5-10 year olds) is on a more global level, identifying them in the life span. In other words where have they come from and where are they heading. The American Academy of Pediatrics (1988) states the physical growth during this time is not as rapid as during infancy and adolescence, although size and physical ability form important parts of a child's developing self-concept. A number of physiological changes are occurring, however, the most pronounced changes that seem to indicate increasing maturity in these children are a decrease in head circumference in relation to standing height, a decrease in waist circumference in relation to height, and an increase in leg length related to height (Whaley & Wong, 1991). These observations are useful in predicting a child's readiness to meet the demands of school. Whaley and Wong (1991) also identified that during this time the children acquire the necessary coordination, timing, and concentration that are required to participate in adult-type activities. Thus, the biological assessment is necessary not only in detecting early on possible health problems, but also aides in predicting if there might be any problems with performing school activities. Meanwhile the changes in the child's cognitive development and social skills contribute to the child's understanding and interaction within his/her environment. The distinction in this age group is in dealing with the child as an increasingly independent individual. And it is during this stage in which a child becomes able to make decisions regarding his/her own health. Although a number of

developments are occurring (cognitive, moral and self-evaluation) the focus for purposes here will be on the "sense of accomplishment."

According to Erikson (1963) successful mastery of Erikson's first three stages of psychosocial development is probably the most important in terms of development of a healthy personality. It is during these stages in which a child wants to engage in tasks that can be carried through to completion (Whaley & Wong, 1991). During this time children also learn the value of doing things alongside and with others and the benefits derived from the division of labor. Whaley and Wong (1991) state children need and desire real achievement. So why not make the most of this opportunity when children are ready and eager to learn and want to succeed by helping them to establish health promoting behaviors that will impact them for the rest of their lives. Thus, the health needs encompasses the physical, psychological, and social development.

In addressing the physical health needs of a child the number one concern is injury (Guyer and Ellers (1990), Eichelberger, Gotschall, Feely, Harstad, and Bowman (1990) Division of Injury Control, Center for Environmental Health and Injury Control, and Centers for Disease Control (1990)). Injury is the leading cause of death among children and adolescents in the United States, accounting for 30% of all deaths (Kids Count Data, 1992). Specific types of injuries are also identified in the literature, such as Agran, Castillo, and Winn (1990) who discuss the motor vehicle related deaths among the pediatric population. Although the type of injury varies there is a universal approach towards the interventions, in that it is multifaceted to include: parents, health care providers, educators, media, businesses, and government personnel. Puczynski and Marshall (1992) incorporated a multidisciplinary community campaign to increase helmet use through a helmet education and distribution program which resulted in a fifty percent increase in the school which utilized this approach as opposed to the school that did not use this approach. Guyer and Ellers (1990) further support this by stating this injury

problem must receive more recognition by the media, health professionals, and policymakers in order to reduce these statistics.

A second major area regarding children's health is in health screening. Although research consists of specific health problems, such as asthma and diabetes in children it is not the intent to cover specific diseases, but rather the overall focus of children. Hall (1992) reported that initially attention was focused on the "at risk" children due to perinatal events, however some children pose no "at risk" concerns therefore it is necessary for routine developmental examination of all children. The types of screening include: developmental, growth, hearing and vision. The reference material and research related to the importance of health screening is well represented, however, as Boltri (1992) emphasized in his research that the adherence to published standards of the well-child examination has not been reported to date. Thus, continued research is needed to identify the compliance of providers with current guidelines for well child visits.

Brown presents a review of 57 research studies which revealed that dental health education can result in improvements in dental health behaviors and oral health measures, but is limited in changing attitudes towards dental issues therefore short-term gain (1994). This review cited the majority of people identify their dental office as their primary source of information about preventive dental behaviors and opposed to the approach by the mass media in educating the public (Brown, 1994). Brown continues on to reveal through descriptive studies that people's dental health behavior can be strongly influenced by their attitudes to aspects of dental care thus more resistant to measurable change. On the other hand, this resistance was not evident in Holund's (1990) report determining the effectiveness of nutrition education programs among adolescents. A specific study by Holt (1989) resulted in a significant improvement of 5-year-olds in the use of fluoride supplements and reduction of caries and lower levels of gingivitis when mothers were given dental health education at home in the early stages of a child's life. Brown (1994) concluded the entire dental profession has suffered by its isolation from other health

fields and need to integrate their activities in a multidisciplinary approach in order to deliver effective dental health promotion and education as well as the integration of dental and health education researchers.

Similarly, Holschneider and Stern (1993) pointed out the benefits and gains of early intervention programs, such as Head Start, dissipate if they are not reinforced. These findings support the need for continued education and/or intervention at all levels and to incorporate this at a time when children are beginning to develop their independence would be ideal.

A final area of increasingly amount of interest is in the cardiovascular status of children. The fact that cardiovascular disease is the leading cause of death in the United States is well represented throughout literature as well as in the media. Harrell and Frauman (1994) stated that the beginnings of cardiovascular disease is in early childhood. Kannel (1984) reported that the American child has a one in three chance of a cardiovascular catastrophe before the age of 60. Harrell and Frauman (1994) conducted a study of 2209 children between 8 and 11 years of age and attended rural and urban public schools in North Carolina to determine the prevalence of cardiovascular factors and how these results can be used to guide policy. The conclusions of this study indicated a need for further research of the prevalence of risk factors in children especially longitudinal studies. In addition Harrell and Frauman (1994, p. 240) stated "...prevention of heart disease should begin in children. Health habits are formed at an early age, and the disease begins sooner than previously known." One aspect of this is in children's diet and the Recommended Dietary Allowances which are levels of intake of essential nutrients that the Food and Nutrition Board of National Research Council determine based on scientific knowledge (Spark, 1992). Spark (1992) concluded her article on diet and health requirements of children from preschool through adolescence that "Nutrition is an integral part of pediatric preventive health care."

In reviewing the literature about the health needs of children five through ten years of age some themes remain consistent and can be summarized as: it is imperative to capture the developmental stage of increasing independence and incorporate health promotion interventions from a multidisciplinary approach to include the child's parents or care giver (Green, 1995).

Rural Care Needs

Although there are many similarities between urban and rural American people there are specific differences between urban/rural Americans (Lucas & Rosenthal, 1992). The differences among this population affects all levels of care from primary through tertiary. These main differences are economic, educational, and geographic issues which greatly impact rural Americans access to and delivery of health care (Wakefield, 1990; Bushy, 1993; Lucas & Rosenthal, 1992).

Rural people are overall poorer than compared with urban people. In 1987 the average income was $33,000 for urban families where as rural families were about $24,000 (Harris & Leininger, 1993). According to the 1990 Census data Roscommon County consists of 83% rural and the median income for a family equals $20,870. One of four children in Roscommon County live in poverty (Michigan Kids Count Data, 1994).

Rural people have generally less formal education than urban people (Harris & Lininger, 1993). According to the 1990 Census there are about 13 percent of urban people are college graduates where only 9 percent of rural people have graduated from college. The 1990 Census data revealed 7.9 percent of those residing in Roscommon County have a college degree (Michigan Kids Count Data, 1994).

