RESOURCES AVAILABLE FOR THE REDUCTION OF CORONARY HEART DISEASE IN A RURAL COMMUNITY

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ABSTRACT

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By Mary Seger Noss

The objective of this study was to assess for cardiovascular risk reduction resources. A telephone survey was conducted in the Otsego Memorial Hospital service area, a rural community. The participants were various health care organizations and schools. The intervention was to contact and assess various health care organizations schools in regards to coronary heart disease risk reduction programs and practices. The main outcome measures were Cholesterol Reduction programs, Sodium Reduction programs, Smoking Cessation programs, and Weight Loss programs. The results were one Cholesterol Reduction program, one Sodium Reduction program, one Smoking Cessation program, and four Weight Loss programs in the Otsego Memorial Hospital service area. Coronary Heart Disease is the number one killer in the U.S. Almost one half of the deaths in Otsego County were related to cardiovascular disease. There are few resources available in the Otsego Memorial Hospital service area to help an individual reduce his/her risk for the development of coronary heart disease. Lifestyle modifications can reduce the risk of developing coronary heart disease. It is imperative that more resources for reducing coronary heart disease be developed in the Otsego Memorial Hospital service area.

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Chapter I The Problem

Statement of the Problem

Cardiovascular Disease is the number one killer in the United States. It kills almost as many individuals as cancer, accidents, pneumonia and influenza and all other causes of death combined (American Heart Association, 1991). In 1988, alone, there were 511,150 deaths from coronary heart disease. This year 1,500,000 Americans will have a myocardial infarction, 500,000 of them will die from the myocardial infarction. More than one in four Americans have some from of cardiovascular disease (American Heart Association, 1991).

Michigan is rated the third worst state in the nation in regards to death from coronary heart disease. In 1988, there were 125.6 deaths from coronary heart disease per 100,000 people in Michigan (American Heart Association, 1992). The Michigan Department of Public Health (1992) reports this as 20,218 deaths due to coronary heart disease (Michigan Department of Public Health, 1992). Michigan's age adjusted heart disease death rate has been above the national rate since the mid 1970's (Michigan Department of Public Health, 1992). Coronary heart disease is a serious problem in Michigan.

In 1990 Otsego County had 177 total deaths, with 83 deaths due to major cardiovascular diseases and 54 of the 83 deaths are due to death from coronary heart disease. Forty seven percent of the deaths in Otsego County (n=83) were due to major cardiovascular

diseases such as coronary heart disease hypertension, cerebrovascular disease, atherosclerosis, and other diseases of the arteries and capillaries (Michigan Department of Public Health, 1990). Coronary heart disease was responsible for 31% of the total deaths in Otsego county in 1990. Primary health care professionals should assess their patients for cardiovascular risk factors. Individuals need to be aware of the risk factors that can lead to the development of coronary heart disease. The individuals who are at high risk for the development of coronary heart disease should then be referred to programs that can help them reduce their risk for the development of coronary heart disease.

There are a multitude of risk factors that can increase an individual's chance of developing coronary heart disease. Risk factors for coronary heart disease include being male, hypertension, elevated total cholesterol, elevated LDL cholesterol, low HDL cholesterol, cigarette smoking, diabetes mellitus, a history of definite cerebrovascular or occlusive peripheral vascular disease, severe obesity and a family history of premature coronary heart disease (US Department of Health and Human Services, 1989). Most of the risk factors for coronary heart disease are under the individual's control. Individuals can reduce their risk of coronary heart disease, but only if they are made aware of the risk factors for coronary heart disease and are motivated to make lifestyle changes. Resources must be available to assist an individual in making lifestyle changes to reduce his/her risk for developing coronary heart disease.

Resources needed to reduce the incidence of coronary heart disease include a complete coronary heart disease risk reduction program or individual programs for each risk factor. There have been a number of community based cardiovascular disease prevention programs developed which have proven to be effective in reducing risk factors for the development of coronary heart disease (Chea & Basch, 1990; Gold & Franks, 1990; & Van Camp,1990). Ornish (1990) has developed a comprehensive program for the purpose of reducing risk factors for the development of coronary heart disease. The components of Ornish's (1990) program include: smoking cessation, exercise, weight reduction, stress reduction, hypertension reduction, and serum cholesterol reduction. There are also programs that have been developed to use in the school system for children (Walter & Wynder, 1990; & Walter, Hofman, Vaughan, & Wynder, 1988). The program developed by Walter et al (1988 & 1989) targets the risk factors of cigarette smoking, sedentary lifestyle, obesity, and high serum cholesterol level. The program targets children in the fourth through eighth grades and is delivered by the teachers in the school.

Individual programs for each risk factor would include: hypertension reduction programs (Working Group on Management of Patients with Hypertension and High Blood Cholesterol, 1991), cholesterol reduction programs (US Department of Health and Human Services, 1989), smoking cessation programs (US Department of Health and Human Services, 1990), diabetes education programs and weight loss programs (Greene, 1987). A stroke prevention program

would include smoking cessation, hypertension reduction and cholesterol reduction, the three primary risk factors for the development of cerebrovascular disease.

Exercise and Stress Management will not be addressed in this project. This researcher will be using the risk factor profile developed by the US Department of Health and Human Services (1990) and reported in the Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (US Department of Health and Human Services, 1988). The program developed by the US Department of Health and Human Services, 1990, is entitled National Cholesterol Education Program and is widely accepted as a program to help an individual lower their risk factors for the development of coronary heart disease.

Purpose of the Project

There is no organized directory of resources for the reduction of cardiovascular disease in the Otsego Memorial Hospital service area. By making available to primary health care professionals, a directory of the resources that can help an individual reduce their chance of developing coronary heart disease, primary health care professionals will know where to refer individuals at risk for developing coronary heart disease. The purpose of the project is to develop a directory of the resources available in the Otsego Memorial Hospital service area for the primary health care professional to help an individual reduce his/her risk of developing coronary heart disease. This resource directory will then be distributed to the primary health care professionals in the

Otsego Memorial Hospital service area. The primary health care professionals may then use the directory as a resource to refer individuals at high risk for the development of coronary heart disease. This is the first step in attempting to alter behavior to reduce individual's risk for the development of coronary heart disease. The primary health care professionals need help in assisting an individual in reducing the risk of coronary heart disease. They need to know what resources are available so they can make referrals as needed, once the high risk individual has been identified. If there are no resources available in the community, the primary health care professionals should work together to develop various programs for the reduction of coronary heart disease.

Assumptions

The assumptions of this scholarly project include:

1. Nurses and physicians view cardiovascular risk reduction is important.
2. The primary health care professionals must have resources available in their community to refer the patients at high risk for the development of coronary heart disease.
3. Patients need current knowledge of resources in their community to reduce the risk for developing cardiovascular disease.
4. Patients must be motivated to make the required lifestyle modifications required to reduce the development of coronary heart disease.

The assumptions listed above are all important factors in reducing the number of deaths caused by cardiovascular disease.

Nurses and physicians view it is important for individuals to reduce their risk factors for the development of coronary heart disease (Mann & Putman, 1999; & Wilt, Hubbard, & Thomas, 1999). Unfortunately, nurses and physicians find their knowledge about available resources lacking in regards to referring individuals to reduce their risk factors for the development of coronary heart disease. This is not only a problem in the Otsego Memorial Hospital service area, but also in the whole United States as demonstrated by cardiovascular disease being the number one killer in the United States. Therefore a directory of resources for reducing risk factors for the development of coronary heart disease is imperative for the primary health care professional. The first step in reducing cardiovascular disease is making the directory of resources at the local level. If the primary health care professional cannot educate individuals in regards to reducing their risk for the development of coronary heart disease, they must know where to refer the individuals at risk for the development of coronary heart disease.

The scope of this project will be limited to the Otsego Memorial Hospital service area. The geographical area will be limited to Otsego Memorial Hospital's service area which is Otsego County and portions or Montmorency and Crawford Counties. Otsego Memorial Hospital is the small community hospital which serves this area.

The researcher will only be assessing the community for resources available to reduce the risk of developing cardiovascular disease. This information will then be developed into a resource directory of resources. This is only a small part of the goal of reducing deaths from cardiovascular disease. Primary health care professionals must assess for cardiovascular risk factors and refer their patients to the appropriate resource to reduce their cardiovascular risk factors. Individuals at risk for the development of cardiovascular disease must make behavior changes to reduce their risk for the development of cardiovascular disease. The resource directory is only the first, but important step in beginning to reduce cardiovascular disease in the Otsego Memorial Hospital service area.

Conceptual Framework

This project will focus on the characteristics of the health delivery system. The availability of the resources will be determined by the volume, distribution, and availability of coronary heart disease risk reduction programs in the Otsego Memorial Hospital service area. The organization variable is determined by what services are actually available in the Otsego Memorial Hospital service area. The knowledge of the availability of coronary heart disease risk reduction programs will be provided to the primary health care providers through the use of the directory of resources. To educate the general public about coronary heart disease risk reduction programs is beyond the scope

of the project.

The conceptual framework that will be used in this project is the Access to Medical Care framework developed by Aday, Fleming, & Andersen (1995). The conceptual framework will be based on access to resources available to the primary health care professionals to refer individuals at risk for the development of coronary heart disease. "Access may be defined as those dimensions which describe the potential and actual entry of a given population group to the health care delivery system. The probability of an individual's entry into the health care system is influenced by the structure of the delivery system itself (the availability and organization of health care resources) and the nature of the wants, resources and needs that potential consumers may bring to the care-seeking process" (Aday et al, 1984, p.13).

Access can also be defined as "availability of health facilities and personnel (i.e., physician to population ratios)" (Anderson and Aday, 1978, p.534). Access is assumed to be equitable to all people and based on the individual's needs. Access is considered inequitable when "services are distributed on the basis of personal characteristics such as race, family income or place of residence rather than need" (Aday et al, 1984, p.16). Aday and Anderson (1984) analyzed the data from a national survey regarding access to medical care. They found that "Rural people, especially those living on farms, are still less apt to have seen a physician than urban dwellers" (Aday & Anderson, 1995, p.1006)

