

Health Care Utilization: Understanding and applying
theories and models of health care seeking behavior

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On January 25, 2008, a seven year old boy from San Diego, California, suffered a high fever and a painful sore throat. A physician revealed that the young boy had measles, an illness for which immunization is common, especially in the United States. Unfortunately, the boy transmitted the infection to eleven other children in the same community. All twelve children lacked the standard measles immunization (Centers for Disease Control and Prevention, 2008). Why did the parents of these children fail to utilize available vaccinations that could have protected against measles infections? We will return to this case later, but the parents in San Diego likely contemplated several options before deciding not to utilize available health services for immunization.

It is difficult to identify which determinants are most influential in the decision to utilize health care. Culture, economics, access, perceptions, knowledge, belief in efficacy, age, gender roles, and social roles are all among the extensive list of factors influencing both the choice to seek health care and the assessment of which health care option to utilize for prevention and treatment of illness. To facilitate the understanding of health care utilization complexities, this chapter contains four principal objectives: 1) comprehension of theoretical approaches to health care utilization; 2) identification of key variables in connection with health care utilization; 3) understanding of the sources of variability in health care utilization; and 4) recognition of the importance of further health care utilization research.

Health Care Utilization Theories and Models

In this section, three theories and three models of health care utilization are outlined. The theories described are Parsons' sick role, Mechanic's general theory of help seeking, and

Suchman's stages of illness and medical care. The models discussed are Rosenstock's health belief model, Andersen's health behavior model, and Young's choice-making model. To distinguish between the theories and the models, it is useful to conceive of the *theories* as considering decision points or stages of health care seeking. Conversely, the *models* can be regarded as containing sets of interacting variables. Before discussing common themes, differences, and deficiencies, a brief overview of each model is provided.

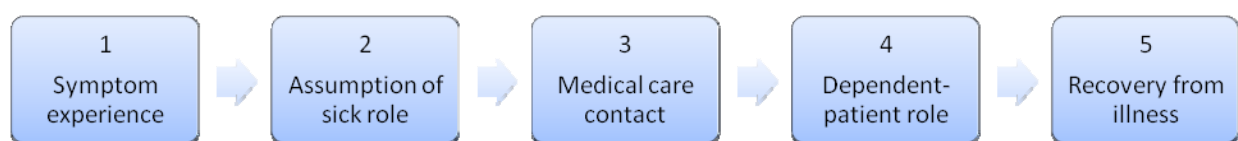
To begin, one of the first theories of health care utilization was the sick role as proposed by Parsons (1951). According to this theory, when an individual is sick, they adopt a role of being ill. This sick role has four main components: 1) the individual is not responsible for their state of illness and is not expected to be able to heal without assistance; 2) the individual is excused from performing normal roles and tasks; 3) there is general recognition that being sick is an undesirable state; and 4) to facilitate recovery, the individual is expected to seek medical assistance and to comply with medical treatment. Parsons' theory attempted to identify typically seen behavior in individuals who are ill. However, while groundbreaking, the sick role failed to account for variability in illness behavior. As a result, scholars have proposed multifaceted models and theories which identify factors influencing health care seeking (Wolinsky, 1988a).

Second, Mechanic's (1978) general theory of help seeking takes a psychological approach to health care utilization. The theory incorporates ten decision points which determine illness behavior: 1) the salience of deviant signs and symptoms; 2) the individual's perception of symptom severity; 3) the disruption of the individual's daily life as caused by the illness; 4) the frequency of symptoms and their persistence; 5) the individual's tolerance of symptoms; 6) the individual's knowledge and cultural assumptions of the illness; 7) denial of illness as a result of basic needs; 8) whether or not response to the illness disrupts needs; 9) alternative interpretations

of symptom expression; and 10) treatment availability via location, economic cost, psychological cost (stigma, humility, etc.), and treatment resources. Beyond these ten points, Mechanic's theory allowed for illness response to be influenced by either the individual or a person who makes decisions for the individual (Wolinsky, 1988b). Thus, as expressed in the illness behavior theory, autonomy and heteronomy influence health care utilization.