A third area, combines the geographical issue and physician contact which is affected by the economic condition and the availability of transportation. There are 86.8 primary care providers for urban people and only 55.3 for rural people (Rivo & Satcher, 1993). Specifically, Roscommon County is classified as a Medically Underserved Area and

Health Professional Shortage Area (Profile of Michigan Data Book, 1994). In addition to the limited or nonexisting public transportation to access this care compounds the problem. In Roscommon County although no specific statistics are available related to transportation it remains a major concern for the elderly and families with small children according to the members of a local group concerned about health needs of the community.

School-Link Clinic

For purposes regarding the literature review the term school-based health clinic (SBHC) and/or school-link health clinic (SLHC) will be utilized. Despite the terminology used the concept of school health has been around since 1840 when residents of Concord, Massachusetts requested physicians to provide health care in their school (Kirby & Lovick, 1987). In the 1920s and 1930s two policies affecting school health became more clear: 1) Schools focused on preventive rather than curative care; and 2) Boards of education governed the services provided as opposed to the medical providers (Kirby & Lovick, 1987). Since that time a change has been seen in the: targeted group; types of services to provide; and who is to provide those services. Holschneider and Stern (1993) cited the majority of SBHC/SLHCs service adolescents although the elementary SBHC/SLHC are opening with increasingly frequency. "Many planners realize that by the time students enter middle school, many of them have developed unhealthy habits and conditions that should have been addressed at a younger age (Holschneider and Stern, 1993, p. 51)." Three specific reasons were identified as why it is important to implement a health center at the elementary level: 1) Children and their families can be reached more effectively at this level than other community-based agencies; 2) Most elementary children attend school regularly unlike their older classmen; and 3) Parents or care-givers are more likely to be more directly involved with their children during the crucial elementary years (Holschneider & Stern, 1993). Thus,

for health care providers to be able to access the elementary age population would be of great benefit for them and their families.

As of today there is a rise in the number of SBHC/SLHCs both in the elementary age group as well as the middle and high school years. Dryfoos (1993) noted that the evaluation of the effectiveness of school-based centers remains at the early stage. Yet Dryfoos (1993) continues on to explain that the primary evidence in which school-based programs are having an impact rests with the utilization figures, with large proportions of student bodies enrolled and using services. It has been noted that through screenings and assessments an extensive number of case findings emerge: heart murmurs, asthma, sexual abuse and other problems that beset youth. Kirby and Lovick (1987) cited one measure of success of the SBHC's is reflected in the rapid growth in the numbers of SBHC's.

The effectiveness of the SBHC has been noted in research in regards to specific areas, such as sexual activity and substance use. The incidence of sexual activity among the students yielded no evidence of increase in the rate after the opening of a clinic (Dryfoos, 1993). A program in Kansas City reported a substantial drop in the substance use (Dryfoos, 1993). Dryfoos continues on to note that three-fourths of New York City students using the SBHC felt it had improved their health and a third of the students contributed the clinic to improving their school attendance. Terwilliger (1994) reviewed the accessibility of SBHC's serving young children in a rural community noted the following impacts: SBHC was accessible; parents were actively involved and saw the service as beneficial; and no cost accrued to the families of the children enrolled. According to a Harris Poll 80 percent of parents and 81 percent of teachers believe that school programs to provide counseling and support services to children with emotional, mental, social, or family problems would "help a lot" to improve educational outcomes (Dryfoos, 1993). One such report which summarized 25 reports published during 1989 and 1991 addresses the interconnectedness of children's health and education (Lavin,

Shapiro, & Weill, 1992). The results from this report identified five common themes: 1) Education and health are interrelated; 2) The biggest threats to health are social morbidities; 3) A more comprehensive, integrated approach is needed; 4) Health promotion and education efforts should be centered in and around schools; and 5) Prevention efforts are cost-effective; the social and economic costs of inaction are too high and still escalating (Lavin, Shapiro, & Weill, 1993). Although the literature is minimal regarding the effectiveness of SBHC/SLHCs it is necessary to move forward in meeting the needs of the youth and concurrently establish measurable criteria for evaluating the effectiveness of SBHC/SLHCs for future research.

There are a number of reasons to support the efficacy and feasibility of this project. One such report stated "...25 reports reflect a growing consensus about the critical issues, the urgency of these concerns, and potential strategies for action. Given the diversity of authorship and purpose, the commonalities are remarkable" (Lavin, Shapiro & Weill, 1992, p. 212). The National Health/Education Consortium in response to health affecting education stated: Teachers know that learning comes easier to a healthy child. Any health problem -- hunger, poor vision or hearing, dental cavities and child abuse -- can interfere with learning. Physical and mental health problems cause children to miss school, lack energy, be distracted, or have problems which impair their learning ability. The literature on a national level suggests the validity of this problem as well as the urgency with which to address it.

On a state level a number of steps are being taken to address the concerns of children's health. Michigan has developed the Michigan Model for Comprehensive School Health Education which has adopted a position statement regarding the Comprehensive School Health Program stating "...to avoid fragmentation and misinterpretation by the growing number of agencies and organizations developing materials and resources for school health (Michigan Dept. of Education et al, p 3)." The need to work collaboratively among the variety of agencies is identified and established on a state level.

Up to this point, the concern for children's health and its impact on education has been identified on a state and national level. In addition, goals toward health and education have been developed by several organizations, i.e. National Education Goals (Lavin, Shapiro, & Weill, 1992). This is a significant step to the mobilization of a plan for incorporating a health promotion/health screening protocol into the school system on a local level because the support on the national and state level is essential for the success of a program. The combination of the state and national support with the efforts of the local community, such as with the contributions of the School Links Committee working towards a common goal is necessary for the feasibility of this protocol. It provides various organizations to combine their knowledge, efforts, and resources to work towards one common goal, thus avoiding a fragmented, inefficient and/or duplicated approach.

A step forward has been taken by those concerned with the health needs of the children in Roscommon County. Representation of local organizations within Roscommon County, Roscommon Human Services Coordinating Body, have been working together to develop a plan towards addressing the concerns of the children that is supported by the statistical data that is identified in the beginning of this report. As of this date one division of this group, Roscommon County Family Coordinating Council, has received grant approval and financial assistance for the development of a school-link program in the elementary grades (K-5). The current grant approval and continued efforts of the local community illustrate the merit of this project.

PROTOCOL DEVELOPMENT

The focus of this project is to develop a protocol to identify the appropriate health promotion/health screening interventions according to the growth and developmental stage of the child. The first step is for all key disciplines (Appendix A) to work collaboratively at a common goal on a common foundation, as outlined previously with the implementation of the Rustia's model. The next step is in developing the protocol

which consists of two aspects, health promotion and health screening. Since health and education are interrelated the Michigan Model for Comprehensive School Health (Education and Sequence Chart) has been selected as the outline to be used by both disciplines (Appendix B). The items listed within the boxed areas are the educational components in which the school system has been responsible for. However, the recommendation is that the educational system and health field work collaboratively in educating the children on these areas. Part of this collaborative practice may be that the health care provider would do presentations on focused areas as well as reinforce and/or clarify information already taught. Appendix B would serve as a guideline between the two disciplines to ensure a consistent and organized plan of care regarding educational topics. The health discipline would be responsible for ensuring all topic areas are addressed.

