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Chapter 1

Development of Nursing Theory and Science in Vulnerable Populations Research

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ABSTRACT

Inequalities with respect to the distribution of societal resources can predispose people to vulnerability, which has led to a growing concern across America. The Federal Government has taken a leadership role and has launched several initiatives to combat health inequalities experienced by vulnerable populations. The National Institute of Health and all of its institutes, including the National Institute of Nursing Research, have written strategic plans to reduce, and ultimately, eliminate such health disparities. Nursing research has been conducted in the setting of vulnerable populations; several theoretical models for studying vulnerability have been created; and interventional studies designed to reduce health disparities have been implemented. This introduction includes the following: (a) a definition of the concept of vulnerability and health disparities; (b) a discussion of the conceptual models of vulnerability and health disparity and their applications; (c) a description of the impact of federal *funding on vulnerable populations research; (d) a synopsis of the contributions made by nurse researchers in the field of vulnerable populations research; and (e) an overview of the volume.*

Keywords: vulnerability; health disparities; vulnerable populations research

INTRODUCTION

Definition of Vulnerability and Health Disparities

Vulnerable populations are social groups who have increased morbidity and mortality risks, secondary to factors such as low socioeconomic status and the lack of environmental resources (Flaskerud & Winslow, 1998). Vulnerable populations also have been described as groups at risk for poor psychological, physical, or social health, such as high-risk mothers, high-risk infants, chronically ill people, and disabled persons (Aday, 1994). Women and children, ethnic people of color, gay men and lesbians, immigrants, homeless people, persons diagnosed with human immunodeficiency virus (HIV), chemically dependent people, and older people have been traditionally considered to be vulnerable populations (Flaskerud & Winslow, 1998). Erlen (2003) defines vulnerable groups as people who are less fortunate than others due to variables such as age, gender, or cultural background.

Shi and Stevens (2005) offer five reasons to focus national attention on vulnerable populations: these groups have greater health care needs; their prevalence continues to escalate; vulnerability is a societal (in contradistinction to an individual) issue; vulnerability and the nation's health and resources are interrelated; and there is a growing emphasis on equality with respect to health.

The concept of health disparity must be defined in relation to vulnerable populations in order to understand the growing national emphasis on health equality. Health disparity is defined as inequality with respect to quality of care, access to care, health status, and health outcomes (Villarruel, 2004). In a Strategic Plan on Reducing Health Disparities created by the National (National Institute of Nursing Research [NINR], 2000), health disparity is defined as differences that exist among some populations within the United States in the incidence, prevalence, mortality, and burden of disease and other adverse health events.

There is a growing effort to try to understand the relationship between vulnerable populations and health disparity, particularly among racial and ethnic minorities (Guthrie, 2005). In 1986, the publication of the Report of the Secretary's Task Force on Black and Minority Health, a landmark document, galvanized the effort to improve the health and well-being of minorities. As a result of this report, a number of descriptive studies of vulnerable groups were undertaken. Findings revealed, for example, that African American patients are less likely than Whites to receive analgesia for comparable long bone fractures (Todd, Deaton, D'Amamo, & Goe, 2000). African American women, with significantly lower income and educational levels than White women, have been shown to have a much greater prevalence of diabetes, hypertension, and angina (Appel, Harrell, & Deng, 2002). Health disparities have also been experienced by American Indians (Keltner, Kelley, & Smith, 2004).

As a result of the mounting evidence that, within the United States, vulnerable populations are experiencing health disparities, the U.S. Congress commissioned the Institute of Medicine (IOM) to study the issue of racial and ethnic disparities. The IOM reviewed over 100 studies that assessed the quality of health care provided to various racial and ethnic minority groups, holding constant variables such as access-related factors, insurance status, and personal income. As a result of their review, it was concluded that minorities are less likely than Caucasians to receive needed services, and that disparities exist in a number of disease areas, such as cancer, cardiovascular disease, HIV/AIDS, diabetes, and mental illness (IOM, 2002). Healthy People 2010, a national health promotion and disease prevention initiative, compared the incidence and prevalence of certain disease rates among vulnerable versus non-vulnerable groups. Findings revealed that the infant death rate among African Americans is more than double that of Whites; heart disease death rates are more than 40% higher for African Americans compared to Whites; Hispanics living in the United States are almost twice as likely to die from diabetes and have higher obesity and high blood pressure rates than non-Hispanic Whites; and American Indians and Alaska Natives have infant death rates which are almost double those of Whites (U.S. Department of Heath and Human Services, 2000). Further, Latino families with young children suffering from asthma often lack adequate health care resources and consequently experience high levels of disease-related morbidity (Berg et al., 2003).

The IOM also looked at the factors that contribute to health care disparities. These include cultural or linguistic barriers, fragmentation of the health care system, the types of incentives given to health care providers to contain costs, and the site of care delivery. Additional factors leading to health care disparities included prejudice against minorities on the part of the health care provider; clinical uncertainty secondary to caring for minority patients; and the presence of stereotypes held by the provider about the minority patients.