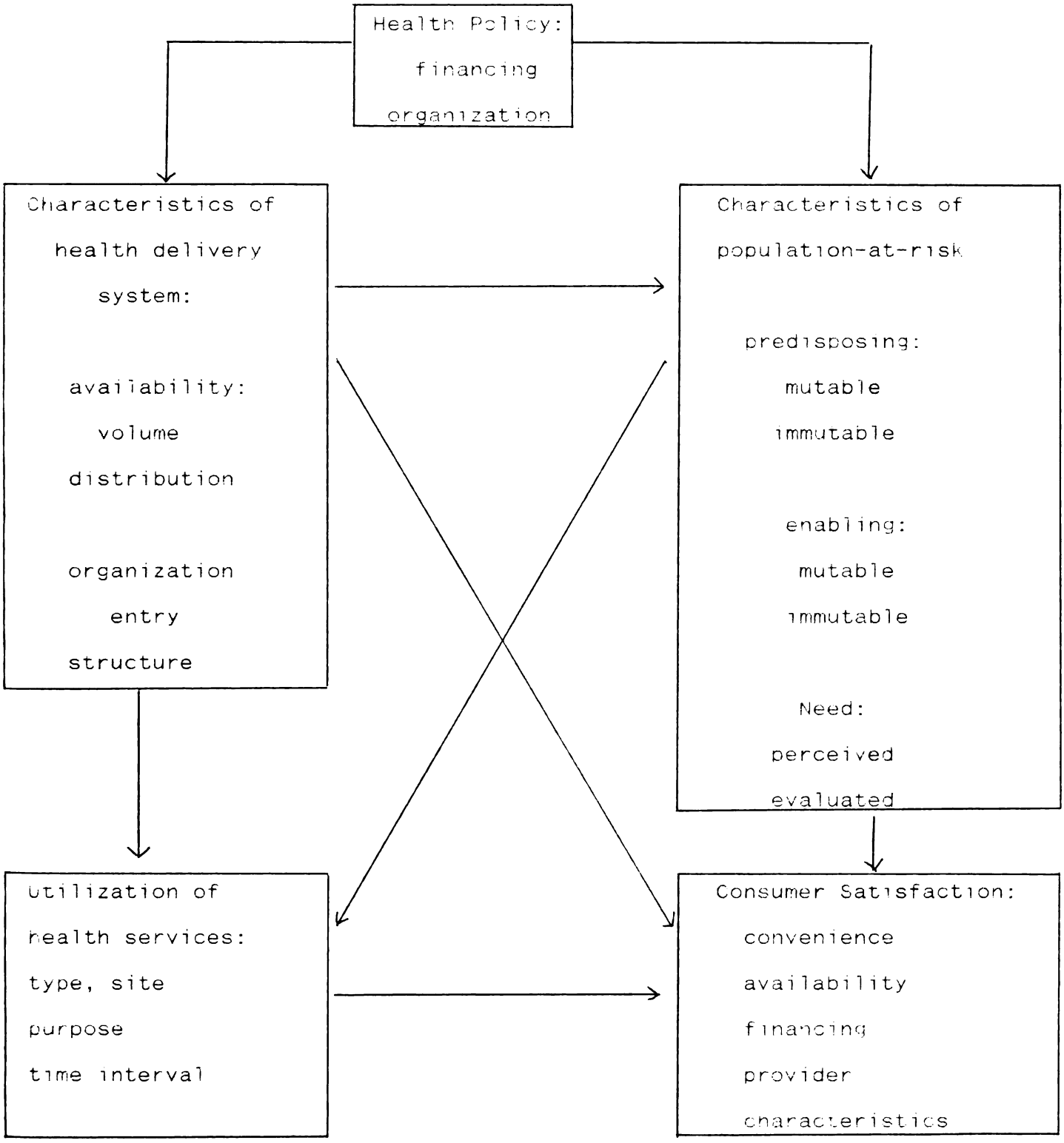
The concepts of the access framework are: health policy,

characteristics of health delivery system, utilization of health services, characteristics of population-at-risk, and consumer satisfaction. See Figure 1.1.

Health delivery system is defined as health care providers. Health care providers may include primary care physicians, nurse practitioners, or physician's assistants. Primary health care professionals may also be specialists such as internists, pediatricians, obstetricians, gynecologists, or surgeons. The health care delivery system may be located in a private doctor's office or group practice, company or school clinic, government clinic, hospital outpatient department, hospital emergency room, or other places (Aday et al, 1985).

Characteristics of health delivery system include availability and organization. Availability is determined by volume and distribution of health care providers. Availability may also be determined by the lack of health care providers and resources. The organization variable is determined by what services are available once the individual has entered the system. Characteristics of the health care delivery system are affected by the concept health policy. This study will focus on the organization variable of the health delivery system. The organization variable consists of structure and entry. Entry will be provided by the primary health care professional. This researcher will assess the structure of the resources available in the Otsego Memorial Hospital service area. This will include location, type of provider and cost of

Figure 1-ACCESS TO MEDICAL CARE FRAMEWORK



the program in regards to resources available to reduce the development of coronary heart disease.

Health policy is determined by the financing organization. Health policy can be defined as the organization that is responsible for financing health care resources for the reduction of cardiovascular disease. Health policy affects characteristics of the health delivery system.

Utilization of health services is determined by type, site, purpose, geographical location, and time interval of the program. "Utilization rates are objective indicators of individuals actual entry to the health care system" (Aday et al, 1985, p.6). The type of program, location, purpose of the program and hours available are all factors that influence utilization of health services. Characteristics of the health delivery system and characteristics of the population-at-risk are the concepts that impact utilization of health services. Utilization of health services affects consumer satisfaction.

Consumer satisfaction is the subjective indicator of the consumers opinion of the health care system. Consumer satisfaction is dependent on the convenience and availability of the health care services. Consumer satisfaction is also dependent on the cost of the program and the characteristics of the provider. Every concept in this framework has an impact on consumer satisfaction. The concepts include characteristics of the health delivery system, utilization of health services and characteristics of the population-at-risk.

The characteristics of the population-at risk are determined by predisposing factors, enabling factors and needs factors. "Predisposing factors include the demographic and social characteristics of the population in a community as well as their attitudes toward health and medical care" (Aday et al, 1985, p.4). The individual's attitude toward health care can only be determined by asking the individual. The predisposing factors may be mutable or immutable. Specific demographic characteristic such as age and sex can determine what type of health care programs there are in the community. Mutable factors include general health care beliefs and attitudes and knowledge of health care information (Aday et al, 1985, p. 8). Immutable factors include age, sex, family size, race, education, and employment status (Aday et al, 1985, p. 8).

Enabling factors may also be mutable or immutable. Enabling factors include insurance coverage, out-of-pocket expense for health care, regular source of health care, convenience in regards to seeking health care, and family income. Convenience can also be determined by availability or unavailability of health care providers and resources. Enabling factors are also affected by problems or barriers to the individual seeking health care. The final factor of characteristics of population-at-risk is the need for various health care services. Needs can be either perceived or evaluated. Evaluated needs are determined by the health care provider in regards to the disease states in the community. Program needs as perceived by the individual may be more effective

in determining utilization of health services. Perceived needs can also impact predisposing and enabling factors. Characteristics of population-at-risk are impacted by health policy and characteristics of the health care delivery system. Characteristics of population-at risk impact utilization of health services and consumer satisfaction.

Utilization of health services will not be addressed in this project. Consumer satisfaction will not be directly address in this project. Factors that promote consumer satisfaction include knowledge of resources, convenience, availability, financing and provider characteristics. The researcher will assess location, availability and financing of the health services. Provider characteristics will be described simply by the providers title and qualifications.

Characteristics of the population-at-risk will in part be addressed in this project. Predisposing factors will be addressed in regards to the age and coronary heart disease composition of the community. Evaluated need of the Otsego Memorial Hospital service area will be addressed in regards to death from cardiovascular disease. The outcome of this project should have some impact on the mutable predisposing factors which are general health care beliefs and attitudes and knowledge of health care information. Enabling factors are only available through a social survey and will not be included in this project. Enabling factors include third party coverage, extent of this coverage, regular source of medical care, availability of services, convenience to health care

services and family income (Aday et al. 1985).

Summary

There are many risk factors that can increase the incidence of the development of coronary heart disease. Most of the risk factors for coronary heart disease can be reduced by lifestyle modifications. The problem is health care providers in the Otsego Memorial Hospital service area are unaware of the resources for individuals at risk for the development of coronary heart disease. Resources will include smoking cessation programs, weight loss programs, sodium restricted diet programs, and serum cholesterol reduction programs. The researcher will assess the available resources in the rural community.

Overview of the Project

The following chapters will consist of: Chapter 2, Review of Related Literature; Chapter 3, Methodology and Procedures; and Chapter 4, Results and interpretation. In Chapter 2 a Literature review covering coronary heart disease and coronary heart disease risk factors will be presented. Various studies have shown an increase in coronary heart disease risk factors can lead to a greater chance of developing coronary heart disease. In Chapter 3 the methodology and procedures will be described and presented. Finally in Chapter 4 findings and implications for advanced nursing practice will be presented.

Chapter 2

Review of Literature

Coronary heart disease is the number killer in the United States. Coronary heart disease is defined as "definite prior myocardial infarction or definite myocardial ischemia such as angina pectoris" (US Department of Health and Human Services, 1989). "This year as many as 1,500,000 Americans will have a heart attack, and more than 500,000 of them will die (American Heart Association, 1991). There are a number of risk factors that increase an individual's chance of developing coronary heart disease. The risk factors are: elevated serum total cholesterol and LDL cholesterol, male sex, family history of premature coronary heart disease, cigarette smoking, hypertension, low HDL cholesterol, diabetes mellitus, a history of definite cerebrovascular disease, and severe obesity. Researchers have shown that by reducing the modifiable risk factors the chance of developing coronary heart disease can be reduced.

Americans need to be assessed for their risk factors for the development of coronary heart disease. Individuals at risk for the development of coronary heart disease must then be referred to resources that can help them lower their risk factors. Simply telling an individual to lower their risk factors is not effective. Individuals need guidance and support when making major lifestyle modifications. One of the major problems in the Otsego Memorial Hospital service area is lack of available resources to reduce the incidence of coronary heart disease. The outcome of this project will be the development of a resource directory of what services are available in regards to resources that can assist an

individual in reducing his/her risk for the development of coronary heart disease.

This study will be using the framework entitled Access to Medical Care developed by Anderson and Aday. This study is related to characteristics of the health delivery system which include: the availability of health care providers for the individuals at risk for the development of coronary heart disease and the availability of health care resources for the individual at risk for the development of coronary heart disease. The availability of health care provider for the individual at risk for the development of coronary heart disease would be the person responsible for the program to reduce cardiovascular risk factors. The health care resources for the individuals at risk for the development of coronary heart disease would be the resource directory of the cardiovascular risk factor reduction programs. If the resource directory is used effectively, people will be referred to programs that can help them reduce their risk for the development of coronary heart disease. This would then have an effect on the characteristics of the population at risk, to reduce the high rate of coronary heart disease in the Otsego Memorial Hospital service area.

Characteristics of the Population-at Risk

The characteristic of the population at risk that will be assessed in this project is the high rate of coronary heart disease in Michigan. The project outcome should affect the mutable characteristics of the population-at-risk (See Figure 2.1). Aday

et al (1985) addresses cardiovascular disease under the need factor of the characteristics of the population-at-risk. "Providers may document disease states through various clinical tests and procedures" (Aday et al, 1985, p.6).

Characteristics of the population-at-risk that should be affected by providing access to cardiovascular risk factors are defined as mutable characteristics. Mutable is defined as subject to change or alteration (Morris, 1976). Mutable characteristics include "general health care beliefs and attitudes and knowledge of health care information" (Aday et al, p. 3, 1985). This project outcome should provide resource information to the primary health care professionals who then should educate the general public regarding cardiovascular risk factors.

The variable coronary heart disease is defined as "a definite prior myocardial infarction or definite myocardial ischemia, such as angina pectoris" (US Department of Health and Human Services, 1989, p.23). A myocardial infarction is "ischemic necrosis of the myocardial tissue due to an abrupt decrease in blood flow to the myocardium" (Greene, 1987, p.23). Angina pectoris or myocardial ischemia is defined as "pain or discomfort described as retrosternal, squeezing, gripping, strangling, burning or vise like sensation that may or may not radiate to the neck, jaw, teeth, or arms" (Greene, 1987, p.365). The American Heart Association (1991) reports 1,500,000 Americans will have a myocardial infarction this year and 500,000 will die due to the myocardial infarction. Approximately 3,040,000 Americans have angina pectoris.

Risk Factors

Men are at higher risk for the development of coronary heart disease than women. Levy et al (1990) reports from the Framingham study, that men begin developing coronary heart disease in their thirties and there is a gradual increase of coronary heart disease until age 62. Women lag behind men, about 15-20 years in the development of coronary heart disease. Lerner et al (1986) reports from the Framingham study, men comprise 60% of all coronary events and women comprise 40% of all coronary events. Men develop coronary heart disease at a younger age and more frequently than women. This is a risk factor that can not be modified. Men need to be aware that they are at higher risk and therefore reduce other risk factors which are modifiable.

Family history of premature coronary heart disease is another risk factor that can not be modified. The National Cholesterol Education Program defines family history as a "definite myocardial infarction or sudden death before age 55 in a parent of sibling" (US Department of Health and Human Services, 1989, p. 29). Schildkraut et al (1989) in the Framingham Study assessed 5209 subjects for family history of death from coronary artery disease. The researchers found there was a 30% increase in the risk for the development of coronary heart disease in those individuals who had a parent die from coronary artery disease. This 30% increase in risk for the development of coronary artery disease was true for both males and females.

