Social Determinates of Health

Executive Summary

Definitions of health include social components and the interaction between the physical, mental, and social.

Research identified that British workers in lower classifications had significant higher risk of cardiac disease than those in higher classifications.

The classic fight or flight reaction can be activated by both acute situations but also from the chronic stress of such things as living in poverty, abusive relationships, or unemployment. These stress pathways can cause long-term health concerns.

The Life Course Theory suggests that stress can be accumulative, leading to stress and disease.

Exposure to stress increases vulnerability to health risks. Several components contribute to this vulnerability.

Nurse leaders have unique opportunities as employers and community leaders to address the health threatening stress felt by employees and clients.

Defining Health

Defining health can be difficult (Lucey, 2007). The Institute of Medicine (IOM, 2001) observed that health is more than the absence of disease and injury. Nursing has long shared this holistic point of view. The IOM (2001) utilizes the concept of “positive health” along four components: a healthy body, high-quality personal relationships, a sense of purpose in life, and resilience to stress, trauma, and change. The World Health Organization (WHO) defines health as physical, mental, and social well-being (WHO & UNICEF, 1978). Both of these definitions include the concept of social health as being an essential factor. The theories of social determinates of health suggest that in addition to these defined components of health, the relationship between the components is critical. For example, a person suffering from depression will often have physical manifestations such as fatigue or pain. The depression could be caused by a social issue such as a lack of social network or poverty.

Relationship Between Social and Biological Factors

This review is focused on the social determinates of health but biology ultimately creates health or illness. Biology is considered to be an individual attribute while social exposure is more of population experience (Brunner & Marmot, 2006). Illness can be defined as a disturbance in biology. The pathway between the biological and social is an area of continued study.

What is already known is that neuroendocrine pathways exist for the survival of individuals. This produces the classic fight or flight response to stressful situations. This pathway works well in the acute threat of a danger. However, it also occurs with other types of occupational or living situations. The classic picture of a CEO (CNO) experiencing stress leading to a heart attack is well known. Nurse leaders have long been aware of the relationship between chronic stress and burnout of staff. In addition, ongoing stressors such as living in poverty, financial strain, or lack of social support can activate the stress pathways in vulnerable populations. The result of chronic stress is increased heart rate, elevated blood pressure, and altered reflexes as well as other biological responses. Additional studies are needed to define the relationship in greater detail; however, it does appear that the repeated activation of the fight or flight response may be responsible for some of the social differences in creating variables which are precursors of ill health and disease. The rate of vulnerability to the impact of this stress reaction is determined individually (Brunner & Marmot, 2006). A variety of factors, such as age when

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EDITOR’S NOTE: Nurses have long understood that health can not be achieved without recognizing the impact of social factors. The need to identify the social impact on the health care system, providers, and clients continues to be a challenge. Nurses can lead in developing innovative solutions which acknowledge the interplay between society and health. With the introduction of this column, Nursing Economics® seeks to provide health care leaders with information and ideas to facilitate their work in meeting this important endeavor. Your comments and suggestions are welcome by contacting the author at paln@sbcglobal.net

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stressed, duration and intensity of stress exposure, and individual resilience may serve to enhance or limit the long-term impact of the stress pathway.

**History of Studying Social Determinates of Health**

In the 19th century, health researchers identified a relationship between suicide rates and society factors (Marmot, 2004). However, the hallmark study which launched this field of investigation is the Whitehall Study. This study is named for the roadway on which a number of British government offices are located. The original Whitehall Study investigated social determinates of health, specifically the prevalence of cardio/respiratory disease and mortality rates among British male civil servants between the ages of 20 and 64. The initial study, the Whitehall I Study, was conducted over a period of 10 years, beginning in 1967 (Marmot, Rose, Shipley, & Hamilton, 1978). A second phase, the Whitehall II Study, examined the health of 10,308 civil servants aged 35 to 55, of whom two-thirds were men and one-third were women. A long-term followup of study subjects from the first two phases is ongoing (Marmot, Shipley, & Rose, 1984).