The second aspect of the tool, health screening, which is the actual guideline (Appendix C) used to determine the delivery of the appropriate health screenings based on the growth and developmental process. This tool provides a concise guideline of the variety of health screening interventions for children in K-5 grades. By incorporating such a guideline it would not only establish baseline data for these children, but would be a method used for early detection of problems and referral as indicated.

The health screening services that are outlined (Appendix C) are based on a few recommendations. The primary basis for which service and when to provide that service is based on what the American Academy of Pediatrics suggested in the Clinician's Handbook of Preventive Services (1994). Also, two specific school programs; Des Moines Public Schools, Iowa (1990-91) and Santa Fe, New Mexico (1991) reports were evaluated in developing the criteria and when to provide the services for this health screening protocol. In addition it would be necessary to educate the teachers, school administrators, parents, and the general public on the purpose and procedure for incorporating the health promotion/health screening measures. To ensure continuity of

care, Appendix D outlines the components necessary for the physical exam. Inservices, seminars, and a phone number publicized for questions would be specific measures taken to educate those as indicated previously.

Thus, it is expected to utilize this protocol in a school-link program by a nurse practitioner. The ideal implementation would be for all children (K-5) to receive the health screening interventions as outlined in Appendix C, and to proceed as suggested throughout rest of elementary years. The purpose the school-link program is to "link" those children with the health care system as indicated. It is not the intent to duplicate services already completed or to serve as competition among the area organizations and/or other health care providers. As well, the intent is to encourage parents who are already actively involved in their children's health care delivery to continue their involvement and assist as needed. Thus, it would be necessary to incorporate a screening measure to determine which children already receive primary care on a consistent basis and those who do not. This screening process could be achieved through the use of a detailed consent form to include the following information: consent for treatment and evaluation; insurance information; primary health provider and date of last exam; release of medical records; and access to school records. Thus, a specific group of children would be targeted as a priority in ensuring they receive the health screening services, while all the children would receive the health promotion/educational material.

The actual results of the health promotion/health screening tests would be kept confidentially in each child's medical record. To ensure a timely efficient process, the health promotion and health screening measures would be combined onto one page according to grade to serve as a checklist for the nurse practitioner in delivering the services. However, a master log would be kept of all the children by grade and it would indicate when the health screening tests were completed. This master log and all other data would be entered into a informational system specific for school clinics onto a computer. In regards to the health promotion and educational material (Appendix B)

could be utilized each school year and once the material was presented that area could be initialed and dated to indicate that material was presented to the children. In addition a log on the computer could be kept by grade of all the children and health education topics presented and checked if child present during this time to serve as a measure to flag educator and/or health provider to ensure those absent may be given the material at another time. By completing these tasks it would not only ensure the delivery of the health promotion/health screening tests, but would provide data for future evaluation of protocol and data for future research.

PROCEDURE FOR USING PROTOCOL

Prior to the actual use of the protocol some ground work needs to be covered. As Rustia's model supported it would be imperative that a case management approach be taken to address concerns as they arise as well as to follow-up on students as indicated. The first area is in including the health department, teachers, and any other key people who will be involved in the actual implementation of the protocol, in the planning stages of the implementation. This team would include those individuals representative of the three areas of the schools organizational structure. The service area would include health professionals, social workers, nutritionists and counselors. The education area would be teachers, principals and school administrators. And the final area of environment would include maintenance personnel. These key people need to establish a bi-weekly meeting schedule to review cases as indicated and follow-up care. The primary difference between what currently is being done and this proposal is that there is a broader expansion of the school health team which meets on a consistent basis. Another example of this multidiscipline approach may be during parent-teacher conferences in which the practitioner (and/or health care personnel) may need to be present. The second area is in educating the teachers, school personnel, parents, health care community organizations, as well as the general public. This process is to be done by a multimedia approach, such

as: newspaper, newsletter through the school system, attend inservices for teachers and school personnel, attend Parent Teacher Organization (PTO) meetings, inservice outside agencies and specific inservices for parent education.

The first step for the nurse practitioner is to send out to all children (K-5) consent forms (Appendix E) to parents. For kindergarten classes it would be of benefit to initiate these at the "kindergarten roundup" which occurs the Spring prior to the start of classes the upcoming Fall. At "kindergarten roundup" the child's immunization records can be reviewed for completion. Once the consent information has been received it would be of benefit to transfer it into the computer system indicating which children can/cannot receive the health screening services. This data then will be easily accessible to the practitioner as situations arise. In addition, the consents need to be reviewed for those children not receiving health care presently and this information can also be transcribed into the computer system for quick accessibility. These children become the "targets" of the practitioner's health screening services. As a note the consent form is indicated for the health screening services it is not needed for the educational component of health promotion behaviors.

The protocol consists of two components per grade (Appendix F): health promotion and health screening services. Each child will have as part of his/her medical record the single page outline (Appendix F) of the health promotion/health screening services indicated for him/her at that grade. Thus, each year a child will receive a new outline. Once the service has been given this sheet should be dated and initialed indicating completion.

The health promotion material is divided into ten specific areas (Appendix B). Each month, starting in September and going through May, a new topic area will be presented to the students. The exception is that "Consumer Health and Community Health" will be combined in one month. In addition on this sheet the practitioner may designate someone to present the material to the students. The specific day and time for this to take place

will be reached collaboratively with the teachers. Once the information has been presented those children attending needs to be logged into the computer which would include the names of the children and the titles of the material presented. Then this information can be transcribed into the child's health care record. As time permits those children who are absent may receive the health educational material at another time. During parent-teacher conferences the specific health promotion material and child's attendance can be reviewed with parents. If parents do not attend conferences then the material can be mailed to them and/or appointments may be arranged with the nurse practitioner to discuss as needed.

The second component to the protocol consists of the health screening services. Within the health screening services there are five specific areas: health exam, dental health, hearing test, vision test, and speech (Appendix C). The first step within this component is for all those students in the third grade and kindergarten, whose consent forms indicated lack of current health care, their consent forms need to be pulled. Then the nurse practitioner needs to begin contacting parents by phone and/or letter to arrange appointment to complete the history and physical (H & P). The specific times for completion of the H & P would be extended to off hours to accommodate parents schedules. If unsuccessful in attempting to meet with parents a history questionnaire form could be sent home for parent to complete. Between these two grades the third graders are a priority over the kindergarten's since within the present system no program is set up following the fifth grade. As the consent form explains a parent is required to be present during the H & P. The H & P can then be completed (Appendix D) and included as part of the child's health record. The follow-up from the H & P will be individualized based on the information in the history and the results of the physical. However, the approach will be a multidisciplined and include the family. For those students already receiving health care by their own provider any information needing communicated to

that provider will be done by telephone or written letter within two working days. In addition, this communication will be documented in the student's health record.

The dental health portion will be delivered by an area dentist and dental hygienist who will also be responsible for the content and follow-up. This arrangement has emerged from a previous agreement between a dentist and the lead health care clinic. The nurse practitioner will assist as needed and reinforce the information given. Those children receiving these services would be documented on their "Health Promotion/Health Screening" forms. Also, those children either receiving or not receiving these services need to be documented on a master log for future research.