Hopkins et al (1988) studied 1100 males and females to

determine if family history of coronary artery disease is an independent risk factor for the development of coronary artery disease. The researchers found that family history of coronary artery disease was highly significant for the development of coronary artery disease. Family history is a risk factor that can not be modified.

Smoking cigarettes is a risk factor for the development of coronary heart disease. La Croix et al (1991) assessed mortality and smoking in older men and women in three different communities. The study consisted of 7178 individuals aged 65 years and older who had no history of myocardial infarction, stroke or cancer. Mortality rates were two times greater in smokers than non-smokers in males and females. Former smokers had cardiovascular mortality rates similar to those subjects who had never smoked.

In the Multiple Risk Factor Intervention Trial (MRFIT), researchers also found an increased risk of death from coronary heart disease in smokers when compared to non-smokers. The researchers studied 361,662 men over a ten year follow up period. Results from smoking cessation are rapid in regards to reducing the risk of developing coronary heart disease. "After one year of smoking cessation, the relative risk of dying of coronary heart disease for the quitters as compared to the non-quitters was significantly lower" (Ockene et al, 1990, p.954). Smoking cigarettes increases an individual's risk for the development of coronary heart disease.

Hypertension is a risk factor for the development and control

of coronary heart disease. Kannal (1990) reported from the Framingham study, even a mild increase in blood pressure caused the risk of sudden death to double. Kannal (1990) also reported that individuals with hypertension were at an even higher risk for the development of coronary heart disease if they had hyperlipidemia, EKG abnormalities, or impaired glucose tolerance.

Researchers in a two year follow up of the Hypertension Detection and Follow-up Program found continued absolute mortality advantage in the treatment group. The Hypertension Detection Follow up Program studied 10,940 hypertensive patients over a five year time period and found a 17% reduction of five year mortality rate in the treatment group. The follow up study found a continued reduction in mortality even after the program had ended. "It is postulated that regression of hypertensive end organ changes brought about by the more effective stepped care treatment caused this favorable outcome" (Hypertensive Detection and Follow up Program Cooperative Group, 1988, p.2113). Hypertension is a risk factor that can be modified if the individual is aware that he/she has hypertension, can be referred to the appropriate resource, and take appropriate action to reduce the blood pressure.

Hypercholesterolemia is a risk factor for the development and control of coronary heart disease. Hypercholesterolemia is determined by total cholesterol and LDL cholesterol levels. High levels of HDL reduce an individual's risk for the development of coronary heart disease. The Helsinki Heart Study (Frick et al, 1987) was a randomized double blind five year trial with 4081 male

subjects who had hypercholesterolemia. The experimental group received Gemfibrozil, an antilipemic drug, and the control group received a placebo. The researchers found a 34% reduction in coronary heart disease in the experimental group. The reduction of coronary heart disease in the experimental group became evident after only two years of study.

Pekkanen et al (1990) studied men with and without pre-existing cardiovascular disease in relation to their cholesterol levels. The researchers assessed 2541 white males aged 40-59 years old for an average of 10.1 years. The researchers found 3.45 times higher risk of death from cardiovascular disease in men with pre-existing coronary heart disease and increased serum cholesterol level when compared to men who had coronary heart disease but normal levels of serum cholesterol. High serum cholesterol levels can lead to an increased chance of mortality from coronary heart disease.

HDL serum cholesterol levels become a risk factor when the level is "below 35 mg/dl confirmed by repeat measurement" (US Department of Health and Human Services, 1989, p.23). Jacobs et al (1990) in a follow up of the Lipid Research Clinics Prevalence Study studied 8,825 men and women. Jacobs et al (1990) found an inverse relationship between HDL cholesterol and cardiovascular disease mortality in both men and women even after controlling for age, LDL cholesterol, triglycerides, body mass index, systolic blood pressure, and smoking.

Diabetes Mellitus is a risk factor for the development and

control of coronary heart disease, especially in females. In the Rancho Bernardo study, Barrett-Connor, Cohn, Wingard, & Edelstein, (1991), found that female diabetics had 3.3 times the relative hazard of cardiovascular disease than females who did not have diabetes. Male subjects with diabetes had only 1.9 the relative hazard of cardiovascular disease as males subjects without diabetes. This study was done over a 14 year time frame on 207 male diabetic subjects and 127 female diabetic subjects aged 40-79. They were compared to 2137 adults who did not have diabetes mellitus. The researchers were unable to find the exact mechanism that caused females with diabetes to be more susceptible to coronary heart disease, only that diabetes mellitus significantly increased a females risk of developing coronary heart disease (Barrett-Connor & Khaw, 1991).

Rosengren, Welin. Tsipogianni, & Wilhelmsin, (1989) studied males with diabetes and the effect increased cholesterol and smoking had on the risk of coronary heart disease. The researchers studied 232 self reported diabetic male subjects and 6665 non-diabetic male subjects over a three year time period. They were unable to find any significant interaction between the risk factors, smoking, diabetes and hypercholesterolemia. The researchers did find that individuals with diabetes mellitus who smoked and had hypercholesterolemia had a substantial increase in risk for the development of coronary heart disease. The more risk factors an individual has for the development of coronary heart disease the more likely he is to develop and be unable to control

coronary heart disease. Diabetes Mellitus is a serious risk factor for the development of coronary heart disease.

A history of cerebrovascular disease is a risk factor for the development and control of coronary heart disease (US Department of Health and Human Services, 1989). Sirna, Biller, Skorton, & Seabold, (1990) reports "In patients with asymptomatic carotid stenosis, TIAs, and ischemic stroke, the leading cause of death is myocardial infarction. Clinical evidence of ischemic cerebrovascular disease is a strong marker for underlying coronary artery disease" (p. 21).

Harmsen, Rosengren, Tsibogiannis, & Wilhelmsen, (1990) studied 7,495 men aged 47-55 in regards to cardiovascular disease risk factors and stroke risk factors. Two hundred thirty of the 7495 men had strokes. Risk factors for nonhemorrhagic stroke were high blood pressure, smoking, and severe psychological stress as well as atrial fibrillation, previous transient ischemic attacks, and intermittent claudication. High blood pressure was the only risk factor for intracerebral hemorrhage strokes. Risk factors that can lead to the development of coronary heart disease can also lead to the development of a stroke.

Obesity is a risk factor for the development and control of coronary heart disease. Manson, Colditz, Stampfer, Willett, Rosner, Monson, Speizer, & Hennekens, (1990), in the Nurses' Health Study, found females who were even mildly to moderately overweight were at increased risk for the development of coronary heart disease. Manson et al (1990) studied 115,886 females aged

30-35 years, over an 8 year time period. The women were divided into five groups based on weight in kilograms divided by the square of the height in meters. The subjects were free of disease at the onset of the study. Hypertension, diabetes mellitus and hypercholesterolemia were 2-5 times more frequent in the heavier groups.

Egan, Bosset, & Block, (1991) studied 357 men in regards to obesity, cardiovascular risk factors and age. The researchers found that older men had more cardiovascular risk factors overall, such as hypertension, hypercholesterolemia, and glucose intolerance. Obesity in younger men increased the prevalence of other cardiovascular risk factors such as hypertension, hypercholesterolemia, and increased fasting glucose levels. The researchers did not prove that obesity is a risk factor for cardiovascular disease, only that in younger men it caused an increase in other cardiovascular risk factors.

Researchers from the Nurses' Health study were able to prove that obesity is an independent risk factor for coronary heart disease in women. Egan et al (1991) found that although obesity is not an independent risk factor for the development of coronary heart disease, it does increase the prevalence of other cardiovascular risk factors such as hypertension, diabetes mellitus and hypercholesterolemia.

Risk Reduction Programs

There are a variety of measures and strategies a primary health care professional can use to assist an individual in

lowering their risk for the development of coronary heart disease. These measures include smoking cessation, weight loss, a sodium restricted diet, and serum cholesterol reduction.

Smoking cessation can be achieved by a number of activities. The primary health care professional can prescribe a Nicotine patch which also includes a booklet on behavioral changes needed to quit smoking. The primary health care professional can also set up a smoking cessation program to use with a group of individuals that smoke. The primary health care professional can also use the manual from the National Cancer Institute entitled How to Help Your Patients Stop Smoking (US Department of Health and Human Services, 1990). This program includes flagging all the charts of individuals that smoke and advising them at each visit of the importance of smoking cessation. Once the individual is ready to stop smoking a contract can be signed between the patient and the primary health care professional. There are also self help material included for the patient. One of the important aspects of this program is the follow up care. A post card or phone call is done within seven days of the quit date for all individuals involved in smoking cessation. A follow up visit is scheduled 1-2 weeks after the quit date, with a second follow up visit at 1-2 months. The final measure a primary health care professional can utilize is to refer the individual to a formal community stop smoking group. A smoking cessation group provides social support which can be very effective for some individuals interested in smoking cessation.

Reducing salt in the diet can reduce blood pressure, as can smoking cessation and weight loss (Working Group on Management of Patients with Hypertension and High Blood Cholesterol, 1991). Primary health care professionals can help their patients with high blood pressure by discussing ways to reduce their salt intake. The Squibb Company has developed a booklet entitled Living with Less Salt (Squibb Patient Education Program, 1989). The booklet has a brief discussion of how to reduce salt intake. The rest of the book lists a variety of foods with the amount of sodium in the book. This booklet can be discussed with the patient, strategies can be set up, and the booklet can be sent home with the patient. The patient could also be referred to the local dietician if the primary health care professional is not able to counsel the individual on sodium restriction in the diet. A sodium restricted diet can reduce an individual's blood pressure thereby reducing his/her chance of developing or controlling existing coronary heart disease.

Reducing hypercholesterolemia will decrease the development and increased severity of coronary heart disease (US Department of Health and Human Services, 1989). The three lifestyle modifications that the individual must do to reduce his/her serum cholesterol are: reduce cholesterol intake, reduce saturated fat intake, and reduce calories in the diet (US Department of Health and Human Services, 1989).

There are two measures the primary health care professional can use to help an individual reduce his/her serum cholesterol.

Tney are The National Cholesterol Education Program, and The American Health Associations Step I and Step II diet plan.

The National Cholesterol Education Program has specific guidelines for different total cholesterol and LDL cholesterol serum levels. The guidelines include the American Heart Association Step I and Step II Diet for borderline-high cholesterol levels and in some cases high blood cholesterol. The National Cholesterol Education Program recommends a minimum of six months of intensive diet therapy before beginning medications to reduce their serum cholesterol (US Department of Health and Human Services, 1989). If dietary therapy is not effective there are a variety of medications available to lower serum cholesterol.

The American Heart Association has developed a booklet entitled Dietary Treatment of Hypercholesterolemia: A Manual for Patients (American Heart Association, 1988). The booklet discusses cholesterol and saturated fats and measures to lower cholesterol and saturated fats in the diet. The Dietary Treatment of Hypercholesterolemia: A Manual for Patients discusses the Step I and Step II Diet and gives sample menu plans for various calorie intake. Finally the booklet lists a variety of foods and the amount of cholesterol and saturated fat in the food.

Weight Loss: There are a variety of measures an individual can employ to lose weight. The primary health care professional can counsel the patient on behavior changes needed to lose weight and have the patient weigh in at various time frames. There are various individual weight loss clinics such as the Diet Center and

Nutra-System available for people who prefer individual counseling. There are also various group programs for the individuals who prefer social support as part of the weight loss program.

A complete cardiovascular risk reduction program according to the National Cholesterol Education Program would consist of smoking cessation, weight reduction, serum cholesterol reduction, and sodium restriction in the diet. The above mentioned programs can be employed as a package to reduce or control cardiovascular disease in the individual. The two measures a primary health care professional could utilize as a complete cardiovascular risk reduction program are: Heart Rx and Dr. Dean Ornish's Program for Reversing Heart Disease.