The studies found a strong association between grade levels (pay grade which indicates level of authority in the organization) of civil servant employment and mortality rates from a range of causes. Men in the lowest grade (messengers, doorkeepers, etc.) had a mortality rate three times higher than that of men in the highest grade (administrators) (Marmot et al., 1978).

The initial Whitehall study found lower grades, and thus status, were associated with significantly higher levels of risk factors, including obesity, smoking, reduced relaxation time and physical activity, more baseline illness, higher blood pressure, and shorter height (which can be an indicator of nutrition as a fetus or child). Controlling for these risk factors accounted for no more than 40% of grade differences in cardiovascular disease mortality. Even after these standard risk factors were controlled for, the lowest grade still had a relative risk of 2.1 for cardiovascular disease mortality compared to the highest grade (Marmot et al., 1978).

Among the conclusions drawn from the second phase were that stress due to the psychosocial work environment predicts rates of sickness absenteeism, and that enhanced control of task management and support “could have beneficial effects,” such as increasing productivity and improving employee health and well-being (Marmot et al., 1984).

These studies led to great interest in identifying the relationship between social factors and health. As employers, nurse leaders have long worked to decrease occupational stress for nursing staff by enhancing their control of the workplace by shared governance, self-scheduling, and other measures aimed at recognizing the needs of a professional staff.

As nurse leaders take on responsibility for other departments or occupations, they might consider the implication of these results related to all workers including kitchen staff, housekeepers, patient transport staff, and other support workers.

As clinical leaders, nurses need to also consider the clients’ health from a holistic perspective including the impact of social issues on their health.

**The Life Course Theory**

Life course epidemiology is the “study of long-term biological, behavioral, and psychosocial processes that link adult health and disease risk to physical or social exposures acting during gestation, childhood, adolescence, earlier in adult life or across generations” (Kuh & Ben-Sholomo, 2005, p. 3). This theory has two models: one suggests that risk factors for adults are a function of biological programming during critical periods of growth and development as early as interutero and/or early infancy; the second model suggests that risks accumulate over a lifetime.

Within the critical moment model there are two types of potential exposures. First is the exposure which occurs at a critical time and has a permanent effect on the fetus or infant. A second scenario is an exposure at a critical developmental moment, but the effect remains latent unless or until there is an exposure or triggering event later in life. The triggering event can in fact enhance the impact of the earlier exposure or limit its effect in a positive manner (Kuh & Ben-Sholomo, 2005).

This model has some strong implications for nursing leaders involved in a perinatal practice. Assisting all pregnant women and new mothers to receive appropriate care and education has the potential for influencing the health of the child for a lifetime. In fact, patient education for women considering pregnancy might be more important than educating those already pregnant.

The alternative Life Course Theory has greater applicability for the study of social determinates and offers greater hope for improving health of adults. This model hypothesizes that adult chronic disease reflects the cumulative lifetime exposure to damaging physical and social environments. The root cause of these factors, such as poverty, may cause the factors to cluster together making it difficult to point to any one tipping point factor. This model also allows that the risk factors occur over a lifespan and form a chain of risk factors which alter the course of a person’s health potential. This model offers some optimism that the course of risk can be altered by attention to the key components.

The accumulation of risk in this model suggests that risks accumulate gradually over the course of life but does not discount the increased impact that an exposure can have at a critical time. The accumulation of risk is dependent upon the frequency,
intensity, and duration of exposure. Risk factors can be independent or clustered. If they are clustered, they are most likely from a common source.

The chain of risk factors is also referred to as the Pathway Model (Kuh & Ben-Sholomo, 2005). Each exposure in the chain may or not lead to a subsequent exposure to another risk. Blane (2006) calls this social accumulation. He describes this as continuation of social circumstances from parental situations, to social conditions in childhood and adolescence, and eventually to the adult social status. One hypothesis is that the impact on health may come more from a series of relatively minor factors which become a pathway to disadvantage rather than exposure to any one major factor (Blane, 2006).