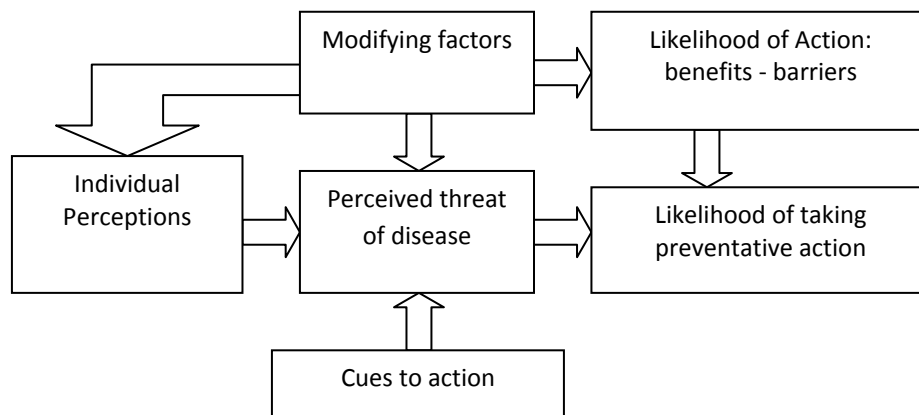
Third, Suchman's stages of illness and medical care (1965; Figure 1) indicates five stages of the individual's decision process in determining whether or not to utilize health care: 1) the individual's symptom experience, including pain, emotion, and recognition of experience as symptomatic of illness; 2) the individual's assumption of a sick role. During this second stage, the individual also explores his or her lay referral system¹ for validation of the sick role and for exploration of treatment options; 3) medical care contact. During this stage the individual seeks a professional health care system. However, the pace at which a person enters this stage is determined by their membership within parochial² and cosmopolitan³ social networks.⁴ If a person's social network is parochial, they will tend to delay medical care contact by continuing the first two stages for longer than a person who is a member of a cosmopolitan network; 4) the assumption of a dependent-patient role via acceptance of professional health care treatment. It is possible for this stage to be disrupted if the individual and the professional health care provider have differing opinions of the illness; 5) the individual's recovery from illness. The individual recovers upon relinquishing their role as patient. However, if an illness is not curable, a person may assume a chronically ill role (Wolinsky, 1988b).

Figure 1: Suchman's Stages of Illness and Medical Care (1965)



Fourth, the health belief model (Rosenstock, Strecher, & Becker, 1994; Figure 2) discusses the individual's actions to treat and prevent disease via consideration of four central variables: 1) the individual's perceived susceptibility to disease. An individual will seek preventive health services if he or she believes they are susceptible to disease; 2) the individual's perception of illness severity. If a person does not perceive the illness as serious, they will not seek treatment or prevention; 3) the individual's rational perception of benefits versus costs. An individual will not take action unless the treatment or prevention is perceived as having greater benefits than costs; 4) the individual's cues to action. Media, friends, family, or well known citizens can provide an impetus for prevention. The absence of cues to action will reduce the likelihood of prevention. Thus, the individual's choice to utilize health services is contextually dependent (Wolinsky, 1988b).

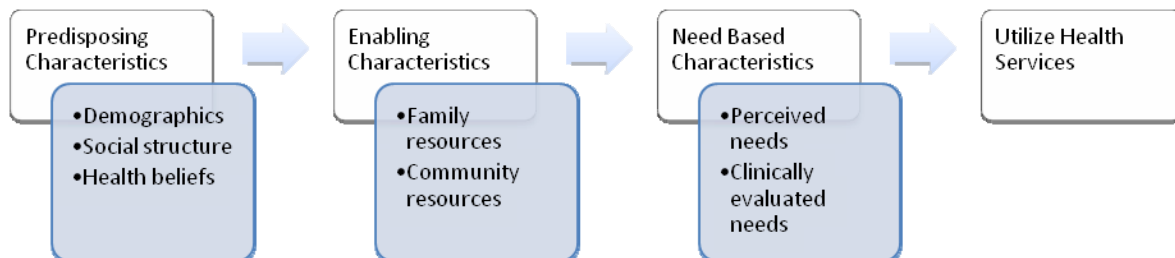
Figure 2: Rosenstock's Health Belief Model (adapted from Wolinsky, 1988)



Fifth, Andersen (1968) developed a model of health care utilization (Figure 3) which looks at three categories of determinants: 1) predisposing characteristics. This category represents the proclivity to utilize health care services. According to Andersen, an individual is more or less likely to use health services based on demographics, position within the social structure, and beliefs of health services benefits. An individual who believes health services are useful for treatment will likely utilize those services; 2) enabling characteristics. This category

includes resources found within the family and the community. Family resources comprise economic status and the location of residence. Community resources incorporate access to health care facilities and the availability of persons for assistance; 3) need based characteristics. The third category includes the perception of need for health services, whether individual, social, or clinically evaluated perceptions of need (Wolinsky, 1988b).