The hearing and vision testing would be completed by the health department who is currently doing these tests on all of the children. The protocols that have been established for abnormal results will continue to be utilized. The results of each child's hearing and vision tests would be documented on their "Health Promotion/Health Screening" forms as well as on the master log of all the children and services offered. The nurse practitioner and health department personnel would work collaboratively together in planning and developing the appropriate health care plan for that child.

The speech aspect of the health screening services at present would be based on referrals by either educators or health care personnel who have concern regarding objective data they have observed. From this point a referral can be made for the child for testing through the efforts of the nurse practitioner and health department personnel. The progress for follow-up of this would be documented on the child's health record. In addition, any child receiving a speech referral needs to be noted in the computer, again to serve as a data base for future planning and research.

Any child entering the school system for the first time other than kindergarten needs to have a complete health exam. In the event of acute problems the nurse practitioner would intervene as directed with the consent of the parent/caregiver and as that child's primary care provider directs. The entire billing would be through the lead health care

agency, Northern Michigan Health Service, as indicated per service rendered. Thus, acute care visits could be treated by the nurse practitioner and billed through the same system.

PLAN FOR EVALUATION

To determine the effectiveness of this protocol is feasible, however, the effects of it remain unlimited due to the broad scope of interaction the student has with those around him/her. The effectiveness is measured both on short-term goals and long-term goals. The short-term goals involve the specific services provided and might include the following: 80% of the kindergarten and 3rd grade students who do not presently receive consistent health care will receive a health exam. And as a result of this health exam there would be an increase in the number of early recognition of problems which would otherwise go undetected for a longer length of time. In an interview with the health department personnel who are responsible for delivering the hearing and vision exams, stated, "99%" of all the students received these tests. However, no data was available indicating this and presently the data system is being changed from a manual to a computer system. So, it has been established that a goal of 90% of the students in kindergarten will receive a pure-tone audiometer hearing test and a vision test. And 90% of those children in kindergarten, first and third grade will receive the vision test. The dental health portion at this point will be based on number of students attending and number of referrals which establishes a baseline. In addition, the effectiveness of the program will be indicated on the number of referrals made to outside agencies/offices. Some examples of these agencies/offices are: dental, hearing, speech, vision, health department, social services, as well as organizations such as Crippled Children's. The referral to local and outside agencies will be followed up during the bi-weekly meetings in which the appropriate person will be assigned to follow-up with that child and family. A final area regarding short-term evaluation would be reflected in the number of acute

problem visits. The long-term goals are numerous and unlimited to their effectiveness. Overall, the goal is for the children to have optimal health. The health promotion education they receive is one area which is difficult to measure the effectiveness, however, one could document the attendance and perhaps some brief tests to determine comprehension of the material. Some of the areas where it would impact and also be difficult to measure the effectiveness would be in: a child's self-esteem; the development of closer bonds between family members; and improved communication between community organizations, families, school systems and the child. Yet there are some specific ways to measure the protocol's effectiveness on a long term basis. One way to measure effectiveness is to implement a pre- and post-test questionnaire among the teachers regarding the impact a school health program could have, and then has had on the children. Another area would be in modifying cardiovascular risk factors for these children. A goal would be to decrease childhood obesity by monitoring it in elementary and at the high school levels. As well as, doing a comparison of national fitness test results with students presently and then those elementary students who were involved with the implementation of this protocol. Concurrently, a goal would be to maintain the requirement of physical education classes from elementary through the high school levels and keeping these courses structured.

A final approach taken to the evaluation area is in a comparison study between two school districts. Specifically, this protocol is to be implemented in the Houghton Lake School System, however, the Gerrish-Higgins School System is also considering the implementation of a school health program. It has already been established that these two school systems are similar in their characteristics and make-up of students. Thus, to do a comparison of the data between school systems, example absenteeism rate, might indicate the health promotion/health screening services as a contribution. Also, after a year of the implementation of this protocol community awareness would contribute to determine the effectiveness of the program. This could be seen not only parental satisfaction, but also

by community concern/support to implement similar program into the Gerrish-Higgins School System.

IMPLICATIONS FOR ADVANCED PRACTICE

The impact this type of protocol/program would have for advanced nursing practice would be a challenge to say the least. It would provide an opportunity for one to utilize all roles of one in advance practice: assessor, change agent, advocate, clinician, collaborator, consultant, coordinator, counselor, educator, evaluator, leader, planner, role model and researcher. To best review this impact each role characteristic of a nurse in advance practice will be addressed and the implications of it.

The assessor role characteristic would be utilized not only with the individual children, but also their families as well as the community needs. One could assess the family and community educational needs regarding a variety of topics and interests, i.e. cardiovascular, safety (helmet use), how to access health care, and health care agencies in the area and what kinds of services do they provide are just a few of the areas that could be assessed. The database collected on the entire protocol would serve as baseline information which would be necessary for the evaluation process, future funding and expansion of the school-link program.

The change agent role characteristic is a vital aspect to the continuity of the health care delivered to the children because of the necessity in coordinating services to aide in promoting health. Equally important is for this characteristic to be exercised in the developing and implementing of a school-link program in order to produce an effective delivery of health care thus contributing to the community's health.

The nurse practitioner as a client advocate would assist the children and their families in taking responsibility for their health care. This would be supported by the multidisciplinary bi-weekly meetings in which the child and family could attend as

indicated and take part in the planning of their health care. As well as the nurse practitioner would serve as an advocate by encouraging those families who already assume that responsibility for their health care and could communicate with their individual health care provider on services the school-link clinic provides and assist him/her in delivery of health care.

The nurse practitioner as clinician would have a unique opportunity to utilize his/her skills in the school setting and including the child's progress in the academic area as part of the data needed prior to formulating the correct nursing diagnosis. Then the most appropriate treatment plan would be started and could be monitored at the location where the child spends most of his/her waking hours, school.

One of the most challenging aspects of the role to be exercised is that of collaborator because of the protocol and school-link program is a new development. One key component of this entire protocol within the school-link program is the coordination of the multiple disciplines. It is vital for the delivery of consistent, effective health care for all disciplines to work collaboratively together and with each one delivering their service to the client as indicated. Thus, the nurse practitioner is the central person ("coordinator" role) responsible for coordinating the health needs of the children as well as the various services offered by other organizations. It is through this process of a multidisciplined approach that the consultant role would be utilized to assist in the problem-solving process and giving advice to other disciplines and families about the expertise of a nurse in advance practice. By sharing this information with others it would also educate the community about the role of a nurse in advance practice for personal use as well as career.

The role of counselor may be somewhat limited at this stage in the program development and with the emphasis on health promotion/health screening services. Yet, since the nurse may establish a trust relationship with the client and family through the

history and physical it may be an opportune time for the nurse practitioner to assist the family in expressing problems and aide in developing some problem-solving skills.