In summary, vulnerable populations often experience health care inequalities (differences in access to and provision of quality health care) that become apparent when comparing vulnerable to non-vulnerable groups. Vulnerable populations also can experience disparities with respect to health status, having greater prevalence and incidence rates for many diseases (U.S. Department of Health and Human Services, 2000). Health care disparity is inversely proportional to health status disparity among vulnerable populations; that is, the groups who receive less health care experience greater morbidity and mortality. National attention on vulnerable populations is clearly related to the growing evidence that vulnerable groups experience health disparities, which represent social injustice and bear economic costs to the United States.

Conceptual Models of Vulnerability and Health Disparity

Although vulnerable populations have been a focus in nursing research for over 50 years (Flaskerud et al., 2002), the theoretical foundation for studies has been varied and often drawn from other fields such as psychology, medicine, sociology, and public health. Most popular among the theoretical frameworks guiding studies involving vulnerable populations are social cognitive theory, the theory of reasoned action, and the health beliefs model. While these models are very useful, they were not specifically designed to address health and illness in vulnerable populations, nor do they draw upon existing knowledge or assess perceptions of these groups. Research has shown that the lack of resources, rather than the presence of risk factors, is the best predictor of illness and premature death in vulnerable populations (Flaskerud, 1999). A report by a multidisciplinary group of expert scientists and clinicians, convened by the National Heart, Lung and Blood Institute (NHLBI) to review research on risk factors for disparities among vulnerable populations, emphasized the importance of viewing socioeconomic status and race as fundamental social causative factors that contribute to disparities through access to resources, avoidance of risks, and minimization of the consequences of disease. They noted that the specific resources and risks implicated in the relationship of these factors with health may change over time (IOM, 2002). In designing health promotion and disease management interventions, nurse researchers need to consider how the availability of resources such as income, jobs, housing, and access to health care can impact risk factors (e.g., behavioral, environmental), which, in turn, influence health status. This conceptualization of vulnerable populations requires a community health perspective as the context for nursing research.

The notion of risk underlying the concept of vulnerability was described in a multifaceted model developed by Aday (1994). She proposed that risk of vulnerability may be predicted by social status (age, sex, race, or ethnicity), social capital (family structure, marital status, voluntary organizations, social network), and human capital (schools, jobs, income, housing). One's social status confers differential availability of personal and political power and associated human and social capital for different social groups based on age, gender, race and ethnicity. Health disparities are perpetuated informally through social norms and behavioral expectations or cultural practices, or formally through legally endorsed differences in access to and quality of human resources. Social status and social capital of individuals or communities will affect the degree of investments made relative to schools, employment opportunities, housing, recreation facilities, neighborhood safety, and overall quality of life. When residents within a neighborhood unite and become involved in activities of shared interests and goals, the prospect for social and human capital formation is potentiated, and the corollary vulnerability of individual members within it is diminished (Aday, 1994). In essence, vulnerability reflects the interaction effects of many factors over which individuals may have little control. Aday proposed that the interaction among individual assets, social assets, and demographic factors contributes to a higher likelihood of poor health in the United States.

A major strength of Aday's conceptualization is that it expanded upon earlier paradigms that provided individual-level explanations of how vulnerability affects health. Individual-focused models related risk (vulnerability) to characteristics of persons such as age, race, socioeconomic level, education, beliefs systems, and knowledge. Aday included both individual and community level determinants of risk in a comprehensive interaction model.

Building upon the works of Aday (1994) and others (Link & Phelamn, 1996; Mann & Tarantola, 1996; Stanhope & Lancaster, 1996), Flaskerud & Winslow (1998) developed a population-based framework known as the vulnerable populations conceptual model (VPCM; Figure 1.1). Although similar constructs are proposed in Aday's earlier model and the VPCM, the latter is specifically designed for clinical practice, research, and policy interventions aimed at impacting links between resource limitations and effects on relative risks and subsequent health outcomes. The VPCM was developed in response to the extensive practical experience of UCLA faculty conducting research and clinical practice with socially vulnerable groups.

The VPCM proposes an interactive relationship among resource availability, relative risk, and health status of vulnerable populations. These three constructs by themselves represent neutral domains that could indicate adequate or limited strengths and resources, protection from or avoidance of risks as well as exposure or susceptibility to risk, and good health or poorer health. Vulnerable populations experience limited resources and, consequently, high relative risk for morbidity and premature mortality.

Within the VPCM, resource availability is viewed as the availability of human capital (income, jobs, education, housing), social status (prestige and power), social connection (integration into society and social networks), and environmental resources (Aday, 2001; Flaskerud & Winslow, 1998). Resource

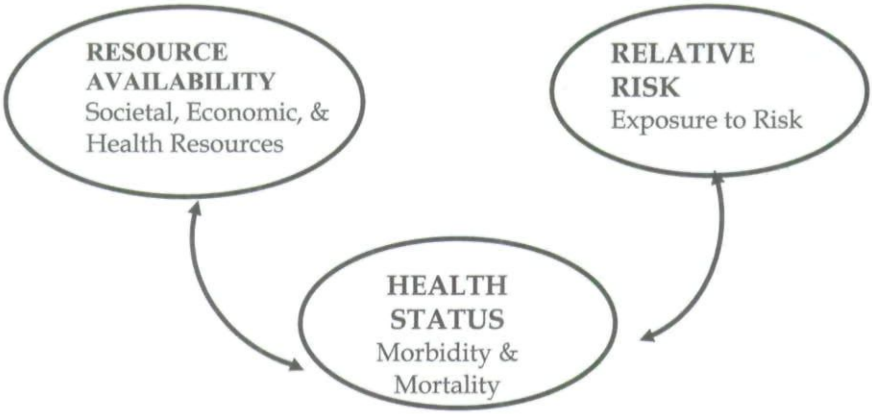

FIGURE 1.1 The Vulnerable Populations Conceptual Model (VPCM).