A book entitled Dr. Dean Ornish's Program for Reversing Heart Disease (Ornish, 1990) has an excellent program for decreasing cardiovascular risk factors. The book provides measures to decrease fat and cholesterol in the diet, stop smoking, start an exercise program, decrease high blood pressure, and reduce stress. This book could be recommended to the patient or the primary health care professional could incorporate the measures into his/her practice.

Another measure the primary health care professional can employ as a way to reduce cardiovascular disease has been developed by the American Heart Association and is entitled Heart Rx Patient Education Program (American Heart Association, 1987). This is a group of modules used to address the following risk factors: smoking, hypertension, and diet modification. This program also

includes education regarding the warning signs of heart attack and stroke. This program is designed to be used in a primary health care setting and includes guides and materials to assist the individual in lowering their risk for the development and control of coronary heart disease.

Individuals who engage in high risk behavior must be targeted by the primary health care professionals. The primary health care professionals must them either assist the individual in reducing his/her high risk behavior or refer that individual to a resource that can assist the individual in reducing his/her high risk behavior. The goal of this researcher is to develop a resource directory that primary health care professionals can use to refer their patients that are at risk for the development of coronary heart disease.

The characteristics of the population-at-risk that will be affected in this study are cardiovascular risk factors. The researcher in this study will be assessing the Otsego Memorial Hospital service area for programs that will provide access to individuals at risk for the development of cardiovascular disease.

Characteristics of the Health Care Delivery System

Characteristics of the health care delivery system would include health care providers and existing risk reduction programs in the Otsego Memorial Hospital service area. Health care providers are the individuals that provice programs for the reduction of cardiovascular risk factors that can lead to the development of coronary heart disease. Male sex and family history of premature

coronary heart disease are non-modifiable risk factors and will not be addressed in regards to characteristics of the health delivery system.

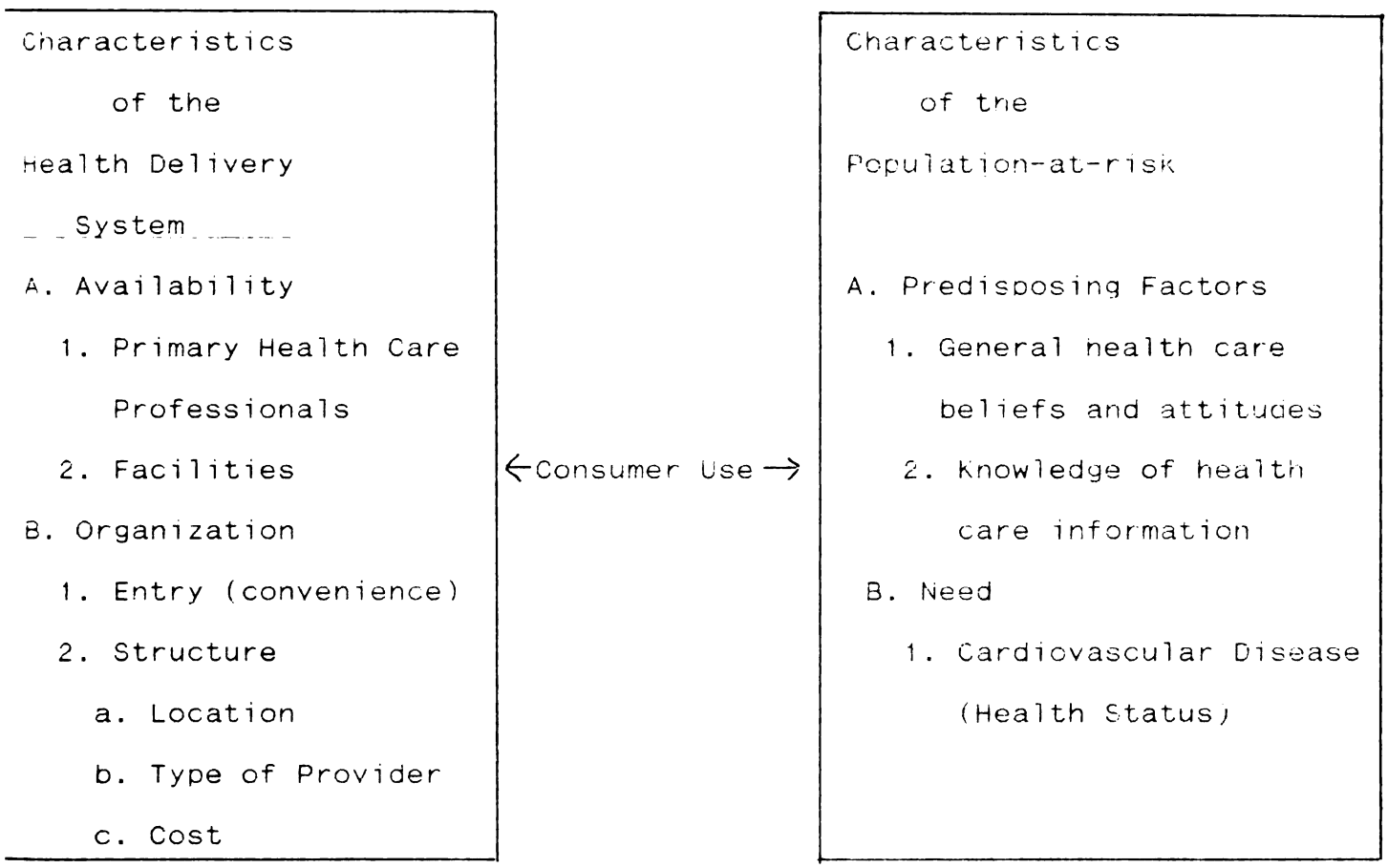
There are two characteristics of the health delivery system which are availability and organization (See Figure 1). Availability is determined by the volume and distribution of primary health care professionals and facilities (Aday et al, 1985). The organization component is determined by the number of resources available to the individual once she/he has entered the system. The organization component is further broken down into the entry component and the structure component (Aday et al, 1985).

The entry component is determined by the convenience of a regular source of medical care. The availability of the services in evenings, weekends, or even in emergencies can make the program more convenient for some individuals. Convenience may also be determined by the amount of time it takes to get to the program source and the mode of transportation required (Aday et al, 1985).

The structure of the organization component is determined by location, type of provider, and types of paramedical providers. Cost is also a part of the structure of the organization component. Paramedical providers would include nurse practitioners and physicians assistants (Aday et al, 1985).

Risk factors that can be altered by lifestyle modifications include: smoking cigarettes, hypertension, high serum total cholesterol and LDL cholesterol, and severe obesity. There should

Access to Cardiovascular Risk Reduction Programs



Adapted from: Access to Medical Care Framework
by Aday et al (1984)

Figure 1

be programs available to assist an individual in reducing these risk factors. It is important that the programs not only include measures to reduce the risk factor but also at ways to make the program convenient to those patients that need the program.

Cardiovascular risk reduction programs are generally found as community based or provided at the work site or in the schools. In one community based cardiovascular risk reduction program, 1471 high risk individuals were targeted. The individuals answered a questionnaire regarding cardiovascular risk factors. They were also screened for blood pressure, fasting serum cholesterol, and blood glucose level. The researchers found almost 50% of the participants had one or more risk factors for the development of coronary heart disease. A retest of cholesterol levels was done at 18 months. It was found that knowledge of cardiovascular risk factors was not related to the initial cholesterol level or the retest level of cholesterol. The researchers did find this to be a low cost measure to target individuals at risk for the development of coronary heart disease (Suttherer, Carey, Silver, & Nash, 1989).

In another community based program, 135 individuals were tested for cholesterol and glucose levels, height, weight, and blood pressure. A history was taken on each individuals in regards to: family history of cardiovascular disease, smoking cigarettes, use of alcohol, and symptoms of cardiovascular disease. A short teaching sessions was done by the nurse or the physicians, and pamphlets were given to each individual. The teaching session

involved information about a healthy lifestyle and measures to reduce the individual's risk factors. This was a one day program and took about one hour of the individual's time. Modifiable risk factors for the development of coronary heart disease were found in 75% of the participants. There was no follow up to determine what long term benefits would occur from this program (Van Camp, 1990).

A work-site health promotion program on reducing risks for developing or promoting coronary heart disease was provided to 509 employees (Masur-Levy, Tavris, & Elsey-Rica, 1990). The employees were required to participate in three classes which addressed hypercholesterolemia, hypertension, obesity, physical inactivity, and cigarette smoking. A registered nurse and registered dietician taught the classes. Screening for blood pressure, cholesterol level, and weight were optional. There was a 0.6 increase in knowledge regarding cardiovascular risk factors at a follow-up session which occurred six weeks after the program began. There was also an increase in exercise frequency and a decrease in fat, cholesterol and sodium intake (Masur-Levy et al, 1990).

Schools can also provide education regarding cardiovascular risk factors. The "Know Your Body" was developed to educate children on cardiovascular risk factors. The program included dietary intake, obesity, blood cholesterol levels, and cigarette smoking. It is a school based, teacher delivered program administrated to children in the fourth through eighth grade. This program was found to be effective in lowering cholesterol levels

and the rate of cigarette smoking initiation when measured after a five year time period (Walter, et al, 1989).

The above programs are relatively easy to access for most individuals. The community sponsored programs are the most easily accessible especially if mass media is used effectively. The work-site programs are limited to individuals that work for the company, but they are available to those individuals. Most children attend school, therefore the school programs will target a large number of individuals.

Summary

Characteristics of the Health delivery system include programs to reduce cardiovascular risk factors and the providers that are involved with the cardiovascular risk reduction programs. If individuals at high risk for the development of cardiovascular disease access the cardiovascular risk reduction programs it may help reduce the number of deaths caused by cardiovascular disease.

It is important to note that providing access to cardiovascular risk reduction programs is only one small part of reducing death rates from cardiovascular disease. Individuals must be assessed for cardiovascular disease and referred to the programs by their primary health care professional. The individuals must then be motivated to make the lifestyle changes that are required to reduce the risk of developing cardiovascular disease.

The providers can impact the mutable characteristics of the population-at-risk by teaching them about cardiovascular risk factors and how the individual can reduce his/her risk factors for

the development of cardiovascular disease. This is one small part in reducing the amount of deaths caused by cardiovascular disease.

Overview of the Project

In Chapter 3, Methodology and Procedures will be described, and Chapter 4, Results and Interpretation. In Chapter 4 findings and implications for advanced nursing practice will be presented.

Chapter 3

Methodology and Procedures

Researchers have found that by making lifestyle alterations and reducing risk factors, individuals are able to reduce their risk for the development of coronary heart disease. Measures to reduce the rate of death from coronary heart disease include: 1) identifying individuals at risk for the development of coronary heart disease; & 2) reducing high risk behavior. Primary health care professionals must identify individuals at risk for the development of coronary heart disease. Primary health care professionals can then work with the individual to reduce their risk factors. If the primary health care professional cannot help the individual to reduce his/her risk for the development of coronary heart disease they should refer the individual to a resource that can help the individual reduce his/her risk for the development of coronary heart disease.

The problem is that Primary health care professionals in the Otsego Memorial Hospital service area may be unaware of resources for individuals at risk for the development of coronary heart disease. The purpose of this project is to develop a directory of available resources for the primary health care professional to use to refer the individual who is at risk for the development of coronary heart disease. This resource directory will be distributed to primary health care professionals to use with their clients. The outcome of this project will be the directory of resources for the primary health care professional to use to refer individuals at risk for the development of coronary heart disease. The scope of this project will be doing a survey of existing

resources related to coronary heart disease prevention through lifestyle modification that are available in the Otsego Memorial Hospital service area. Risk factors for the development of coronary heart disease that can be modified through lifestyle changes include cigarette smoking, hypertension, increased levels of total cholesterol and LDL cholesterol and severe obesity (US Department of Health and Human Services, 1989). Programs that can assist an individual in reducing their specific risk for the development of coronary heart disease would include: smoking cessation, sodium restriction in the diet, low cholesterol, low saturated fat diet, and weight control.