The role characteristic educator would be carried out in a number of ways. The specific health education material presented to the students is one area. However, the nurse in advance practice recognizes the need for this material to go beyond the children and include the family into this learning process. Educational needs as mentioned would extend out into the school system (ex. educating teachers on attention deficit disorder) as well as into the community. The community consists of lay persons and professionals who could be educated on what is a nurse practitioner.

The evaluator role would be in evaluating specific health educational presentations, in addition to evaluating the entire protocol of health promotion/health screening services. This is a key step in determining planning for the future needs of the children and community. And it is at this time the planner role begins after a careful evaluation has taken place. In fact, the planner role would have established specific goals, strategies to accomplish these goals and the process to evaluate the effectiveness of the program/protocol. One suggestion by the planner role would be in expanding the hours of the H & P's to include evening times. By establishing a well thought out plan based on current knowledge and research, it paves the way for the nurse in advance practice to have a system set up to obtain research data from. As it was pointed out previously, the effectiveness within the elementary school-link programs is somewhat limited. Thus, the researcher could be utilized and assist the health care and health education researchers in documenting the effectiveness of school-link programs in the elementary schools. In fact, the importance of this role cannot be over emphasized, due to the limited funding it will be essential for the nurse in advance practice to document in a scientific way the effectiveness of his/her services that are provided.

The role of leader in which he/she would need to direct and facilitate those around them in order to reach the mutually set common goals. The leader would need to exercise

these skills specifically between the education discipline and health discipline in order to facilitate the best optimal health plan for the children. These qualities would be needed within the political system of the community, for example, when the school-link program needs to be expanded and why.

Throughout the whole process from planning to evaluating the nurse in advance practice serves as a "role model" to those who come into contact. And it is this "role model" behavior which will help to determine the success of this protocol or any program. The "role model" is a reflection in part on the health care industry and on the practice of nursing at the local, state, and national levels.

IMPLICATIONS FOR EDUCATION

It is imperative to the success of the protocol and school-link clinic that the health care providers in the area be educated on the purpose and services provided by the protocol and school-link clinic. By educating the physicians, it can deflect any misconceptions and provide the opportunity to present how the protocol can assist them in the delivery of health care to their clients as opposed to a competitive approach. Physicians and nurses need to be educated in order for them to clearly communicate to their patients and their families the services of the protocol for referral as indicated. Nurses including nursing students benefit from the education of this type of clinical practice from a personal standpoint because it displays the expanding areas of practice that are continuing to emerge. The education of nursing students and their faculty also provides some potential opportunities for nursing students to learn their skills. In addition, this type of education may be expanded into the medical assistant programs to provide students broader scope of potential career choices.

Another equally important area of education is with the local health care organizations. This is absolutely necessary for the success of the protocol/program. It is essential to point out this is not a duplication of services, but rather a way to assist

children in obtaining the services that are available at a location they have easy access to, school.

IMPLICATIONS FOR RESEARCH

The health promotion/health screening protocol instituted within a school-link clinic provides an opportunity for a variety of research interests to be analyzed. The first area would be in evaluating the effectiveness of the protocol in which a comparison between two comparable school systems (Houghton Lake School System and Gerrish-Higgins School System) could be studied, one implementing the protocol and one not. Secondly, an area would be in researching from the perspective of a rural school-link clinic and do a comparison between a rural and urban school-link clinics. The existing school-link (based) literature identifies a growing number of school-based clinics developing at the elementary level. Thus, much research is needed to address services and effectiveness of a school-link clinic at the elementary level. Another area would be in addressing the effectiveness and compliancy of receiving health care at school as opposed to the traditional health care providers office.

Some of these issues are more indicative of a short term study, however, some longitudinal studies may also be conducted indicated. This could include the promotion of healthy behaviors throughout different stages of life. One might also determine the effectiveness of a multidisciplinary team working and meeting within the school system as opposed to the individual health care organizations functioning outside of the school system.

Needless to say there are multiple areas to address from a research standpoint. So it is critical that the development of any protocol/program incorporate a system for data collection to assist in the future of school-link programs.

CONCLUSION

It is important to remind ourselves that this is a portion of the overall health needs of these children in this community. This type of program can expand vertically by incorporating the health promotion/health screenings for children beyond the fifth grade, as well as expand horizontally by incorporating preventive and acute care into the program for all grades. By initiating the health promotion and health screening protocol first, it not only addresses these issues, but also makes a statement about the importance of health promotion and health screening services.

APPENDIX A

APPENDIX A

KEY DISCIPLINES

Nurse Practitioner

Representative(s) from the school (teacher/principal and/or administrator)

Health Department (local)

Administrator from Northern Michigan Health Service

Representative from Strong Families, Safe Children Committee

Community Mental Health

Parent(s)

APPENDIX B

APPENDIX B (1:2)

MICHIGAN MODEL FOR COMPREHENSIVE SCHOOL HEALTH

	SAFETY & FIRST AID EDUCATION	NUTRITION EDUCATION	FAMILY HEALTH	CONSUMER HEALTH	COMMUNITY HEALTH
K	- Fire safety rules for home & school - Recognition of poison - Safety rules for school & playground - Traffic signs & signals - Appropriate & inappropriate touch - Learning to say no to inappropriate touch	- Varieties in food - Food characteristics - Snacks	- Individual uniqueness - Identification of a family - Family roles	- Health helpers and their roles	- Health helpers roles & agencies
1	- Dangerous situations - How feelings, behaviors & attitudes relate to accidents - Accident prevention - Seat belt safety - Safety signs & signals - Aquatic safety rules - Fire prevention guidelines - Definition of sexual abuse - Assertive self protection skills - Ingredients necessary for life - Storage of medicines & chemicals	- Examples of food groups - Snacks from each group - Variety of foods needed for good health - Food as source of energy & growth	- Recognition that all-spring resemble parents - Examples of families - Family roles, responsibilities & abilities - Differences in family eating habits - Recognition of need for adult care	- Health helpers - Effects of tobacco advertisement - When to tell an adult	- Medical personal procedures & instruments - Immunizations
2	- Prevention & care for eye/ear injury - Self-responsibility for accident prevention - Home safety rules - Prevention & care of dental injuries - Sexual abuse concepts - Good & bad secrets - Self-protection skills & appropriate help	- Review of food groups - Food choices - Need for regular eating habits	- Importance of sharing thoughts & feelings - Getting along with others	- Aids for visually & hearing impaired	- Definition of environment - Definition of pollution - Noise pollution & air pollution - Effects of littering
3	- Awareness of sexual abuse - Self protection skills for personal safety - Risk-taking as a cause of accidents - Bicycle safety rules - Unsafe pedestrian, school vehicle & recreational practices	- Definition of nutrition & nutrients - Nutrient value of food - Types & sources of carbohydrates - Function of carbohydrates - Snack foods which are harmful to teeth - Effects of carbohydrates	- Developing friendships - Influential people in student lives - When to tell an adult	- Health product choices - Labels as a source of information - Recognition of choices	- Community workers & accident prevention - Community health workers & agencies - Community agencies near school
4	- First aid for choking victims - Human factors that cause accidents - Environmental factors that cause accidents - Fire prevention methods - Rules for staying home alone - Appropriate & inappropriate touch	- Six classes of nutrients - Nutrient contribution of food groups - Functions & sources of protein & fats - Recommended number servings for daily use of food groups - Influences of food choices	- Love & caring as a human need - Kinds of social support - Ways to build a social support network - Rules when home alone	- Proper food storage	- Reasons why food spoils
5	- Identification of sexual abuse - Appropriate & inappropriate touch - Assertive self-protection skills - Resources for help - Mouth-to-mouth resuscitation - Carelessness & accident prevention - First aid for common emergencies - Safe food procedures	- Functions & sources of vitamins & minerals - Examination of food intake	- How friendships help reduce and manage stress - Ways to make & keep friends - Kinds of social support - Building social support network - Relationship of self & family to the cycle of life - Toxic waste disposal in the home	- Advertising methods used in selling health products - Methods used in selling tobacco products	- Definition of environment - Description of unique environments - Functions & sources of water - Environment pollution & effect on human health - Sources of air pollution - Identification of water pollution - Agencies involved with environmental protection - Toxic waste disposal in the home
6	- Definition of sexual abuse - Assertive self-protection skills - Home safety problems	- Nutrients contained in foods	- Making & keeping friends - Consequences of alcohol abuse - Home safety problems	- Reliable sources of health care information	- Alcoholism, a treatable disease - Alcoholism treatment centers in the community
7	- Risk behaviors	- Diet Analysis - Nutrients	- Social interactions - Appreciation of others - Communication styles - Conflict resolution - Personal growth - Effecting others - Action plans	- Advertising techniques	- Environmental influences - Health resources
8	- Risk reduction - Recognizing emergencies - Evaluating emergencies - Responding to emergencies - Health choices	- Eating disorders - Nutritional needs/influences	- Teenage pregnancy - Caring relationships - Communications and listening - Caring interventions - Families as health resources - Parenting	- Seeking health information - Family health needs	- Community health resources