availability is determined on the community level (macro) by the quantity and quality of environmental resources, and on the individual level (micro) by social status. A critical aspect of resource availability is the ability to access the health care system. Access encompasses a wide range of issues, including financial and geographic barriers. A lack of resources increases relative risk, conceptualized as the ratio of the risk of poor health among groups who do not receive resources and are exposed to risk factors compared to those groups who do receive resources and are not exposed to these risk factors (Aday, 1994; Flaskerud & Winslow, 1998).

Relative risk reflects the differential vulnerability of different groups to poor health in that negative or stressful life events harm some people more than others. Risk factors may be behavioral (e.g., lifestyle behaviors and choices, utilization of health screening and health promotion services, exposure to or participation in stressful events such as abuse, violence, or crime) or biologic (e.g., physiologic and genetic susceptibility). Increased exposure to risk factors leads to increased morbidity and mortality in a community.

Health status of a community is indicated in disease incidence, prevalence, and morbidity and mortality rates. The continued widening gap in rates of selected infectious and chronic diseases such as HIV/AIDS and diabetes between various ethnic and racial groups (e.g., Latinos and African Americans) and Whites strongly suggests that factors other than lifestyle and behaviors, such as the availability of economic and health resources, alone or in combination with genetic predispositions, may be influencing the difference.

Investigators have used the VPCM as a basis for examining several issues, including pregnancy intentions of Latina adolescents (Escoto-Lloyd, 2005), health-related problems of preterm infants (Purdy, 2004), social environments and health disparities (Dixon, 2004), and methods to decrease distress in low-income, pregnant Hispanic women (Cohen, 2004). An extensive review of the literature provides support for the utility of the VPCM in working with rural populations (Leight, 2003).

The VPCM is applied extensively by affiliates of the UCLA School of Nursing Center for Vulnerable Populations Research (CVPR) in educational programs and research. Moreover, the VPCM provides a theoretic framework for the training of predoctoral and postdoctoral vulnerable populations fellows at the UCLA School of Nursing. All fellows in this training program are required to complete a course in vulnerable populations research, in which they are taught how vulnerable population (VP) models can be applied to a variety of research questions addressing the health problems of vulnerable populations. The application of the VP models by the fellows' individual research studies is also reviewed and discussed in group meetings of the trainees and faculty mentors. The majority of nurse scientists using the VPCM have applied it in studies examining the risks and health status of individuals rather than in investigations exploring structural and societal factors impacting health.

In the late 1980s, Nyamathi developed the Comprehensive Health Seeking and Coping Paradigm (CHSCP; Nyamathi, 1989) (Figure 1.2), which has undergone rigorous testing among vulnerable populations, such as homeless and drug-addicted persons, for more than two decades (Nyamathi, Wayment, & Dunkel-Schetter, 1993; Nyamathi, Stein, & Bayley, 2000; Nyamathi, Stein, & Swanson, 2000; Nyamathi, Stein, Dixon, Longshore & Galaif, 2003; Stein & Nyamathi, 2004). The CHSCP was originally adapted from the Lazarus and Folkman (1984) Stress and Coping Paradigm and the Schlotfeldt (1981) Health Seeking Paradigm. A broad overview of coping is provided in this complex and multidimensional framework which proposes an interactive relationship existing among several components which tap into the clients' environmental, personal, behavioral, sociodemographic, and health outcome spheres (Nyamathi, 1990). Using a nursing perspective, the health goals of the client are considered and, along with mutually designed nursing interventions, are focused on enhancing the clients' motivation to attain and maintain health and function, to prevent disease, and to attain or retain the highest possible level of health, function, or productivity (Nyamathi, 1989).

Components of the paradigm include clients' situational factors (e.g., length of time homeless) and personal factors (e.g., perceived self-esteem), resources (e.g., social support, financial and spiritual security), and sociodemographic characteristics, including acculturation. Self-esteem, for example, has been noted to be associated with positive health practices such as adherence to treatment regimens (Golin, DiMatteo, & Gelberg, 1996), as well as reduction in drug and alcohol use (Nyamathi et al., 2003). Social support, on the other hand, has been positively correlated with active coping and less likelihood of reporting