Survey

The approach that was used in this project will be a survey (See Appendix B). The survey data was collected through telephone interviews. Various health care organizations and schools were contacted and assessed in regards to coronary heart disease risk reduction programs and practices.

The survey questions were designed through the use of a literature review and Anderson et al (1995) Access to Medical Care Framework. The literature review provides support for the specific programs that will be assessed in the community. The survey questions were designed to survey resources available to assist an individual in reducing his/her risk for the development of coronary heart disease.

There are a variety of risk factors that can lead to the development of coronary heart disease. Some of the risk factors

can be reduced thereby reducing the individuals risk for the development of coronary heart disease. A complete coronary heart disease risk reduction program would be ideal. This would include assessing the individual for coronary heart disease risk factors than intervening to assist the individual in lowering his/her risk factors. Risk factors that would be assessed would include: male sex, family history of coronary heart disease, cigarette smoking, hypertension, low HDL cholesterol serums levels, high total cholesterol and LDL serum cholesterol levels, diabetes mellitus, severe obesity, and a history of definite cerebrovascular disease (US Department of Health and Human Services, 1990). The program would than assist the individual in reducing his/her risk for the development of coronary heart disease. The question "Do you have a coronary heart disease risk reduction program?" was asked to determine if this resource is available in the community.

Smoking cigarettes is a risk factor for the development of coronary heart disease. Smoking cessation has been found to reduce the individual's risk for the development of coronary heart disease (LaCroix et al, 1991; & Ockene et al, 1990). The question "Do you have a smoking cessation program?" was asked to determine if this resource is available in the community.

Obesity is a risk factor for the development of coronary heart disease. Hypertension, diabetes mellitus and hypercholesterolemia are found more frequently in obese individuals (Manson et al, 1990; & Egan et al, 1991). The question "Do you have a weight loss program?" was asked to determine if this resource is available in

the community.

Hypercholesterolemia is a risk factor for the development of coronary heart disease. Hypercholesterolemia is determined by elevated levels of total cholesterol and LDL cholesterol. Reducing serum total cholesterol and LDL cholesterol levels can reduce an individual's risk for the development of coronary heart disease (US Department of Health and Human Services, 1989). The question "Do you have a cholesterol reduction program? was asked to determine if this resource is available in the community.

Hypertension is a risk factor for the development of coronary heart disease and cerebrovascular accidents (Kannal, 1990; Hypertension Detection and Follow up Program Cooperative Group, 1988; Harmen et al, 1990; & Barrette-Connor & Khaw, 1988). Reducing sodium in the diet is one lifestyle modification that can reduce high blood pressure (Working Group on Management of Patients with Hypertension and High Blood Cholesterol, 1991). The question "Do you have a sodium restricted diet program? was asked to determine if this resource is available in the community. Weight loss is another lifestyle modifications that can lower high blood pressure. Weight loss is covered under the question: Do you have a weight loss program?

Anderson et al (1985) provides operational measures of the components of the Access framework. This project focused on the organization component of the characteristics of the health delivery system to assess resources for the reduction of risk of coronary heart disease in the community. "The organizational

component of the delivery system refers to what systems are established to handle the patient once entry is gained' (Anderson et al, 1995, p. 1). Entry into the system will be done by the primary health care professional. This will be done by assessing the individual for coronary heart disease risk factors and determining that this individual is at risk for the development of coronary heart disease. Once entry has been gained convenience of the system will be assessed. This will be assessed by determining the organization of the program.

Organization components were determined by the questions: "What is the duration of the program?; What is the frequency of the program per week and per year?; What time of day is the program offered?; How long do the sessions last?; and Is the program offered on weekends or in the evenings?" (See Appendix A).

The structure of the organization component was determined by location of the program, type of provider and cost of program. Location was determined by the question "Where is the program located?" Type of provider was determined by the question "What is the level of the provider responsible for the program?" The cost of the program was determined by the questions "What is the cost of the program?" and "Will insurance cover all or part of the cost of the program?" The eligibility criteria was determined by the question "Eligibility Criteria: Referrals only Yes___ No___ If so, are self referrals possible Yes ___ No___ Geographic residents (County Only) Yes ___ No ___ and Other (Please specify). (Please see Appendix A).

The programs were assessed in regards to providing group or individual interventions. Baas (1991) discusses advantages for individual education or group education. Individual education provides: "1) comfort for learner in discussing feelings; 2) accommodation to the learner's schedule; & 3) plan more individually based on assessment" (Baas, 1991, p.111). Advantages to group education include "1) more cost-effective; 2) increased opportunity for the learner to share ideas about changes in lifestyle; 3) increased sharing of expression of feeling; & 4) consistent information given" (Baas, 1991, p.112). The question "Is the program designed for group or individual intervention?" will be used to determine group or individual intervention.

A pretest is defined as " the trial administration of a newly developed instrument to identify flaws or assess time requirements (Polit & Hungler, 1997, p.534). The survey questions were administered to three Registered Nurses from the Otsego Memorial Hospital service area. The survey questions were also subjected to the project faculty to review. They felt the questions were easy to understand and would adequately assess the data that the researcher required. No modifications were needed after the Registered Nurses evaluated the survey questions.

Agency Selection

The target sample consisted of Health care organizations, home health care agencies, and schools located in Gaylord, Michigan. Health care organizations, included: HMO's, Otsego

Memorial Hospital, Otsego County Health Department #3, Michigan State University Co-Op Extension, American Heart Association, American Lung Association, and American Cancer Association. Gaylord Community Schools and St. Mary's School are the two school systems in the area. There is not a YMCA or a Junior College in the area. The adult community education program of Gaylord was assessed. The target sample also included the local 4-H club, and the Otsego County Agency on Aging. Primary health care professional were not contacted for this project. The outcome of this project was to prepare a resource directory to be used by the primary health care professionals in the Otsego Memorial Hospital service area. This resource directory lists agencies that the primary health care professionals can refer their patients to who are at high risk for the development of coronary heart disease.

Procedures

The organizations and school systems were contacted via telephone. A contact person was established. The contact person was the individual who was involved with health promotion in the organization or school system. Once the contact person had been established, a date and time was set to administer the survey via telephone. The researcher explained to the contact person that she was a graduate nursing student and was interested in cardiovascular risk reduction programs. The researcher then asked the contact person the survey questions seen in Appendix A. After the questions were asked the contact person described the program and

added any other information he/she felt was important. The answers to the survey questions were recorded on the survey questionnaire as seen in Appendix A.

There were only six resources available in the Otsego Memorial Hospital service area, therefore the data was not difficult to process. The data was entered into the categories: description, where, when, cost, eligibility, and insurance, and contact person. The researcher had no refusals from the agencies. Everyone was happy to answer the researcher's questions.

A resource directory was developed from the collected data. The resource directory consisted of four sections: 1) Smoking cessation programs; 2) Weight loss programs; 3) Cholesterol reduction programs; & 4) Sodium restricted diet programs. A table of contents and index will be included in the directory. The directory will then be distributed to the primary health care professionals in the Otsego Memorial Hospital service area. A 4x4 inch laminated card with the resources and their phone numbers will be included with the resource directory. This would be placed by the nurses phone for easy reference. (See Appendix B for Resource Booklet).

Evaluation of Increased Resource Use

The goal of this project was to develop a directory of resources available in the community to assist an individual in reducing his/her risk for the development of coronary heart disease. There is a high rate of death from coronary heart disease

in the state of Michigan. Researchers have shown that by reducing risk factors for the development of coronary heart disease the individual can reduce his/her risk of developing coronary heart disease. Primary health care professionals must assess and target individuals at high risk for the development of coronary heart disease. Primary health care professionals must then help the individual reduce his/her risk or refer him/her to a resource that can assist the individual in reducing the risk factor for the development of coronary heart disease. The question then was: What resources are available to Primary Health Care Professionals to help the patient reduce their risk for the development of coronary heart disease? This question was addressed by the development of a resource directory. The next question was: Will the Primary health care professionals use this resource directory? The directory and a brief discussion of coronary heart disease risk factors will be given to the health care organizations, school systems and physician offices. The evaluation process would evaluate the increased use of the resources by consumers in Otsego County. Records for the six months prior to the distribution of the resources directory would be monitored. Records would then be monitored for the six months post distribution of the resource directory to see if there is a change. The results would show an increase in the number of referrals to services and an increase in the numbers enrolled in the services. The primary health care professionals could also be asked to record the number of referrals to the services that were made over a six month time frame.

Evaluation will not be within the scope of this project.

Summary

A directory of resources for the reduction of coronary heart disease is needed for every community. If the individual is at risk for the development of coronary heart disease the primary health care professionals must intervene or refer that individual to another source for intervention. The resource directory will make the process easier and thereby help the individual reduce his/her risk for the development of coronary heart disease.

Chapter 4 will consist of findings and implications for advanced nursing practice and research.

Chapter 4

Data Presentation, Interpretation, & Recommendations

This last chapter will include the results of the survey, an evaluation of the findings and a discussion of the implications for the Clinical Nurse Specialist in primary care. The primary reasons the primary health care professional do not do cardiovascular risk reduction in the primary health care setting are time, money, and lack of knowledge. The resources that have been assessed are a complete coronary heart disease reduction program, a cholesterol reduction program, a low sodium diet program, a smoking cessation program. There are no complete coronary heart disease risk reduction programs in the Otsego Memorial Hospital Service area.

Results of Survey

A variety of health care organizations in the Otsego Memorial Hospital service area were assessed for cardiovascular risk reduction programs. Otsego Memorial Hospital had a variety of programs to reduce cardiovascular risk factors. There were also three weight loss programs in the Otsego Memorial Hospital service area.

There is a serious lack of cardiovascular risk reduction programs in the Otsego Memorial Hospital service area. The Health Department and the MSU Co-Op Extension offer no cardiovascular risk reduction programs of any type. The primary focus of the Health Department and MSU Co-Op Extension is child development and prevention of infant mortality. There are no community colleges or YMCA organizations in this area. (See Figure 2).

There is one smoking cessation program available in the Otsego Memorial Hospital service area. The program is called "Freedom

from Smoking" and has been developed by the American Lung Association. The program is a group program with social support being a strong component of the program. There is also discussion of behavioral changes and weight control. Behavioral changes include measures to help the individual cope with smoking cessation. Weight control measures include the importance of eating a healthy diet and eating healthy snacks.

The members of the group meet one time per week for seven weeks. The third week is designated as the quit week. There is an extra meeting during the third week which occurs 48 hours after the group stops smoking. This meeting is to provide extra support during the initial stage of smoking cessation. The classes are offered in the evening. The smoking cessation program is offered two times per year in January and September. The instructor will also provide the program on demand as needed.

The program is located at Otsego Memorial Hospital. The provider is a Registered Nurse with a Masters degree in Education. The cost is $65.00 per person. Individuals are given a hospital receipt which they may submit to their insurance company. Insurance typically does not cover the cost of a smoking cessation program due to the fact that many people begin smoking again. The individuals insurance rates may drop once they have become an ex-smoker. It is the individual's responsibility to contact their insurance company to determine if the company will pay for the smoking cessation program or if the individual's rates will drop once they become a non-smoker. Anyone who smokes may join this

smoking cessation program by calling Otsego Memorial Hospital. This program is marketed in the local paper. There has been no follow up for this program in the Otsego Memorial service area to monitor how successful the program has been.

The dietician at Otsego Memorial Hospital provides individual counseling in reducing sodium in the diet. The dietician usually recommends 3000 mg. of sodium per day which is basically no added salt. She reports this level of sodium is the lowest amount of sodium intake individuals can attain without the need to buy special foods. She will recommend a No Added Salt diet before the patient is placed on an antihypertensive medication. She discusses behavioral changes, reading labels and gives the patient literature to take home. The program length is based on the individual's requirements regarding the number of visits. The dietician reports she usually meets with the patient only once and feels this is adequate. The dietician makes her phone number available if the patient has any question in the future.