APPENDIX B (2:2)

EDUCATION SCOPE AND SEQUENCE CHART

	GROWTH & DEVELOPMENT	SUBSTANCE USE AND ABUSE	PERSONAL HEALTH PRACTICES	EMOTIONAL AND MENTAL HEALTH	DISEASE PREVENTION AND CONTROL
K	- Five senses - Match body part with each sense	- Definition of a drug - Medicines as drugs - Choosing not to smoke	- Eye protection - Eye function - Primary & permanent teeth - Care of teeth - Tooth decay - Toothbrushing technique - Individual health practices - Sleep, rest & exercise - Exercise & relaxation activities - Seatbelts	- Individual uniqueness & similarities - PSP to identify & solve problems - Main feelings - Awareness of feeling changes - Coping with feelings about death - Dealing with unpleasant situations - Emotional feelings associated with physical illness	- Prevention of spread of germs - When medicine should be taken
1	- Living & non-living things - Living things & growth - Identification of growth needs - New growth - Personal skills & abilities - Abilities of differently-abled people - External body parts - Organs & their functions - Body parts working together	- Definition of the term "drug" - Identification of drugs - Effects of alcohol use - Identification of alcohol & nicotine as drugs - Harmful effects of tobacco	- Habits - Good health habits - Exercises - Protection of self & others when ill - Health check-ups & illness prevention - Seatbelts	- Concepts of "same" & "different" - Four main feelings - Quieting response - Identification of feelings - Alternative solutions & best decisions - Seeking adult assistance - Feelings accompanying growth, change & loss	- Appearance & behavior associated with wellness & illness - Factors changing health status - Symptoms of illness - Prevention of germ spread - Self help - Immunization - Communicable disease
2	- Growth mental & physical - Function & compatibility of the senses - Eye & ear development	- Medicines & other substances that contain drugs - Effects of nicotine - How smoke enters the lungs - Effects of alcohol on physical tasks or activities	- Prevention of ear injuries - Hazardous situations to teeth - Healthy behaviors - Self-responsibility & health status - Influences on health status - Personal health care measures	- Feelings & thoughts help determine actions - Four main feelings & communication - Identification of associated feelings - Use of PSP - Recognition norms of social behavior - 3 D's for informing adults - Verbal/non-verbal skills - Brainstorming techniques	- Identification of eye problems - When medicine should be used - Exercise & proper food for health
3	- Characteristics of human beings - Function of the cell - Recognition of six body systems - Functions of nine body systems - Parts & functions of skeletal system - Muscle function	- Medicinal & non-medicinal drugs - Influence of drugs on body - Dose, tolerance & abuse of drugs - Reasons not to smoke - Alternative activities	- Exercise for muscle health - Health homeostasis - Plaque & the decay process - Periodontal disease & prevention - Fluoride - Oral hygiene - Positive health habits - Effects of inadequate sleep	- How feelings affect behavior - Calm breathing techniques - Recognition of other's feelings - Difference between body feelings and emotions - PSP & problem identification - Negotiation procedures - Influence of group norms on individual behavior	- Identification of communicable & chronic diseases - Health homeostasis
4-	- Structure & function of skin, plasma, red blood cells, white blood cells, skeletal system, joints, muscles & digestive system - Fragility of life	- Definition of a drug - Effects of alcohol - Abstainers, social drinkers, & alcoholics - Warning signs of alcoholism - Coping with an alcoholic - Reasons why people smoke & its physical effects	- Teeth & their function - Tooth anatomy - Areas prone to decay - Prevention of tooth decay - Exercise & good health - Action play for health goals - Reasons for drug use	- Understanding other people's feelings - Application of four kinds of control - Personal differences in reactions to situations - How feelings affect all aspects of life - Methods for handling stressful situations	- Diseases & tobacco use - Personal health goals
5	- Environmental requirements for life - Relationship between cells, tissues, organs & systems - Parts & function of nine body systems - How body systems work together - Physical & emotional changes of puberty - Structure & function of reproductive system - Parts of respiratory system	- Consequences of smoking - Problem solving & smoking - Social pressures to smoke - Advertising strategies promoting smoking - Resisting advertising pressure - Peer pressure - Strategies to say no	- Relationship between health & environment - Personal health practices - Implementing positive health practices - Personal health activities	- Four main feelings - Calm breathing techniques - How feelings affect action - Personal differences in reactions to situations - Negotiation process - Actions & their consequences - Ways to cope with stress - Some situations that produce stress - Force field method - Four kinds of control	- Diseases of respiratory system - Stress & bodily defenses against disease - Common communicable diseases - Immunizations - Prevention & control of communicable diseases
6	- New responsibilities & stress - Pulse rate & location of heart - Process of diffusion, filtration & osmosis - Main function of body parts - Egg & sperm as reproduction cells - Heredity & environment - Fetal growth & development	- Consequences of alcohol use & misuse - Pressures to use alcohol in society - Decision-making in alcohol situations - Peer pressure - Strategies to resist peer pressure - Strategy to resist alcohol advertising	- How feelings affect health - Components of a healthy lifestyle - Personal health practices - Personal habits & heart health - Personal health care activities - Personal strength, flexibility, lung capacity & cardiovascular condition - Personal action plan for health	- Mental health lifestyle - How feelings affect action - Calm breathing - Management of good & bad stress - Personal differences in reactions to situations - Negotiation process - Consequences of decision making	- Stress & effect of the body - Cardiovascular diseases - Heart & blood vessel diseases - Genetic diseases - Risk factors of cardiovascular disease - Prevention of cardiovascular disease
7	- Individual uniqueness - Puberty	- Resisting pressures - Substance use - Personal power/substance abuse prevention	- Exercises and fitness - Skin care - Feeling good	- Cooperative behaviors - Managing strong feelings - Positive thinking - Goals setting - Stress management - Personal strengths - Decision making - Support system	- Factors that affect health
8	- Basic needs - Signs of unmet needs	- Enabling behaviors - Smoke and smokeless tobacco - Illegal substances - Alcohol - Substance addiction - Laws and penalties - Marijuana and cocaine - Pressure to use - Resisting pressures - Anabolic steroids	- External factors - Physical impairments - Positive health behaviors - Making health choices - POWER decision making - Health risk appraisal	- Decision making - Violent behavior - Stress management - Managing boredom & depressions - Refusal skills - Personal development	- Genetic factors - Environmental factors - Behavioral factors in diseases - Sexually transmitted diseases - AIDS - Health risk appraisal - Health problems