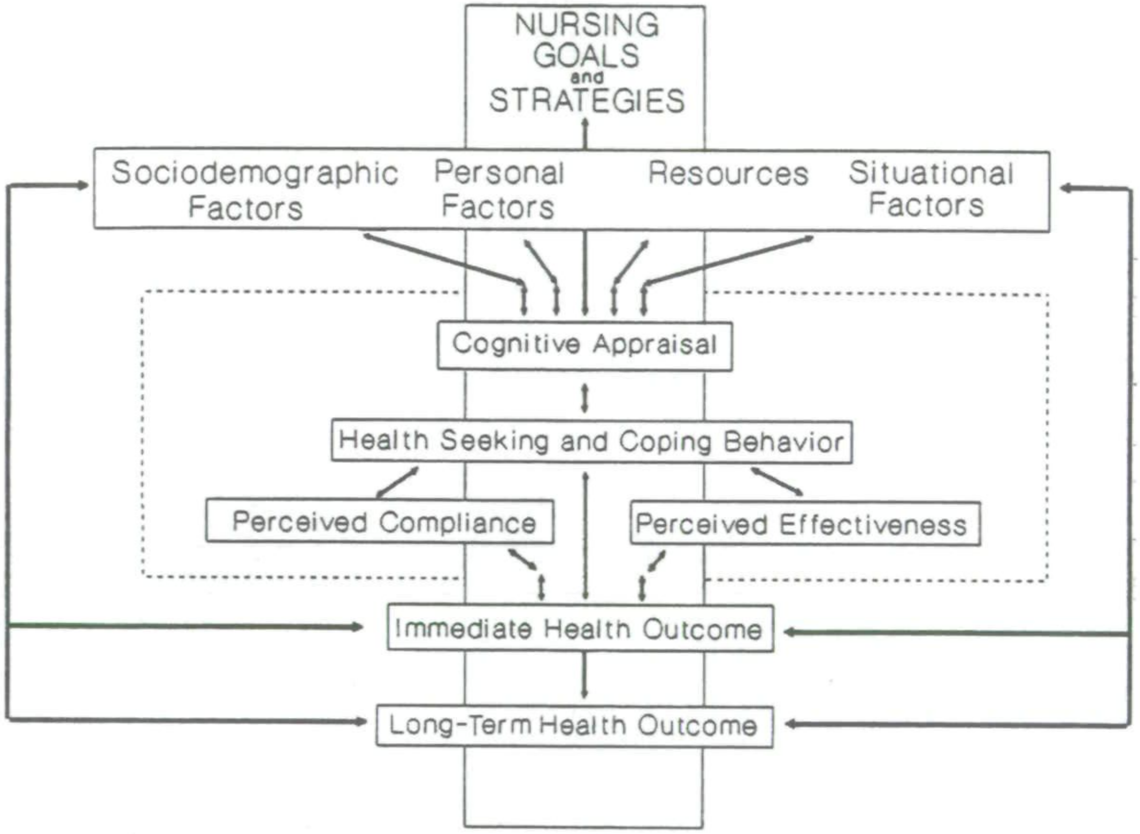

FIGURE 1.2 Comprehensive Health Seeking and Coping Paradigm (CHSCP).

partners who use drugs (Nyamathi et al., 2003). Nursing goals and interventions are an integral part of this research- and practice-oriented paradigm that may directly influence health seeking and coping behaviors, cognitive appraisal, and health outcome. Cognitive appraisal involves consideration of threat perceived and resources available. Health seeking and coping behavior may involve problem-focused or emotion-focused coping.

The CHSCP provides a very useful framework for nurses interested in enhancing or promoting the health seeking and coping of vulnerable clients. For example, in-depth analysis of the risk and protective factors associated with ongoing drug use has revealed the interplay between support resources and psychological resources and has advanced the state of the science in the understanding of how drug use, drug problems, and drug dependence are related to social support, coping, and depression among severely impoverished adult women (Nyamathi, Leake, Keenan, & Gelberg, 2000). Using theoretical tenets of the CHSCP, Nyamathi and colleagues have discovered psychosocial and behavioral differences in homeless women and their intimate partners, an almost impossible to study subject pool considering the migratory nature of the homeless population (Nyamathi, Galaif, & Leake, 1999). Women, compared to their intimate partners, score significantly lower on mental health and self-esteem; significantly higher on depression, anxiety, and hostility measures; and similarly high on unprotected sexual activities with multiple partners and crack use. These findings provide a detailed focus for ongoing education and prevention programs.

When considering Hepatitis C infection (HCV), Stein and Nyamathi (2004) have recently revealed predictors of HCV infection among homeless adults, exposing a number of environmental predictors such as history of tattoos, being in jail or prison, and less reported variables such as use of non-injection drugs. Nyamathi's most recent testing of the model has shown that Nurse Case Managed intervention resulted in greater Mycobacterium Tuberculosis (TB) knowledge and TB chemoprophylaxis completion compared to standard intervention (Nyamathi, Christiani, Nahid, Gregerson, & Leake, 2006).

More recently, Shi and Stevens (2005) proposed a general framework to study vulnerable populations. In their model, vulnerability is influenced by individuals' predisposing, enabling, and need attributes, and also influences risk factors at an ecological or community level. These attributes reflect risk factors for poor access to health care, poor quality of care, and poor health status, as well as possible discrimination. Individual predisposing attributes include demographic factors, inherited or cultivated belief systems, and social structural variables associated with social position, status, and access to resources (i.e., race or ethnicity, gender). Examples of enabling factors include socioeconomic status associated with social position, status, access to resources, and variations in health status; individual assets (human capital) and mediating factors associated with using health care services such as health insurance, access to health care, or quality of health care. Individual need attributes include self-perceived or professional evaluated health status and quality-of-life indicators, whereas need attributes at the ecological level may include population health behaviors (e.g., smoking, exercise, diet, seat belt use), population health status trends in mortality and morbidity, and health disparities and inequalities. Predisposing, enabling, and need attributes, at both the individual and ecological levels, may each independently influence vulnerability or interact with each other to cumulatively influence vulnerability.