The provider has a Bachelor of Science degree in Nutrition and is certified as a Diabetes Educator. The dietician is available Monday through Friday 0700-1500. The cost is $15.00 for the first session and a $5.00 charge for any follow up visits. The patient is given a receipt which he/she may submit to his/her insurance company. Physician referral and self referral are both allowed. The dietician's patients are usually from physician referral. This is the only program available in the Otsego Memorial Hospital service area that can assist an individual in lowering their sodium

intake. Unfortunately this can not really be labeled a program because the provider only meets with the patient on average one time. The patient is responsible for seeking any follow up care. The provider is unable to evaluate whether teaching has been effective in assisting the individual in lowering their salt intake. At least one follow up visit should occur to address any problems the individual may be having in lowering their salt intake.

The dietician at Otsego Memorial Hospital also provides individual counseling for reducing serum cholesterol levels. She uses the American Heart Association Step I and II diet to assist an individual in reducing their serum cholesterol levels. The American Heart Association Step I and II diet discusses foods that are high in cholesterol and saturated fats. The American Heart Association Step I and II diet also discusses measures to substitute foods that are low in cholesterol and saturated fats. The program is based on the individual's needs. The dietician reports she usually only meets with the individual one time. The dietician is available for counseling Monday - Friday 0700 - 1500. The program is located at Otsego Memorial Hospital. The cost is $15.00 for the first session and a $5.00 charge for follow up visits. The patient is given a receipt which he/she may submit to his/her insurance company. Physician referral and self referral are both allowed. The dietician reports most of her patients are from physician referral of patients with hypercholesterolemia.

The dietician at Otsego Memorial Hospital provides the only

program in the Otsego Memorial Hospital service area that can assist the individual in lowering their serum cholesterol. This program can not really be called a program because the provider only meets with the patient one time. An individual who has hypercholesterolemia needs follow up care to target any problems he/she may be having with this major lifestyle modification. There should be a minimum of one follow up visit for the individual who is attempting to lower their serum cholesterol.

There are a variety of weight loss programs in the Otsego Memorial service area. The diet programs consist of both individual programs and group programs. Individual programs include the Diet Center and the dietician at Otsego Memorial Hospital. Group programs consist of Weight Watchers and Take Pounds Off Sensibly (TOPS). (See Figure 2).

The Diet Center is a program that teaches individuals to eat properly and nutritionally. The individuals are seen daily for a 15 minute counseling session. The individual is taught how to plan his/her menu. The provider also discusses any problems the individual may be having and assists the individual in making behavioral changes. The program is set up to assist the individual in meeting their goal weight. They then undergo the stabilization diet which is followed by the maintenance diet. The Diet Center is opened Monday - Friday 0800-1700, and Saturday 0800-1200. The program is located in Gaylord, MI. The providers are trained through the Diet Center. The cost is $22.00 registration fee and $32.00 per week through the stabilization diet. When the

individual is on the Maintenance diet there is no charge for the weekly weigh in. Some insurance companies will cover this if the individual is 50 pounds overweight and is referred by a physician. Anyone can join the Diet Center. The success rate of this program has not been documented.

The dietician at Otsego Memorial Hospital will counsel the individual in weight loss. She uses the American Diabetic Association exchange diet to assist the individual in losing weight. The calorie level is determined by the physician or by the dietician. The program is based on the individual's needs in regards to how often the individual sees the dietician. The dietician has a Bachelor of Science degree in Nutrition and is certified as a Diabetic Educator. The dietician is available Monday through Friday 0700-1300. The cost of the program is $15.00 for the first session with a $5.00 charge for any follow up visits. The patient is given a receipt which he/she may submit to their insurance company. Anyone may enter into the program. There is no follow up, therefore it is not known how successful this program has been.

Weight Watchers is a group program, with the social support received by the group an important component of Weight Watchers. Weight Watcher teaches individuals to eat correctly and also teaches portion control. The diet is nutritionally sound and includes all the food groups. Social support is offered at the meeting and also over the phone as needed. The program is offered two times every week: Monday at 1200 and Wednesday at 1700. There

is a weigh in before the meeting starts. The meeting generally lasts 30-40 minutes. The program is located at the Congregational Church in Gaylord, MI. The leaders are trained through Weight Watchers. The cost of the program is $25.00 registration fee and $8.00 weekly. Insurance does not cover Weight Watchers. Weight Watchers does offer financial aid to individuals who qualify. The requirements of joining Weight Watchers are that the individual must have to lose at least five pounds according to Weight Watchers criteria.

Take Pounds Off Sensibly (TOPS) is another group weight loss program. It is a non-profit support group which provides support to individuals trying to lose weight. The group is self directed by the local chapter and provides positive reinforcement and motivation to the individual attempting to lose weight. The individual must see his/her physician to determine the goal weight. The individual must bring a signed slip from the physician documenting the goal weight. The individual may follow the diet prescribed by the primary health care professional or the exchange diet which is offered by TOPS. The program is offered two times per week in Gaylord, MI. The program meets at the Friendship Church on Tuesday at 1930 and at St. Andrew Episcopal Church on Wednesday at 0900. The provider is a volunteer elected by the members of the chapter. There are workshops the provider may attend. The cost is $16.00 for the first two years, which is sent to the national headquarters. The local chapter charges $1.00 per week. Anyone may join TOPS, but they must have their goal weight

determined by a primary health care professional.

There are few resources for the reduction of cardiovascular risk factors in the Otsego Memorial service area (See Figure 1 & 2). There are no complete cardiovascular risk reduction programs. There is one cholesterol reduction program, one restricted sodium diet program, one smoking cessation program, and four weight reduction programs in the Otsego Memorial Hospital service area.

The American Heart Association, the American Cancer Society, and the American Lung Association all have their local offices in Traverse City. Traverse City is located 75 miles from Gaylord and is not easily accessible.

The American Heart Association has developed Heart Rx. Heart Rx is a cardiovascular risk reduction education program that primary health care professionals can use in their office to assist their patients in reducing their risk factors for the development of coronary heart disease. The American Heart Association also has a catalogue from which the general public and primary health care professionals can order literature regarding heart disease. They will mail the literature to the individual. The phone number is 1-800-968-2422. The American Heart Association does not have a local office in the Otsego Memorial Hospital service area. (See Appendix B).

The American Cancer Society has literature regarding smoking cessation and low fat diet. This can be ordered by calling the office in Traverse City. The American Cancer Society will mail the information to the individual. The phone number is 1-800-749-0070.

The American Cancer Society does not have a local office in the Otsego Memorial Hospital service area. (See Appendix B).

The American Lung Association has developed the "Freedom from Smoking" program that is offered through Otsego Memorial Hospital. The American Lung Association has also developed a video and workbook that the individual can use to stop smoking.

Figure 1

Cardiovascular Risk Factor Reduction Programs in the Otsego Memorial Hospital Service Area

Program	Number of Programs in Area
Smoking Cessation	1
Weight Reduction	4
Cholesterol Reduction	1
Sodium Reduction	1
Cardiovascular Risk Reduction	0

The video is called "In Control" and the cost is $60.00. The primary health care professional could also use this with the individual patients. The American Lung Association also has other literature regarding smoking cessation that can be obtained by calling the Traverse City office. The American Lung Association will mail the information to the individual. The phone number is 1-800-678-5864. The American Lung Association does not have a local office in the Otsego Memorial Hospital service area.

Primary health care professionals may call the 1-800- number

Figure 2

Cardiovascular Risk Reduction Programs

	Freedom From Smoking	Serum Cholesterol Reduction	Sodium Restricted Diet
scription	Am. Lung Assoc. Group Program Social Support Weight Control	Ind. Counseling AHA Step I & I Diet	Ind. Counseling
re	Otsego Memorial Hospital 517-732-1731 Provider- R.N.	Otsego Memorial Hospital 517-732-1731 Provider- R.D.	Otsego Memorial Hospital 517-732-1731 Provider- R.D.
n	Weekday Evening Jan. & Sept.	Mon-Fri 0700-1500 by appoint.	Mon-Fri 0700-1500 by appoint.
t	$65.00	$15.00 initial visit $5.00 follow-up	$15.00 initial $5.00 follow-up
gibility	No referral required	No referral required	No referral required
urance	does not cover	does not cover	does not cover

Figure 2 (Cont.)

Cardiovascular Risk Reduction Programs

	The Diet Center	Weight Watchers	TOPS	Weight Loss Program
cription	Wt. Loss Ind. Use own food	Wt. Loss Group Exchange Diet	Wt. Loss Group Social Support	Wt. Loss Ind. ADA Exchange Diet
re	Gaylord 517-732-8922 Provider *	Gaylord 1-800-487-4777 Provider *	Gaylord 517-732-1158 Provider *	Otsego Mem Hosp 517-732-1731 Provider- R.D.
n	Mon- Fri 0800-1700 Sat. 0800-1200	Mon 1200 Wed 1730 Congregational Church	Wed 0900 St. Andrew Tues 1930 Friendship Chur.	Mon-Fri 0700-1500 by appoint.
t	$82.00 Reg. $32.00/wk	$25.00 Reg. $8.00/wk	$16.00 Annual x 2 years $1.00/wk	$15.00 initial $5.00 follow-up
gibility	No referral necessary	No referral necessary	Physician must set goal wt.	No referral necessary
urance	50 pound overweight Dr. referral	financial aid for those who qualify	does not cover	may cover

rovider is non-professional trained by company

to request an order form. Order forms and the 1-800-number will be included at the back of the resource booklet. (See Appendix B).

The Michigan State University Co-Op Extension Home Economist is contracted to devote 5 hours per week to Otsego County. Her focus is on child development. She does not have literature readily available regarding cholesterol reduction in the diet, sodium reduction in the diet, weight reduction, or smoking cessation. The Home Economist is not interested in the role of coronary heart disease reduction at this time primarily due to time constraints.

The Otsego County Commission on Aging provides Meals on Wheels and congregate meals in Gaylord, Johannesburg, and Elmira. They are unable to provide a low salt diet. They do add very little salt but the foods they use are high in sodium. They also provide fish and chicken alternatives to beef. The Otsego County Commission on Aging's mission is to provide food for people unable to provide food for themselves. The Otsego County Commission on Aging does not provide any educational programs.

The Otsego County District Health Department #3 does not provide any cardiovascular risk reduction programs. The dietician who works for the District #3 Health Department is responsible for four counties. Her focus is on WIC. She does not provide specific programs on decreasing serum cholesterol and decreasing sodium in the diet.

There are two home health care agencies in the Otsego Memorial Hospital area which are: Health Wares and Otsego Munson Home Care.

Home health care agencies do not provide preventative health promotion on a regular basis. There must be an acute medical problem, such as open heart surgery, before they are able to enter the home and receive compensation from the insurance companies. They do provide health promotion teaching,such as smoking cessation, cholesterol reduction, sodium restriction, weight reduction, and exercise at this time but their primary focus is on the physiological aspects of care secondary to the open heart surgery. Health promotion teaching would be focused on the individual's risk factors such as smoking cessation, cholesterol reduction, hypertension reduction, and an exercise program.

Community education does not provide any cardiovascular risk reduction programs. Children in both school systems, the Gaylord Community Schools and St Mary's School, are provided with cardiovascular risk reduction education in their health classes. This education occurs in 7th grade in the Gaylord Community Schools and in the 9th grade at St. Mary's School.

The Otsego County Library does have medical books that present information on cardiovascular risk factors. The medical books can not be circulated but the librarian will assist the individual in copying portions of the book. The library has books about heart disease and the risk factors that lead to the development of heart disease. The library also has books on smoking cessation and cholesterol reduction.

The 4-H program provides a program entitled Snacking Healthy. This program teaches 5-8 year old children how to make healthy

snacks. It is offered in January and lasts from 6-8 weeks. The group meets one time per week. The provider is a volunteer and the program is located in his/her home. The cost of the programs is the amount of money needed to cover the cost of the snacks.