These different possibilities are not mutually exclusive in the Life Course Model. They may also operate simultaneously. This is one of the reasons that it is difficult to study this model and develop a research agenda.

Time is a fundamental component of this model both in terms of the timing of events in the life of an individual but also in consideration of the timing of events for the population as a whole. Another important aspect of time is the duration of exposure to a critical health determinate. For example, did the mother smoke during the entire pregnancy or just before she knew she was pregnant? What was the exposure to second-hand smoke and what was the general quality of the air in the community at the time involved? In addition, related to the population, the place is also a key component.

This theory offers some important clues to the role of social determinate of health. The Theory of Vulnerability looks at those exposures and defines them within some key mechanisms. The life course may be regarded as “combining biological and social elements which interact with each other” (Blane, 2006, p. 55). In a somewhat circular manner, individual biological development takes place within a social context which structures life chances so that advantages and disadvantages of life are available for the individual to enhance or challenge his/her health. As the biological development occurs, resilience or susceptibility to adverse social impact also develops.

**Theory of Vulnerability**

Lu Ann Aday (2001) offers a theoretical framework for the study of vulnerable populations. She offers this definition: “to be vulnerable is to be susceptible to harm or neglect, that is, acts of commission or omission on the part of others that can wound” (Aday, 2001, p. 1). Aday notes that both the origins and remedies of vulnerability are rooted in the “bonds of human communities.” She goes on to say that “as members of human communities, we are all potentially vulnerable” (p. 1).

The Aday Model recognizes two different perspectives, the rights of individuals and the needs of the common good. There is often tension between these two, especially in the American society with a fundamental dedication to the individual’s rights (Aday, 2001).

Everyday, public health officials face this tension. A person with an infectious disease (for example, tuberculosis), refuses to follow isolation protocols and/or take medications. Public health officials are forced to seek assistance of the law to compel compliance. The individual claims that this is a violation of his personal rights, but the common good must be considered as this individual’s rights could put others at risk for an illness.

The Aday Model looks at these two different points of views over a series of components to the model (see Figure 1). The different points of view between individual versus community is clear when looking at the ethical norms in this model. From the individual perspective, health can be viewed as being the result of personal decisions and choices such as lifestyle. This point of view suggests that resolution to health issues needs to be done at a personal level (Aday, 2001). The key principles from this perspective are independence and autonomy.

The community point of view suggests that health of different groups is a result of different levels of access to resources and opportunities to make positive lifestyle choices. When viewed from this perspective, poor health is a result of failure of the community to create the opportunity for successful health. Looking from this perspective, the key principles would be inter-relationships and reciprocity.

**Health Status**

As previously mentioned, it is difficult to define health, but utilizing the WHO definition of “physical, mental and social well-being” (WHO & UNICEF, 1978) can be applied to both individuals and communities.

From the individual level of specific lives, indicators of health for physical health are numerous. Health can be measured by the judgment of a clinician, specific measurements such as blood pressure and blood testing, self-perception, and freedom from pain or ability to function independently in society (Aday, 2001). Different indicators might be evaluated for different individuals. For example, people with undiagnosed high blood pressure may perceive themselves as healthy, or those with significant physical challenges may consider themselves to be healthy but unable to function independently.

Indications of mental health are more difficult to observe but there are some clear measurements. Again these lead to clinical decisions, self-reported satisfaction, or an ability to function in society independently.

Social health is the most difficult to define and quantify. For individuals, observable indicators
would include participation in the community of choice or self-reported levels of loneliness or feeling included in society.

From a community perspective, health status is measured in statistical terms. Different communities have different indicators that they follow; common items include prevalence of communicable disease, causes of death, cancer rates, and childhood immunization rates. Other communities follow different indicators such as public establishments with no smoking policies, number of elderly in assisted living, and days of absence experienced by major businesses in the community.