The concept of cumulative vulnerability is proposed within this model, referring to the belief that individuals may possess multiple vulnerability traits that heighten their risk for poor health. In essence, Shi and Stevens (2005) suggest that a gradient relationship exists between vulnerability status and health care access, quality, and health outcomes.

Gelberg, Andersen, and Leake (2000) similarly included the constructs of predisposing, enabling, and need in a Behavioral Model for Vulnerable Populations designed for studying the use of health services and health outcomes. Their model represents a major revision of the Behavioral Model (Andersen, 1968, 1995) and considers both individual and community level variables. An important and unique feature of this model is the proposed impact of satisfaction with care (e.g., general, technical quality, interpersonal aspects, financial). The predisposing vulnerable domain includes social structure characteristics such as acculturation, immigration status, and literacy; childhood characteristics (e.g., foster care, group home placement, abuse, and neglect history); residential history; living conditions (e.g., running water, heat, unsafe structures); mobility; criminal behavior and prison history; victimization; mental health; psychological resources; and substance abuse. Numerous variables are identified in the enabling vulnerable domain and the need vulnerable domain, with specific conditions of special relevance to vulnerable populations such as tuberculosis, sexually transmitted diseases, and low-birth-weight infants.

The Behavioral Model for Vulnerable Populations was tested in a prospective study designed to define and determine predictors of the course of health services utilization and physical health outcomes of homeless adults (Gelberg, Andersen, & Leake, 2000). Findings showed that better health outcomes of the homeless were predicted by a variety of variables, most notably having a community clinic or private doctor as a regular source of care. Generally, use of currently available services did not affect health outcomes. Adding predisposing and enabling domains of the vulnerable in the revised model was found to provide important supplements to traditional predisposing and enabling variables in predicting use of care.

The previously described models stress the role of the community (or ecologic system) in the development of vulnerability. The community contributes to vulnerability; thus, society is responsible for addressing the consequences of vulnerability (Shi & Stevens, 2005). In nursing practice, primary prevention strategies are most appropriately directed toward the link between social and environmental resources and risk factors (Flaskerud & Winslow, 1998). Accordingly, community-based health promotion programs may include population-focused disease prevention efforts such as broad scale immunization and cancer screenings or safety promotion for families with young children. Secondary prevention strategies may be directed toward the link between risk factors and health status; examples include HIV screening of high-risk populations of African American adolescents and young adults, and lifestyle behavior programs to prevent diabetes in overweight Latinos. Tertiary prevention strategies may be designed to prevent depletion of resources among caregivers of people with AIDS, severe mental illness, and chronic disease.

Impact of Federal Funding on Vulnerable Populations Research

A variety of federal agencies are focusing on vulnerable populations. The National Institutes of Health (NIH, 2000) issued a draft of a strategic research plan to reduce and ultimately eliminate health disparities experienced by vulnerable groups. According to the NIH (2000), there continue to be striking disparities in the burden of illness and death experienced by Pacific Islanders, African Americans, Hispanics, American Indians, Alaska Natives, and Asians. The goal of the NIH strategic plan (2000) was to implement a national effort designed to prevent disease, promote health, and deliver appropriate care to racial and ethnic minorities, thereby reducing and eliminating health care disparities.

Within the NIH, a number of its institutes have developed strategic plans to address the issue of health disparities among vulnerable populations. The National Institute of Nursing Research (NINR) has outlined its own specific goals with respect to reducing and ultimately eliminating health care disparities among vulnerable populations. The focus of the NINR is on eliminating health disparities in terms of reducing morbidity and the burden of disease and other adverse health events among vulnerable groups. The NINR-designated vulnerable groups include African Americans, Asians, Pacific Islanders, Hispanics or Latinos, American Indians, and Native Alaskans (Phillips & Grady, 2002).

Specific to its mission, the National Institute of Allergy and Infectious Diseases (NIAID) has, as its strategic plan, the identification of several factors which cause health disparities including accessibility of health care, increased risk of disease from occupational exposure, and increased risk of disease from underlying genetic, familial, or ethnic factors (NIAID, 2000). The mission of the National Institute on Alcohol Abuse and Alcoholism (NIAAA) is to develop research and treatment interventions to help reduce and eliminate alcohol-related health disparities among vulnerable groups (Le Fauve, Lowman, Litten, & Mattson, 2003). Alternatively, the National Institute of Environmental Health Sciences (NIEHS) has looked at how poverty, environmental pollution, and health interrelate (NIEHS, 2001). According to the NIEHS, both health care access and differences in environmental and occupational exposure play a role in health disparities (i.e., a shortened lifespan and higher morbidity rates) among vulnerable populations.