APPENDIX C

APPENDIX C

HEALTH SCREENING SERVICES

FOR (K-5) GRADERS

TYPE OF SERVICE	K	1	2	3	4	5
Health Exam (new students receive exam during grade when entering system)	X			X		
Dental Exam	X			X		
Hearing Test (K: pure-tone audiometry) (1-5: referral based on subjective/objective data)	X	X	X	X	X	X
Speech (as available and referral as indicated by objective data)	X	X	X	X	X	X
Vision Test	X	X		X		

APPENDIX D

APPENDIX D

HEALTH EXAM = HISTORY AND PHYSICAL

HISTORY

PHYSICAL

- Height
- Weight
- Vital Signs (B/P, P, R, T)

- General Appearance
- Skin
- HEENT
- Spine (Scoliosis screening if indicated)
- Lungs
- Heart
- Breasts
- Abdomen
- External Genitali
- Extremities

Laboratory
- Urine dip
- Cholesterol (if indicated)

APPENDIX E

APPENDIX E

SCHOOL HEALTH CONSENT FORM

(Proposed information to be included)

Demographic

- Student's name
- Date of birth
- Address
- Home phone number
- Parent's name
- Work phone number
- Emergency Contact with phone number

Medical Information

- Type of insurance
- Primary Care Provider
- Date last seen provider
- Student's age of last well visit
- Chronic Illness
- Medications
- Allergies

Legal

- Statement authorizing permission school health program to treat and follow-up as indicated with the appropriate personnel.
- Date of signature
- Witness

APPENDIX F

APPENDIX F (1:6)

Health Promotion/Health Screening Services

for Kindergarten

HEALTH PROMOTION

GROWTH & DEVELOPMENT	SUBSTANCE USE & ABUSE	PERSONAL HEALTH PRACTICES	EMOTIONAL AND MENTAL HEALTH	DISEASE PREVENTION AND CONTROL
-Five senses -Match body part with each sense	-Definition of a drug -Medicines as drugs -Choosing not to smoke	-Eye protection -Eye function -Primary & permanent teeth -Care of teeth -Tooth decay -Toothbrushing technique -Individual health practices -Sleep, rest & exercise -Exercise & relaxation activities -Seatbelts	-Individual uniqueness & similarities -PSP to identify & solve problems -Main feelings -Awareness of feeling changes -Coping with feelings about death -Dealing with unpleasant situations -Emotional feelings associated with physical illness	-Prevention of spread of germs -When medicines should be taken
SAFETY & FIRST AID EDUCATION	**NUTRITION EDUCATION**	**FAMILY HEALTH**	**CONSUMER HEALTH**	**COMMUNITY HEALTH**
-Fire safety rules for home & school -Recognition of poison -Safety rules for school playground -Traffic signs & signals -Appropriate & inappropriate touch -Learning to say no to inappropriate touch	-Varieties in food -Food characteristics -Snacks	-Individual uniqueness -Identification of a family -Family roles	-Health helpers and their roles	-Health helpers roles & agencies

HEALTH SCREENING

Health Exam _____

Dental Health _____

Hearing Test _____

Vision Test _____

Speech _____

APPENDIX F (2:6)

Health Promotion/Health Screening Services

for First Graders

HEALTH PROMOTION

GROWTH & DEVELOPMENT	SUBSTANCE USE & ABUSE	PERSONAL HEALTH PRACTICES	EMOTIONAL AND MENTAL HEALTH	DISEASE PREVENTION AND CONTROL
-Living & non-living things -Living things & growth -Identification of growth needs -New growth -Personal skills & abilities -Abilities of differently-abled people -External body parts -Organs & their functions -Body parts working together	-Definition of the term "drug" -Identification of drugs -Effects of alcohol use -Identification of alcohol & nicotine as drugs -Harmful effects of tobacco	-Habits -Good health habits -Exercises -Protection of self & others when ill -Health check-ups & illness prevention -Seatbelts	-Concepts of "same" & "different" -Four main feelings -Quieting response -Identification of feelings -Alternative solutions & best decisions -Seeking adult assistance -Feelings accompanying growth, change & loss	-Appearance & behavior associated with wellness & illness -Factors changing health status -Symptoms of illness -Prevention of germ spread -Self help -Immunization -Communicable disease
SAFETY & FIRST AID EDUCATION	**NUTRITION EDUCATION**	**FAMILY HEALTH**	**CONSUMER HEALTH**	**COMMUNITY HEALTH**
-Dangerous situations -How feelings, behaviors & attitudes relate to accidents -Accident prevention - Seat belt safety -Safety signs & signals -Aquatic safety rules -Fire prevention guidelines -Definition of sexual abuse -Assertive self protection skills -Ingredients necessary for fire -Storage of medicines & chemicals	-Examples of food groups -Snacks from each group -Variety of foods needed for good health -Food as source of energy & growth	-Recognition that off-spring resemble parents -Examples of families -Family roles, responsibilities & abilities -Differences in family eating habits -Recognition of need for adult care	-Health helpers -Effects of tobacco advertisement -When to tell an adult	-Medical personal procedures & instruments -Immunizations

HEALTH SCREENING

Health Exam _____ (if indicated)

Dental Health _____ (if indicated)

Vision Test _____

Hearing Test _____

Speech _____

APPENDIX F (3:6)