Some of the social health indicators communities might consider include graduation rates from high school, employment rates, and rated of volunteerism (Aday, 2001).

**Relative Risk**

Risk is one of the keys to vulnerability in the Aday Model (Aday, 2001). Risk is defined as a “nonzero probability that an individual will become ill with a stated period of time” (Aday, 2001, p. 4). Risk factors refer to attributes or exposures associated with the occurrence of health-related outcomes. Relative risk refers to “the ratio of the risk of poor health among groups that are exposed to the risk factors versus those who are not exposed” (p. 4).

The exposure to risk factors for individuals can be the result of individual choice such as smoking or be the result of socio-economic factors such as lead paint exposure in less-expensive housing. Community risk factors may be such things as water safety and air quality. Some risk factors are not made. Amount of sunlight, for example, increases the risk of skin cancer or the lack of sunlight can result in seasonal affective disorder.

The availability and access to community resources has a significant impact on the level of risk for poor health at the individual level. This component of risk demonstrates the interconnection between the individual, his/her social factors, and the community (Aday, 2001) (see Figure 2).

There are three major resources which are awarded based on these factors: (a) social status in terms of power and prestige, (b) social capital which is social support, and (c) human capital which is defined as productivity potential. In addition to

![Figure 1. Model of Vulnerability](image-url)
these factors, cultural norms and beliefs form the fundamental basis of differences in risk levels between individuals and groups (Aday, 2001). The final factor is life cycle placement. Those who are dependent such as infants or the frail elderly automatically have a different status regardless of the other factors. Other life cycles can have a dramatic impact on the exposure to risk factors; for example, the risk-taking behavior of teens or the occupational exposure for working-aged adults.

The social status of an individual refers to the position that person occupies in society. This is a function of age, gender, race, and ethnicity as well as socially defined roles/indicators of status such as employment, educational achievement, marriage, and location and type of housing. As a result of this status, rewards and resources become available to individuals (Aday, 2001).

Social capital refers to the quality and quantity of interpersonal relationships and ties to other people. Networks provide opportunities for individuals to gather social capital in the form of social support, a feeling of belonging, and self-esteem (Aday, 2001). While there is evidence that social support leads to better health and social isolation leads to ill health, the exact mechanism has not been determined (Stansfeld, 2006). Social support can be defined as “resources provided by other people” (Stansfeld, 2006, p. 148). In addition it creates a feeling of “being cared for and loved, is esteemed and valued and belongs to a social network” (Stansfeld, 2006, p.148). Related to health, a strong social network can provide anything from a ride to the doctor’s office to assistance with activities of daily living and even full-time care taking. Social support is an important aspect of coping with health challenges and/or developing the motivation to improve one’s health. For example, if an individual tries to quit smoking but his/her entire social network continues to smoke, the rate of successful smoking cessation is extremely low. Or in more extreme circumstances, social support may be helpful for people who have to adjust to, or cope with the stress of chronic or even life-threatening illness (Stansfeld, 2006).

Social protection is a concept in the Life Course Theory which is consistent with the concept of social capital (Blane, 2006). This is described as a mechanism “by which health and social advantage or disadvantage interact over the life course” (p. 63). Previous socio-economic circumstances can condition the impact of a new disadvantage, minimizing the impact and amplifying the effect among the disadvantaged.

The opposite of social protection is social exclusion. Social exclusion includes “not only the economic hardship of economic poverty, but also incor-
porates the notion of the process of marginalization” (Shaw, Dorling, & Smith, 2006, p. 207). Social exclusion means that the individual or a group of individuals are excluded from the cultural norms and activities of the wider society and as a result are subject to discrimination. Social exclusion establishes a definition of who is included and who is not included in society (Shaw et al., 2006). Social exclusion leads to exclusion from participation in the civil society, exclusion from the access to social goods or supplies including access to health care providers, exclusion from social production meaning community activities and economic hardship (Shaw et al., 2006).