The National Center on Minority Health and Health Disparities (NCMHD) is another federal agency with a mission to eliminate health disparities as they affect racial and ethnic communities. In 2003, the NCMHD awarded $65.1 million to support health services research, and to support research focusing on the elimination of health disparities among racial and ethnic minority groups and the medically underserved (U.S. Department of Health and Human Services, 2004). The NINR collaborated with the NCMHD in the development of a new initiative called Nursing Partnership Centers on Health Disparities. This initiative was designed to expand the cadre of nurse investigators involved in minority health or health disparities research, to increase the number of research projects aimed at eliminating health disparities, and to assist in developing the research careers of minority nurses by fostering the development of nursing partnerships among researchers, faculty, and students at Minority Serving Institutions (MSIs) and institutions with established health disparity research programs (NINR, 2003). Eight new Health Disparity Centers, each involving a partnership between two schools of nursing, were created through this initiative.

Across NIH, institutes fund a number of Centers of Excellence that address health disparities among vulnerable populations as well as other areas of science. In particular, NINR awards Research Center Core Grants (P30s) to interdisciplinary, collaborative nursing research programs at well-established institutional settings. At UCLA School of Nursing, the Center for Vulnerable Populations Research (CVPR) brings together a core of nurse and interdisciplinary investigators to address the needs of vulnerable populations. The mission of the center, initially funded in 1999 and now extended through 2009, is to enhance strengths of communities to eliminate health disparities faced by vulnerable populations, with a particular focus on ethnic or racial minorities and people living in poverty. Two major goals of the CVPR are to continue expanding the scientific knowledge base of health-related problems of vulnerable populations; and to expand capacity to measure, analyze, and link biologic and behavioral markers in vulnerable populations research. The infrastructure of the CVPR supports achievement of these goals through a variety of research and educational activities conducted by four cores—Administrative, BioLaboratory, Participatory Research and Community Partnership (PRCPC), and Research Support. These cores facilitate resource sharing and enhance services provided to pilot study recipients funded by the center as well as other CVPR-affiliated investigators. The team of core leaders is composed of nursing scholars and interdisciplinary scholars from the fields of medicine, public health, sociology, and statistics.

Fundamental to the philosophy of the CVPR is that in order most effectively to address health disparities among vulnerable populations, researchers must work collaboratively and in partnership with communities. For this reason, the CVPR promotes the use of participatory research methods and aims to develop science in this area by translating the knowledge, skills, and experience acquired in participatory research methods and community partnerships into practice and action. Working as partners, CVPR researchers and community representatives (vulnerable populations themselves) jointly identify problems, design and implement interventions, and evaluate and disseminate outcomes. In the end, the use of participatory methods benefits both researchers, who advance science, and vulnerable communities, whose knowledge and skills are enhanced through involvement in the research process. Furthermore, because the community has real influence on the direction of projects, community-partnered interventions are more likely to result in programs that are culturally and linguistically competent. The CVPR works to build the skills of researchers and community partners through several educational activities, including colloquia, specialized workshops, Summer Institutes, and intensive seminars on how to build community partnerships and apply participatory research methods. In addition, the CVPR utilizes multiple media to spread the word on health issues facing vulnerable populations as well as so-called best practices and innovative methods to address these issues. The CVPR Web site is located at http://www.nursing.ucla.edu/organizations/cvpr/.

Researchers affiliated with the CVPR are advancing knowledge about vulnerable populations and methods to eliminate or reduce health disparities, focusing on four areas: infectious diseases (e.g., HIV/AIDS, hepatitis, tuberculosis), chronic illness (e.g., cardiovascular disease, diabetes, asthma), substance abuse, and environmental quality (e.g., exposure to tobacco smoke, occupational hazards). The CVPR promotes and supports the integration of biologic and behavioral measures in its studies in order to produce the highest quality research. A focus on genomics and proteomics technologies for incorporation into participatory research addressing health disparities of vulnerable populations is a distinctive feature of the CVPR.

In addition to both the NIH institutes and other centers, the Federal Government has supported some key initiatives aimed at addressing health disparities among vulnerable populations. The goal of one initiative, entitled "One America in the 21st Century: The President's Initiative on Race," is to reduce health disparities among racial and ethnic minorities (U.S. Department of Health and Human Services, 2000). With the initiative Healthy People 2010, gender, race, ethnicity, education, income, disability, sexual orientation, and location of residence are variables that may determine who becomes vulnerable to health disparities. Finally, the Department of Health and Human Services (DHHS) has written an "Initiative to Eliminate Racial and Ethnic Disparities in Health," designed to improve disease prevention and to promote health care for vulnerable populations.

The IOM report *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care* (2002) created an awareness of the fact that across America, vulnerability occurs secondary to the unequal access to and delivery of societal resources: The recent Federal Government efforts to create programs reducing and eliminating health care disparities represent an attempt to rectify this problem. The IOM report not only highlights the fact that the quality of care received by vulnerable groups across America is lower than that provided to non-vulnerable populations (Nelson, 2003), it brings forth certain ethical dilemmas. One such dilemma is that of social justice; considered to be a core ethical principle in public health nursing (Drevdahl, Kneipp, Canales, & Dorcy, 2001). Drevdahl and associates believe that nurses need to work as social activists to change the current health care disparities experienced by vulnerable groups, which are prevalent across the United States. Bekemeier and Butterfield (2005) question the usefulness of evolving policies addressing health care disparities and, instead, suggest that the time has come for nurses to take action. An intersectional perspective where change is seen as a societal, rather than an individual process, has also been proposed as another method used to achieve social justice (Guthrie, 2005).