Health Promotion/Health Screening Services

for Second Graders

HEALTH PROMOTION

GROWTH & DEVELOPMENT	SUBSTANCE USE & ABUSE	PERSONAL HEALTH PRACTICES	EMOTIONAL AND MENTAL HEALTH	DISEASE PREVENTION AND CONTROL
-Growth mental & physical -Function & compatibility of the senses -Eye & ear development	-Medicines & other substances that contain drugs -Effects of nicotine -How smoke enters the lungs -Effects of alcohol on physical tasks or activities	-Prevention of ear injuries -Hazardous situations to teeth -Healthy behaviors -Self-responsibility & health status -Influences on health status -Personal health care measures	-Feelings & thoughts help determine actions -Four main feelings & communication -Identification of associated feelings -Use of PSP -Recognition names of social behavior -3 D's for informing adults -Verbal/non-verbal skills -Brainstorming techniques	-Identification of eye problems -When medicine should be used -Exercise & proper food for health
SAFETY & FIRST AID EDUCATION	**NUTRITION EDUCATION**	**FAMILY HEALTH**	**CONSUMER HEALTH**	**COMMUNITY HEALTH**
-Prevention & care for eye/ear injury -Self-responsibility for accident prevention -Home safety rules -Prevention & care of dental injuries -Sexual abuse concepts -Good & bad secrets -Self-protection skills & appropriate help	-Review of food groups -Food choices -Need for regular eating habits	-Importance of sharing thoughts & feelings -Getting along with others	-Aids for visually & hearing impaired	-Definition of environment -Definition of pollution -Noise pollution & air pollution -Effects of littering

HEALTH SCREENING

Health Exam _____ (if indicated)

Dental Health _____ (if indicated)

Hearing Test _____

Vision Test _____ (if indicated)

Speech _____

APPENDIX F (4:6)

Health Promotion/Health Screening Services

for Third Graders

HEALTH PROMOTION

GROWTH & DEVELOPMENT	SUBSTANCE USE & ABUSE	PERSONAL HEALTH PRACTICES	EMOTIONAL AND MENTAL HEALTH	DISEASE PREVENTION AND CONTROL
-Characteristics of human beings -Function of the cell -Recognition of six body systems -Functions of nine body systems -Parts & functions of skeletal system -Muscle function	-Medicinal & non-medicinal drugs -Influence of drugs on body -Dose, tolerance & abuse of drugs -Reasons not to smoke -Alternative activities	-Exercise for muscle health -Health homeostasis -Plaque & the decay process -Periodontal disease & prevention -Fluoride -Oral hygiene -Positive health habits -Effects of inadequate sleep	-How feelings affect behavior -Calm breathing techniques -Recognition of other's feelings -Difference between body feelings and emotions -PSP & problem identification -Negotiation procedures -Influence of group norms on individual behavior	-Identification of communicable & chronic diseases -Health homeostasis
SAFETY & FIRST AID EDUCATION	**NUTRITION EDUCATION**	**FAMILY HEALTH**	**CONSUMER HEALTH**	**COMMUNITY HEALTH**
-Awareness of sexual abuse -Self protection skills for personal safety -Risk-taking as a cause of accidents -Bicycle safety rules -Unsafe pedestrian, school vehicle & recreational practices	-Definition of nutrition & nutrients -Nutrient value of food -Types & sources of carbohydrates -Function of carbohydrates -Snack foods which are harmful to teeth -Effects of carbohydrates	-Developing friendships -Influential people in student lives -When to tell an adult	-Health product choices -Labels as a source of information -Recognition of choices	-Community workers & accident prevention -Community health workers & agencies -Community agencies near school

HEALTH SCREENING

Health Exam _____ (if indicated)

Dental Health _____ (if indicated)

Hearing Test _____

Vision Test _____ (if indicated)

Speech _____

APPENDIX F (5:6)

Health Promotion/Health Screening Services

for Fourth Graders

HEALTH PROMOTION

GROWTH & DEVELOPMENT	SUBSTANCE USE & ABUSE	PERSONAL HEALTH PRACTICES	EMOTIONAL AND MENTAL HEALTH	DISEASE PREVENTION AND CONTROL
-Structure & function of skin, plasma, red blood cells, white blood cells, skeletal system, joints, muscles & digestive system -Fragility of life	-Definition of a drug -Effects of alcohol -Abstainers, social drinkers, & alcoholics -Warning signs of alcoholism -Coping with an alcoholic -Reasons why people smoke & its physical effects	-Teeth & their function -Tooth anatomy -Areas prone to decay -Prevention of tooth decay -Exercise & good health -Action play for health goals -Reasons for drug use	-Understanding other people's feelings -Application of four kinds of control -Personal differences in reactions to situations -How feelings affect all aspects of life -Methods for handling stressful situations	-Diseases & tobacco use -Personal health goals
SAFETY & FIRST AID EDUCATION	**NUTRITION EDUCATION**	**FAMILY HEALTH**	**CONSUMER HEALTH**	**COMMUNITY HEALTH**
-First aid for choking victims -Human factors that cause accidents -Environmental factors that cause accidents -Fire prevention methods -Appropriate & inappropriate touch	-Six classes of nutrients -Nutrient contribution of food groups -Functions & sources of protien & fats -Recommended number servings for daily use of food groups -Influences of food choices	-Love & caring as a human need -Kinds of social support -Ways to build a social support network -Rules when home alone	-Proper food storage	-Reasons why food spoils

HEALTH SCREENING

Health Exam _____ (if indicated)

Dental Health _____ (if indicated)

Hearing Test _____

Vision Test _____ (if indicated)

Speech _____

APPENDIX F (6:6)

Health Promotion/Health Screening Services

for Fifth Graders

HEALTH PROMOTION

GROWTH & DEVELOPMENT	SUBSTANCE USE & ABUSE	PERSONAL HEALTH PRACTICES	EMOTIONAL AND MENTAL HEALTH	DISEASE PREVENTION AND CONTROL
-Environmental requirements for life -Relationship between cells, tissues, organs & systems -Parts & function of nine body systems -How body systems work together -Physical & emotional changes of puberty -Structure & function of of reproductive system -Parts of respiratory system	-Consequences of smoking -Problem solving & smoking -Social pressures to smoke -Advertising strategies promoting smoking -Resisting advertising pressure -Peer pressure -Strategies to say no	-Relationship between health & environment -Personal health practices -Implementing positve health practices -Personal health activities	-Four main feelings -Calm breathing techniques -How feelings affect action -Personal differences in reactions to situations - Negotiation process -Actions & their consequences -Ways to cope with stress -Some situations that produce stress -Force field method -Four kinds of control	-Diseases of respiratory system -Stress & bodily defenses against diseases -Common communicable diseases -Immunizations -Prevention & control of communicable diseases
SAFETY & FIRST AID EDUCATION	**NUTRITION EDUCATION**	**FAMILY HEALTH**	**CONSUMER HEALTH**	**COMMUNITY HEALTH**
-Identification of sexual abuse -Appropriate & inappropriate touch -Assertive self-protection skills -Resources for help -Mouth-to-mouth resuscitation -Carelessness & accident prevention -First aid for common emergencies -Safe food procedures	-Functions & sources of vitamins & minerals -Examination of food intake	-How friendships help reduce and manage stress -Ways to make & keep friends -Kinds of social support -Building social support network -Relationship of self & family to the cycle of life -Toxic wste disposal in home	-Advertising methods used in selling health products -Methods used in selling tobacco products	-Definition of environment -Description of unique environments -Functions & sources of water -Environmental pollution & effect on human health -Sources of air pollution -Identification of water pollution -Agencies involved with environmental protection -Toxic waste disposal in the home

HEALTH SCREENING

Health Exam _____ (if indicated)

Dental Health _____ (if indicated)

Hearing Test _____

Vision Test _____ (if indicated)

Speech _____

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