The primary problem identified is that there are so few resources to assist the individual in reducing their risk for developing coronary heart disease. According to the Aday et al (1984) access model, the Otsego Memorial Hospital service area has a serious problem with availability of resources. There are very few facilities and health care professionals who are available to assist an individual in reducing their risk for developing coronary heart disease. The resources that are available have little if any follow up. It is difficult to know if the resources that are available are effective in reducing the risk of developing coronary heart disease.

Coronary heart disease is the number one killer in the United States. Researchers have shown that lifestyle modifications can reduce an individuals risk for the development of coronary heart disease. This problem, making lifestyle modification to reduce the risk of developing coronary heart diseases, is nation wide. Insurance companies tend to pay for the acute problem, versus paying a much smaller cost to prevent the problem from occurring. When insurance companies begin valuing health promotion and thereby paying for it, resources to assist an individual in decreasing his/her risk for the development of coronary heart disease will increase.

The characteristics of the health delivery system are the primary health care professionals that can provide cardiovascular risk reduction programs. There are very few primary health care professionals that can provide cardiovascular risk reduction programs in the Otsego Memorial Hospital service area. Therefore there are few programs available for consumers to access to help them lower their risk for developing cardiovascular disease. There can then be little change in the general health care beliefs and attitudes of the Otsego Memorial Hospital service area population. Resources to lower cardiovascular risk factors are one of many factors needed for lowering the death rate from cardiovascular disease. Resources to lower cardiovascular risk factors are needed in the Otsego Memorial Hospital service area to help change the health status of the population of the Otsego Memorial Hospital service area.

The service area of Otsego Memorial Hospital is rural. There is a serious lack of programs to reduce the development of coronary heart disease. Cardiovascular disease was responsible for almost half of the deaths in Otsego County in the year 1990. The citizens in Otsego County can demand more resources but first they must be educated about cardiovascular disease.

Implications for Nursing

A Clinical Nurse Specialist can increase awareness in the community by speaking to the various service groups, churches and in the schools. The Clinical Nurse Specialist could also start a grass roots group with the goal being to provide cardiovascular

risk reduction programs to the community. The grass roots group could begin by working with the American Heart Association to open a local office. It would be important to contact the county commissioners, city council, and elected officials for support in meeting this goal. The county commissioners, city council, and elected officials may provide some money for a program to assess risk factors for the development of coronary heart disease. It would be imperative that the program provide follow-up to the individual's primary health care professional. Otsego Memorial Hospital should also be contacted for providing leadership and assistance in meeting the goal of developing cardiovascular risk reduction programs for the community. It would be important to talk to the Otsego Memorial Hospital Board of Directors to get them to see the value of reducing cardiovascular risk factors.

Physicians and nurses also need to be educated in the importance of assessing for and reducing cardiovascular risk factors. Physicians and nurses can be educated by speaking to various nursing and physician groups in the community. It is imperative that physicians and nurses are made aware of the fact that by reducing cardiovascular risk factors, death from cardiovascular disease can also be reduced. Physicians and nurses may be aware of the importance of reducing cardiovascular risk factors but do not have the time or interest in assisting the individual in reducing his/her risk factors for the development of cardiovascular disease. In this case it is imperative that effective cardiovascular risk reduction programs be developed which

the primary health care professionals can send their patients to for help. Primary health care professionals should also be made aware of the resources available from the American Heart Association, American Lung Association, and the American Cancer Society.

Clinical Nurse Specialists should be using their advanced practice skills to assess their patients for cardiovascular risk factors and assist the individuals in reducing his/her risk factors. The Clinical Nurse Specialist can assist the individual in reducing the serum cholesterol, reducing sodium intake, smoking cessation, and weight reduction.

Dean Ornish (1990) has developed an excellent program for reducing cardiovascular risk factors. He includes the risk factors stress and a sedentary lifestyle which have not been included in the risk factors determined by the US Department of Health and Human Services. The program is described in a book entitled Dr. Dean Ornish's Program for Reversing Heart Disease(1990). The Clinical Nurse Specialist could use the measures described in the book to assist the individual in reducing their risk for the development of coronary heart disease. The book entitled Dean Ornish's Program for Reversing Heart Disease could also be used by the individual to lower his/her risk for the development of coronary heart disease.

Ornish's book (1990) describes a variety of measures to stop smoking. Stress reduction measures include yoga, breathing, and visualization techniques. Chapter 12 is about setting up a life

exercise program. The cholesterol reduction diet is a low fat, low cholesterol vegetarian diet. The diet is described in great detail and recipes are included. Research studies have shown that this program has been effective in reversing cardiovascular disease.

The Clinical Nurse Specialist could also use the program Heart Rx which was developed by the American Heart Association. Heart Rx has been developed to be used in a primary care setting. Heart Rx provides a guide to assist individuals in lowering their blood pressure, lowering their serum cholesterol, smoking cessation, and signs and symptoms of a heart attack and stroke. Heart Rx also provides literature for the patient to use at home. The program, Heart Rx, is an effective, easy to use program that can be used in the primary care setting. Two other measures the Clinical Nurse Specialist could use to assist an individual in smoking cessation are Nicotine patches and a program of smoking cessation developed by the National Cancer Institute.

There are a variety of nicotine transdermal system that can be used to help the patient stop smoking. The nicotine transdermal patches are a prescription drug and can be obtained at the pharmacy. Many nicotine transdermal systems also have a patient support kit which includes: a patient guide, guide for family and friends, contract, tape, and sample patch. The patient's guide consists of measures to help the patient stop smoking. The guide for family and friends describes measures the family and friends can use to assist the individual in smoking cessation. It is important for the patient to attend a smoking cessation program

when using the patches. The contract is to be signed by the patient and the physician. The tape was developed by the American Lung Association and includes relaxation and motivation techniques.

The National Cancer Institute has developed a program entitled How to Help your Patients Stop Smoking. The program discusses various measure to assist the patient in smoking cessation and provides literature to send home with the patient. It also provides stickers to attach to the chart of patients that smoke. A major component of the program is the importance of follow-up. Patients are seen one to two weeks after the quit date with a second follow up visit in one to two months. If a relapse has occurred measures are taken to help the patient quit smoking again. This is done by having the patient come in for an appointment with the primary health care professional to discuss why the relapse occurred and what measures can be instituted to prevent another relapse.

The American Heart Association has developed a manual for patients entitled Dietary Treatment of Hypercholesterolemia. It discusses high cholesterol and saturated fat foods, and also unsaturated fatty acids and complex carbohydrate foods. The manual also provides the Step I and Step II diet and has includes sample menus plans. There is a food table which lists the amount of cholesterol, saturated fat, and calories in a wide variety of foods. This is an effective, easy to understand manual that the Clinical Nurse Specialist can use to assist her patients in

lowering their serum cholesterol.

The Clinical Nurse Specialist can also assist the individual in lowering their sodium intake. The Squibb Company has developed a booklet entitled Living with Less Salt. The booklet discusses measures to lower sodium in the diet. The booklet includes an extensive food table which lists a variety of foods and the amount of sodium in the food. This is an easy to understand manual that may be sent home with the patient.

There are a variety of measures the Clinical Nurse Specialist may employ to assist the patient with weight reduction. Greene (1987) has included a weight reduction diet in her book Handbook of Adult Primary Care. The weight reduction diet includes assessment data to collect and patient education guidelines. The most important aspect of assisting a patient with weight reduction is the follow up care. The Clinical Nurse Specialist who assists an individual with reduction must include planned follow up appointments through the weight loss period and for a period of time during the maintenance period. Follow up for the maintenance period could consist of a weekly weigh in for six weeks after the patient has reached his/her goal weight. The community needs to be educated in regards to the importance of prevention before a program like this would be effective. If for some reason the Clinical Nurse Specialist can not assist the individual in reducing his/her risk factors they should know what resources are available to help their patients. It is also important for the Clinical Nurse Specialist to develop programs to assist individuals in

reducing their risk for the development of cardiovascular disease. These programs could be developed through the Health Department, community education, or through Otsego Memorial Hospital.

Menard (1987) lists the major roles of the Clinical Nurse Specialist as: Practitioner, Teacher, Consultant, Researcher, Change Agent, and Manager. All of the roles can be used to help reduce the incidence of coronary heart disease in this country.

In the practitioner role it is the Clinical Nurse Specialist's responsibility to assess all individuals for any risk for the development of coronary heart disease. There are a variety of assessment forms that the Clinical Nurse Specialist can use to efficiently and effectively assess her patients for cardiovascular risk factors. After the Clinical Nurse Specialist has assessed the individual for risk factors for the development of coronary heart disease there are a variety of measures she can use to reduce any risk factors the patient may have.

There are two overall cardiovascular risk reduction programs the Clinical Nurse Specialist may use with her patients. Dean Ornish has developed a program for reversing heart disease at the cellular level. The components include smoking cessation, low fat, low cholesterol diet, exercise, and stress reduction. The American Heart Association has developed Heart Rx which has the following components: smoking cessation, cholesterol reduction in the diet, high blood pressure reduction, and signs and symptoms of a stroke and heart attack.

There are variety of measures the Clinical Nurse Specialist

can use to target specific risk factors. Individuals can be assisted with smoking cessation through the use of nicotine patches or the program developed by the National Cancer Institute. Individuals with hypercholesterolemia can use the Step I and Step II diet plan developed by the American Heart Association. One measure to lower high blood pressure is by reducing salt in the diet. The Squibb Company has developed a booklet that the Clinical Nurse Specialist can use to assist an individual in lowering their salt intake. There are a variety of measures the Clinical Nurse Specialist can use to assist an individual with weight reduction. Greene has listed assessment data and patient education measures to use when assisting an individual with weight reduction. The most important component of any program for reducing cardiovascular risk factors is follow up. The Clinical Nurse Specialist in the primary care setting is in an ideal setting for following up on the patients that are reducing their risk factors for the development of cardiovascular disease. The patient should schedule their next appointment before they leave the primary care setting. If they do not return for the appointment the Clinical Nurse Specialist should follow up using the telephone.

Teaching is a major role for the Clinical Nurse Specialist. The Clinical Nurse Specialist may educate people on an individual basis in her practice or as a group intervention. There are variety of programs the Clinical Nurse Specialist may use in her practice to assist an individual in reducing his/her risk for the development of Coronary heart disease.

There are a variety of measures a Clinical Nurse Specialist can employ to help her patients reduce their risk of developing coronary heart disease. It is imperative that Clinical Nurse Specialists begin teaching their patients about risk factors for the development of coronary heart disease and helping them to reduce their risk factors. The Clinical Nurse Specialist can also work with groups to teach them about cardiovascular risk factors.

The Clinical Nurse Specialist should also educate the nurses in the community. The Clinical Nurse Specialist could develop a seminar for the nurses in the community or target the nurses in the hospital, health department and home health care agencies. The American Heart Association has developed an educational program that can be used for health care professionals or the general public. The educational program can be an all day seminar or condensed to a two hour program. This would be useful in educating health care professionals and the general public.

There are a variety of groups a Clinical Nurse Specialist can speak with to increase awareness in regards to cardiovascular disease and risk factors for cardiovascular disease. The people in the Otsego Memorial Hospital service area need to be aware of the seriousness of coronary heart disease. It is imperative that the community be educated about reducing risk factors for the development of coronary heart disease and how little help is available in the Otsego Memorial Hospital service area for individuals who need to reduce their risk factors. There are a number of service groups in the Otsego Memorial Hospital service

area and they are usually looking for speakers. The Alpine Alten Zimmer is a geriatric apartment complex who has speakers at lunchtime. The Clinical Nurse Specialist could also speak at a church group meeting.