People are entitled to equality of health care and also to cultural competency with respect to the delivery of this care (Brach & Fraser, 2000). According to Brach and Fraser, cultural competency relates to the commitment of appropriate practices and policies for vulnerable groups. They believe that vulnerable populations deserve special attention with regard to how their care is delivered. The evaluation of research strategies that adopt techniques to ensure that the care delivered to these groups is of high quality is critical. Cultural competency has the potential to reduce racial and ethnic health disparities, which can lead to social justice (Brach & Fraser, 2000).

Vulnerable Populations Nursing Research

Vulnerable populations nursing research has been galvanized by the current social, political, and economic climate calling for reductions in health disparity (Flaskerud et al., 2002). The NIH mission—including the strategic plans of NIH institutes, the IOM report, and various other governmental initiatives—provides social and political impetus to study vulnerable populations. The escalating costs of not providing services for these groups creates an economic climate conducive to designing interventions which can mitigate morbidity-associated costs. The climate is ripe for vulnerable populations research, focused on the implementation of interventions to reduce health disparities.

Flaskerud and associates (2002) presented a review of nursing studies on vulnerable populations conducted between 1952 and 2000. In the 1950s, vulnerable populations research, for the most part, was observed to be sparse. In the 1960s, some studies were published which documented the existence of health disparities among socially vulnerable groups. One hallmark of this period was the published studies that addressed issues such as resource availability, relative risk, and health disparities. Some of these studies concluded with calls for community action to rectify inequalities, with respect to the provision of resources, for vulnerable groups. However, despite the fact that studies highlighted health disparities among vulnerable populations, the focus of the Division of Nursing was on nursing manpower, productivity, and utilization, and not on vulnerable populations research (Flaskerud et al., 2002). In the mid-1980s, progress in the field of vulnerable populations research was made, even with the major focus of funding agencies and of nursing scholars on clinical research; for example, different methods used to study vulnerable groups (i.e., focused interviews and participant observation) and new ways to characterize vulnerable populations (i.e., African Americans, Whites, social class designation, economic status) were developed.

In the mid-1980s, the National Center for Nursing Research was established, although vulnerable populations research was not a major focus of this agency. During this decade, there were some published studies that looked at socioeconomic status and ethnicity. Some of these studies were descriptive trials that examined particular vulnerable groups and their cultures, psychosocial attitudes, beliefs, and practices (Flaskerud et al., 2002).

Vulnerable populations nursing studies conducted in the 1990s were both descriptive (evaluation of the relationship between psychosocial variables and relative risk) and interventional (assessment of the effect of resource provision on health outcome). Some descriptive studies examined the relationship between health care resources and morbidity among HIV-infected women (Sowell, et al., 1997; Gentry, 1993). Intervention studies demonstrated that by the provision of resources, health outcomes could be improved.

In the past 5 years (2000–2005), there has been a proliferation of nursing vulnerable populations research, generated, in part, as a consequence of federal (i.e., the NIH, the NINR, Healthy People 2010, the IOM, the NIAAA, etc.) support. The majority of nursing research on vulnerable populations has been done by way of interventional and descriptive study design. For example, in a randomized clinical trial, Koniak-Griffin and associates (2003) provided evidence that implementation of an early intervention program by public health nurses decreases infant morbidity in families headed by minority adolescent mothers. Further, in a study assessing the impact of two randomly assigned cognitive-behavioral community-based AIDS interventions for high risk homeless African American and Latina women, participants in nurse case-managed groups revealed greater decreases in cocaine use and other illegal activities at 2-year follow-up.

The general literature reveals a number of descriptive studies that have enhanced our understanding of vulnerable populations and have broadened our understanding of the social challenges faced by these groups. For example, a program of visiting student nurses was found to be an effective way to improve health outcomes among vulnerable, community-dwelling, older adults (Masters, 2005). Increased incidence and prevalence of certain health conditions among older adults, and the impact of these conditions in terms of health-related quality of life, have also been studied (Sloss et al., 2000). Among homeless adolescents, Rew & Horner (2003) found that although these youths experience health care disparities, they possess strengths that can be identified and used to help them achieve better health. Protective strength factors, resources, and risks can be used to better understand depression among childbearing Mexican women (Heilemann, Frutos, Lee, & Kury, 2004). People with mental retardation have also been described and have been identified as vulnerable populations (Fisher, 2004). Recommendations have been made for the implementation of interventions designed to promote healthy lifestyles to improve the health status of low-income populations, suffering from hypertension and diabetes (Baumann, Chang, & Hoebeke, 2002) and immigrant Latina women at risk for these conditions (Kim, Koniak-Griffin, Flaskerud, & Guarnero, 2004).