Human capital refers to “investments in people’s skills and capabilities (such as vocational or public education) that enable them to act in new ways, master a skill or enhance their contributions to society” (Aday, 2001, p. 6). In this factor, the additive nature of risk can be seen: a poor neighborhood frequently has schools with less investment, poorer housing options, and increased crime. As it relates to health, even access to healthy foods can be limited. Studies have shown that neighborhoods where the average income is lower have fewer choices in healthy food and even fewer choices in where to shop for food (Lewis et al., 2005).

In another example, the inability to receive proper oral health care leads uninsured poor individuals to have unhealthy or missing teeth, this in turn limits their employment possibilities as they are not hired for positions with significant interaction with the public (Sered & Fernandopulle, 2005). In a hotel, for example, they may be hired as housekeepers but never promoted to the front reception position.

The IOM (2003), in their landmark study of health disparities, found differences in health care systems at the system level. The IOM points to a few examples such as language barriers. If health care systems do not invest in translation services, the nearly 14 million non-English speaking Americans will have a difficult time receiving care for their health care concerns.

Another example offered by the IOM is the geographic location of available health care services including physicians, dentists, and hospitals. The location of these services is largely driven by economic conditions and as a result may result in limited access to health care regardless of insurance status. Many rural communities share this social condition with the urban poor (IOM, 2003).

These factors form the basis of social determinates for health for individuals. For example, an African-American male without a family, eating more meals away from home, has a higher risk of high blood pressure and diabetes.

The issue of resource availability also applies to communities. In communities this refers to the ties between people and their neighborhood. Crime in a community, for example, can lead to isolation as individuals are not able to know and interact with their neighbors and perhaps even develop a distrust of their neighbors.

**Policy**

Aday (2001) suggests that health care policy which only addresses the outcomes of increased risk will not resolve the challenges in the long term. She concludes that policymakers seeking to resolve these concerns must do so by looking at the elements of a community-based health policy and acknowledging the social conditions which threaten the physical, mental, and social well-being of all (Aday, 2001).

**Summary**

The Aday Theory suggests that vulnerability, or increased risk of poor health outcomes, can be modeled by looking at ethical norms and values, health status, relative risk, resource availability, and policy (Aday, 2001). This theory looks at the tension between the rights and obligations of the individual versus the community while also recognizing the impact each has on the other.

**Implications for Nursing Leaders**

Health care organizations occupy a unique position in communities. They are service providers, businesses with bottom-line requirements, employers, and corporate citizens. In addition, as corporate citizens, they are viewed as community leaders in addressing health concerns of the community.

When developing a strategy to meet their community benefit requirements, health care organizations face tension between urgent, immediate needs versus looking to develop programs that help address the social conditions which are adversely affecting the health of the population.

In the next “Social Care” column, we will examine the use of community/campus partnerships to address the social issues. Utilizing partnerships, health care organizations can leverage their contributions and develop additional community capacity.

If you are a nurse leader with programs addressing social determinates of health, please consider contributing to this column and sharing your best practices.

**REFERENCES**


Report Evaluates Knowledge of How to Retain Older Nurses in Bedside Practice

Variables such as flexible work hours, increased benefits, newly created professional roles, better designed hospital equipment and buildings, and an atmosphere of respect for nurses are central considerations for hospitals seeking to recruit and retain older nurses, according to the report, “Wisdom at Work: The Importance of the Older and Experienced Nurse in the Workplace,” supported by the Robert Wood Johnson Foundation.

The study was one of the few ever to ask older nurses what would keep them working until retirement. In addition to conducting the literature review, study authors surveyed 377 nurses and held in-depth interviews with 13 experienced experts in health care systems design, executive leadership and management, patient-centered care, patient safety, and labor relations.


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continued from page 100


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