The Clinical Nurse Specialist could develop a basic cardiovascular risk reduction program and teach it through community education. This program would consist of using a basic assessment tool to help the individual determine what risk factors he/she has. Once the class has determined what risk factors they have a discussion of each risk factor and how it relates to the development of coronary heart disease would occur. A discussion of how to reduce the risk factors would then occur. Literature regarding reducing risk factors would also be given to each member of the class. Through out the class it would be important to stress that the individuals who are at high risk for the development of coronary heart disease consult their primary health care professional. The Clinical Nurse Specialist could also volunteer to speak in the schools to the children during their Health class. Depending on the amount of time allowed the Clinical Nurse Specialist could use the same program developed for use in the community education program when speaking in the schools. The Clinical Nurse Specialist should work with the children to help them make behavior changes at a young age before much damage is done to the heart.

The general public should be educated about cardiovascular risk factors. Individuals should be responsible for their own

health. They can not be responsible for their own health if they do not know what the risk factors for cardiovascular are and how they can reduce them. Educating the general public is a very important role for the Clinical Nurse Specialist. Cardiovascular disease kills people. Cardiovascular disease was responsible for almost half the deaths in Otsego in 1990. Individuals can reduce their risk for the development of cardiovascular disease. The general public needs to demand programs to help them reduce their risks for the development of coronary heart disease. The American Heart Association, American Lung Association, and American Cancer Society should be available to assist people in lowering their risks for the development of coronary heart disease. The people in the Otsego Memorial Hospital Service area should demand local offices be provided by the American Heart Association, American Lung Association, and the American Cancer Society. Otsego county residents should also demand from the county commissioners, city council, elected officials, and the local hospital programs to reduce risk factors for the development of coronary heart disease. This can only be done if the general public understands the importance of lowering risk factors for the development of coronary heart disease.

The Clinical Nurse Specialist could also act as a consultant for other primary health care professionals to help their patients reduce the risk for the development of coronary heart disease. The Clinical Nurse Specialist could provide measures and resources to help the primary health care professional assist his/her

patients in reducing their risk for the development of coronary heart disease.

The Change Agent is another important role for the Clinical Nurse Specialist in regards to cardiovascular disease. The Clinical Nurse Specialist can assist the individual in making changes in their lifestyle and thereby reducing their risk for the development of coronary heart disease. Changes can also be made at a local level and even a national level. By educating the general public, they can then demand that resources be made available to help individuals reduce their risk for the development of coronary heart disease. This can then decrease deaths from coronary heart disease in the Otsego Memorial Hospital service area.

The Clinical Nurse Specialist can educate the general public by speaking to service groups, churches, and in schools. She can work with senior citizens through the senior center and through RSVP. The Clinical Nurse Specialist could also form a grass roots group and speak with the county commissioners, elected officials, city council and the local hospital on the importance of developing programs for reducing cardiovascular risk factors.

At a national level, changes could be made in insurance coverage, policies, and legislation. It would be much more cost effective to prevent the development of coronary heart disease, then to treat the myocardial infarction and chronic coronary heart disease.

There is very little research by nurses on risk reduction for

cardiovascular disease. More research should be done on the benefits of lifestyle modifications, not just on the use of drugs, to reduce the risk of development of coronary heart disease. Changes can occur if there is research to back up the fact that lifestyle modifications can reduce the risk of developing coronary heart disease. There are very few cardiovascular risk reduction programs in the Otsego Memorial Hospital service area. The programs that are available are questionable in the effectiveness due to the fact that there no follow up after the initial visit. Cardiovascular disease caused almost half the deaths in Otsego County in 1990. Cardiovascular risk reduction programs should be developed in Otsego County and research done to prove the effectiveness of the interventions. A simple study would be to develop a community wide program to reduce the risk factors for the development of coronary heart disease and then monitor any reduction in death rates from cardiovascular disease on a long term basis.

The manager role of the Clinical Nurse Specialist would be important in organizing a cardiovascular risk reduction program. Menard (1987) discusses the management role as indirectly affecting the care of the patient. The Clinical Nurse Specialist could use her management skills in assisting other health care professionals in working with patients at risk for the development of cardiovascular disease.

Coronary heart disease is the number one killer in the United States. There are few resources available in the Otsego Memorial

Hospital service area to help an individual reduce his/her risk for the development of coronary heart disease. Lifestyle modifications can reduce the risk of developing coronary heart disease. Teaching about health promotion is an important role of the Clinical Nurse Specialist. It is imperative that Clinical Nurse Specialists teach other primary health care professionals and the general public about coronary heart disease. By educating the public it is hoped that the public will demand that resources be made available for individuals who need to reduce their risk factors for the development of coronary heart disease.

Appendix A

Survey Questions

Survey for Programs for the Reduction of Cardiovascular Risk Factors

I have questions about a cardiovascular risk reduction program or programs for specific cardiovascular risk factors. This should include education or programs in regards to smoking cessation, hypertension reduction, serum cholesterol reduction and weight reduction. Please complete the following questionnaire. You will find an attached blank sheet of paper for any additional comments you wish to make.

Survey for Programs for the

Reduction of Cardiovascular Risk Factors

estions	Smoking Cessation	Weight Reduction	Chol. Reduction	Sodium Reduction	CHD Risk Reduction
Do you have any of the above programs?					
What is the length in weeks of the program?					
What is the time length of the program?					
Time of day offered?					
Is it offered on weekends?					
Is it offered in the evenings?					
What is the frequency of the program per week?					
What is the frequency of the program per year?					
Where is the program offered?					

Survey for Programs for the

Reduction of Cardiovascular Risk Factors

estions	Smoking Cessation	Weight Reduction	Chol. Reduction	Sodium Reduction	CHD Risk Reduction
What is the level of the provider responsible for the program?					
Will insurance cover all or part of the program?					
What is the cost of the program to the individual?					
Is the program for groups or individuals?					
What is the health status required?					
Are referrals required?					
Are self referrals possible?					
Are only geographic residents (county only) allowed?					
Other (please specify)					

Appendix B

Resource Directory

Cardiovascular Risk Reduction Programs

in the

Otsego Memorial Hospital Service Area

Prepared by Mary Seger Noss

December 6, 1992

517-732-2343

Table of Contents

Serum Cholesterol Reduction Program

Individual counseling using the American Heart Association Step I and Step II Diet. Content of program consists of education regarding foods high in cholesterol and saturated fats. Discussion occurs regarding foods high in unsaturated fat, monounsaturated fats and complex carbonydrate used to replace foods high in cholesterol and saturated fats. Usually consists of one visit with literature given to patient to use at home.

Where: Otsego Memorial Hospital

Contact person: Miriam Adelman, R.D. 517- 732-1731

When: by appointment Monday through Friday 0700-1500

Cost: $15.00 initial visit, $5.00 for follow up visits

Eligibility: anyone may enter program, no referral is required

Insurance: individual responsible for submitting receipt to their insurance company.

Smoking Cessation Program

"Freedom from Smoking" from the American Lung Association

The program is a group program and consists of social support, weight control techniques, and assistance in making behavioral changes needed to stop smoking.

Where: Otsego Memorial Hospital

Contact person: Delorus Burroughs, R.N. 517-732-1731

When: Offered two times per year (Jan. and Sept.), group meets one time per week
for seven weeks, meeting lasts two hours

Cost: $65.00

Eligibility: anyone is eligible, referrals are not required

Insurance: individual responsible for submitting receipt to their insurance company. Insurance companies typically do not cover smoking cessation programs

Sodium Restricted Diet Program

Individual counseling regarding restricting sodium in the diet by a registered dietician. Discussion occurs regarding foods high in sodium, importance of reading labels, and not adding salt to food. Usually consists of one visit with literature given to patient to use at home.

Where: Otsego Memorial Hospital

Contact person: Miriam Adelman, R.D. 517-732-1731

When: by appointment Monday through Friday 0700-1500

Cost: $15.00 initial visit, $5.00 follow visits

Eligibility: Anyone may enter program, no referral is necessary

Insurance: Individual responsible for submitting receipt to their insurance company.

_Weight Reduction Programs

-Individual Counseling regarding weight loss by a registered dietician using the American Diabetic Association's Exchange Diet. The number of calories are determined by the primary health care professional or the dietician. The number of visits are determined on an individual basis, usually only one visit occurs with literature sent home with the patent.

Where: Otsego Memorial Hospital

Contact person: Miriam Adelman, R.D. 732-1731

When: by appointment Monday through Friday 0700-1500

Cost: $15.00 initial visit, $5.00 follow visits

Eligibility: anyone may enter the program, no referral is necessary.

Insurance: Individual responsible for submitting receipt to their insurance company

-The Diet Center provides individual counseling regarding meal planning and measures to reduce food intake. Individuals are given lists of foods in the four food groups to choose from for each meal.

Where: 1349 South Old 27, Gaylord 732-8922

Contact person: provider trained by company

When: by appointment Monday through Friday 0800-1700

Saturday 0800-1200

Cost: $82.00 registration fee and $32.00 per week. Some insurance companies will cover the cost if the individual is 50 pounds overweight and referred by a physician

Eligibility: anyone may enter the program, no referral is necessary, unless the individual meets the criteria for insurance coverage.

-Weight Watchers provides group counseling regarding a nutritionally sound diet. The diet is an exchange diet and has been developed by Weight Watchers Social support is an important component of the group intervention. Individuals may attend two sessions per week but should only weigh in one time per week.

Where: Congregational Church Gaylord 1-800-487-4777

Contact person: provider trained by company

When: Monday 1200 and Wednesday 1730

Cost: $25.00 registration fee and $8.00 per week. Weight Watchers does provide financial aid for those who qualify There is no cost to the individual once they have met their goal weight.

Eligibility: anyone may join this program, no referrals are necessary

-Take Pounds Off Sensibly (TOPS) provides social support through group intervention to individuals attempting to lose weight.

Individuals may use the diet provided by their primary health care professional or the TOPS'nutrition monograph which is an exchange system for meal planning. The TOPS' nutrition monograph also provides nutritional advice.

Where: Friendship Church Tuesday 1930

St. Andrew Episcopal Church Wednesday 0900

Contact person: Rose Hensen 732-1158 provider trained by company

Cost: $16.00 annual dues for two years. $1.00 per week

Criteria: Physician must set goal weight

Index

Appendix A

Cardiovascular Risk Reduction Programs

	Freedom From Smoking	Serum Cholesterol Reduction	Sodium Restricted Diet
scription	Am. Lung Assoc. Group Program Social Support Weight Control	Ind. Counseling AHA Step I & I Diet	Ind. Counseling
ere	Otsego Memorial Hospital 517-732-1731 Provider- R.N.	Otsego Memorial Hospital 517-732-1731 Provider- R.D.	Otsego Memorial Hospital 517-732-1731 Provider- R.D.
en	Weekday Evening Jan. & Sept.	Mon-Fri 0700-1500 by appoint.	Mon-Fri 0700-1500 by appoint.
st	$65.00	$15.00 initial visit $5.00 follow-up	$15.00 initial $5.00 follow-up
gibility	No referral required	No referral required	No referral required
surance	does not cover	does not cover	does not cover

Cardiovascular Risk Reduction Programs

	The Diet Center	Weight Watchers	TOPS	Weight Loss Program
scription	Wt. Loss Ind. Use own food	Wt. Loss Group Exchange Diet	Wt. Loss Group Social Support	Wt. Loss Ind. ADA Exchange Diet
ere	Gaylord 517-732-8922 Provider *	Gaylord 1-800-487-4777 Provider *	Gaylord 517-732-1158 Provider *	Otsego Mem Hosp 517-732-1731 Provider- R.D.
en	Mon- Fri 0800-1700 Sat. 0800-1200	Mon 1200 Wed 1730 Congregational Church	Wed 0900 St. Andrew Tues 1930 Friendship Chur.	Mon-Fri 0700-150 by appoint.
st	$82.00 Reg. $32.00/wk	$25.00 Reg. $8.00/wk	$16.00 Annual x 2 years $1.00/wk	$15.00 initial $5.00 follow-up
gibility	No referral necessary	No referral necessary	Physician must set goal wt.	No referral necessary
surance	50 pound overweight Dr. referral	financial aid for those who qualify	does not cover	may cover

rovider is non-professional trained by company

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