Much of the interventional nursing research in the field of vulnerable populations is designed to address the social challenges faced by vulnerable groups (e.g., lack of resource availability in the setting of health care). In some cases, the interventions chosen by nurse scientists include educational efforts designed to prevent or reduce risky behaviors or to improve health. Koniak-Griffin and associates (2003) demonstrated that high-risk adolescent mothers who received a HIV prevention program had significantly higher levels of AIDS knowledge and were significantly more likely to use condoms, compared with their counterparts who did not receive the intervention. Lesser, Oakes, and Koniak-Griffin (2003) recommended that in order to be most effective, HIV risk reduction programs should include male partners. These programs need to address beliefs about gender and power held by both young mothers and their male partners. The benefits of providing a theory-driven, skill-based HIV/STD intervention in comparison to an information-based intervention and a health-promotion control intervention were demonstrated in a clinic-based randomized clinical trial involving sexually experienced African American and Latino adolescent girls (Jemmott, Jemmott, Braverman, & Fong, 2005). Participants receiving the skill-based intervention reported less unprotected sexual intercourse and fewer sexual partners at the 12-month follow-up compared to those in the other two groups.

In another study an HIV self-care symptom management intervention was found to be useful in terms of health outcomes improvement among African-American mothers (Miles et al., 2003). In a large school-based study, Harrell and associates (1999) demonstrated that both classroom-based and risk-based interventions designed to reduce cardiovascular disease risk factors in children had positive effects on physical activity and knowledge, with trends toward reduced body fat and cholesterol. Further, results of a randomized clinical trial involving nurse home visitation during pregnancy and the first 2 years postpartum, showed enduring positive outcomes for black women living in an urban setting (Kitzman, et al., 2000). The enduring effects included fewer subsequent pregnancies, fewer closely spaced subsequent pregnancies, longer intervals between birth of the first and second child, and fewer months of using Aid to Families with Dependent Children and food stamps.

Community-Based Approaches to Research With Vulnerable Populations

Community-based participatory research (CBPR) is defined as a collaborative process that equally involves all partners in a research study and treats all partners equally (Minkler, Blackwell, Thompson, & Tamir, 2003). Intervention studies can be designed to elicit community participation in vulnerable populations research (Vincent & Guinn, 2001). Without community participation, acceptance of these studies may be jeopardized (Vincent & Guinn, 2001). CBPR is often applied to vulnerable populations. For example, community-based peer-led interventions can improve the lives of Hispanics who suffer from chronic diseases (Lorig, Ritter, & Gonzalez, 2003), whereas educational interventions can result in significant improvements in self-esteem and can be used to assist people in taking responsibility for their own health (Vincent & Guinn, 2001). The IOM (2002) recommends that the community should be involved in the design and implementation of interventions to reduce health inequalities experienced by vulnerable groups. Since the IOM report was issued, there has been a dramatic increase in support of CBPR. The Centers for Disease Control and Prevention (CDC) has recently funded 25 CBPR grants that focus on health promotion and disease prevention (Minkler et al., 2003). Other federal agencies such as the NIEHS have also committed funds for the development of CBPR programs. The NIEHS has supported CBPR which looks at the effect of environmental pollutants (i.e., pesticide exposure) on health outcomes, among vulnerable groups (Arcury, Quandt, & Dearry, 2001). The NINR has addressed ways that vulnerable populations nursing research can be conducted, incorporating a community-based partnership approach (Phillips & Grady, 2002). It is no surprise that, given the federal support of community involvement in the planning, implementation, and evaluation of health interventions, CBPR studies continue to proliferate. Over the past 5 years, nursing vulnerable populations research has grown to include CBPR.

Nursing CBPR has been carried out in a variety of vulnerable population settings. However, establishing community liaisons conducive to CBPR can be challenging, due to cultural differences between investigators and vulnerable populations (Ammerman, et al. 2003). Despite the difficulties inherent in working with a vulnerable group of another race, Ammerman and colleagues observed that church leaders were able to serve as links between investigators and the community, in the implementation of CBPR within the African American community.

CBPR has been shown to be useful to gain a better understanding of vulnerable populations such as American Indians (Garwick & Auger, 2003; Holkup, Tripp-Reimer, Salois, & Weinert, 2004). The NIH mission statement (2002) identified Latinos as one group vulnerable to higher rates of diseases such as diabetes. Giachello and colleagues (2003) found that implementation of CBPR incorporating interventions such as education and social support resulted in the improvement of health outcomes among vulnerable Latino groups. *Poder es Salud* (Power for Health) is an example of CBPR designed to address health disparities in the African American and Latino communities (Farquhar, Michael, & Wiggins, 2005). *Poder es Salud* uses members of the health care community to assist in an educational effort developed to reduce language and cultural barriers, and to generate social capital. CBPR has also been successfully conducted to improve understanding of the relationship between reproductive experiences and poor birth outcomes among African American women living in Harlem (Mullings et al., 2001). Efforts are underway to promote a program of education developed to improve the health outcomes of vulnerable groups living in other areas of Harlem (Horowitz, Arniella, James, & Bickell, 2004).

In summary, there has been much progress over the past 5 decades with respect to vulnerable populations nursing research. Initially, studies were largely descriptive in nature. As it became apparent that vulnerable groups often experience inequalities in terms of health care, the research took a new turn. Interventions were designed to reduce (and ultimately eliminate) the disparities experienced by vulnerable populations. CBPR represents the most recent evolution of nursing vulnerable populations research. The goal of CBPR is to involve the community in the development and implementation of interventions designed to reduce health disparities experienced by vulnerable groups.

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