Figure 3: Andersen's Behavioral Model of Health Services Utilization (adapted from Wolinsky, 1988b)

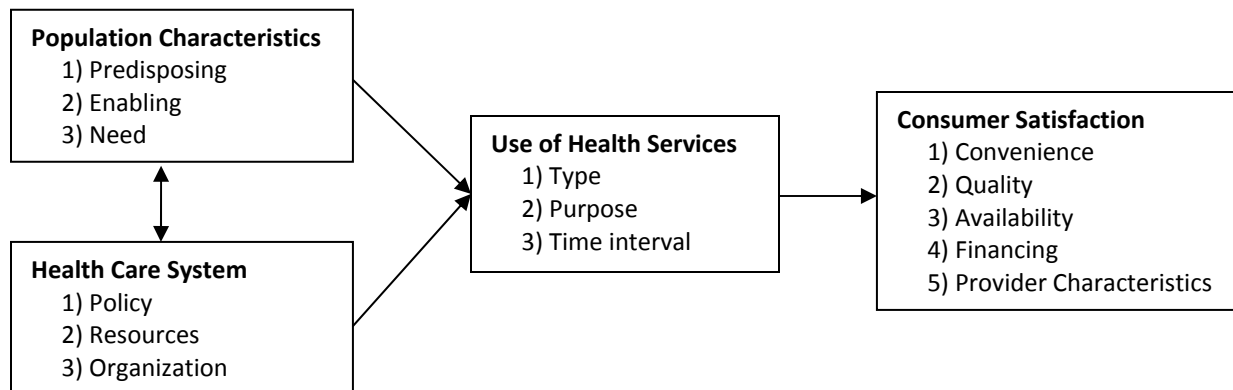


In the 1970's, Andersen's model was later expanded and refined to include the health care system (Figure 4). The health care system includes health policy, resources, and organization, as well as the changes in these over time. Resources comprise the volume and distribution of both labor and capital, including education of health care personnel and available equipment. Organization refers to how a health care system manages its resources, which ultimately influences access to and structure of health services. According to this level of the revised model, how an organization distributes its resources and whether or not the organization has adequate labor volumes will determine if an individual uses health services.

In addition, the updated model includes recognition that consumer satisfaction reflects health care use. Furthermore, the model includes the notion that there are several health services available, and both the type of service available (i.e., a hospital, dentist, or pharmacy) and the purpose of the health care service (i.e., primary or secondary care) will determine the type of service utilized. Thus, according to the revised model, whether or not a specific health care service is utilized and the frequency a service is utilized will have different determinants based

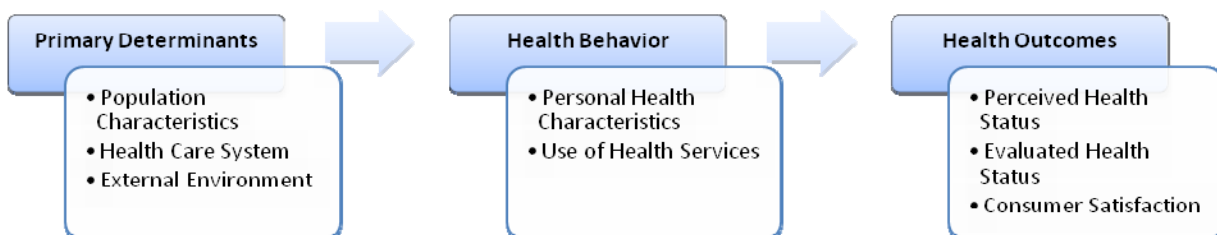
on characteristics of the population and the health services (Andersen, 1995; Andersen & Newman, 2005).

Figure 4: Andersen's Phase-2 Model of Health Services Utilization (adapted from Andersen, 1995).



During the 1980's -1990's, Andersen's model was again revised to form three components with a linear relationship: 1) primary determinants; 2) health behaviors; and 3) health outcomes (Figure 5). Primary determinants are noted as the direct cause of health behaviors; these determinants include characteristics of the population (i.e., demographics), the health care system (i.e., resources and organization), and the external environment (i.e., political, physical, and economic influences of utilization). In addition, the model explains that health behaviors determine health outcomes. Health behaviors include personal health practices (i.e., diet and exercise) and the use of health services. Lastly, the model indicates that health behaviors are the direct cause of health outcomes. Health outcomes include perceived health status, evaluated health status, and consumer satisfaction (Andersen, 1995).

Figure 5: Andersen's Phase-3 Model of Health Services Utilization (adapted from Andersen, 1995).



Sixth, Young (1981) proposed a choice-making model which is based on his ethnographic studies of health services utilization in Mexico (Figure 6). This model incorporates four components that are most essential to the individual's health service choice: 1) perceptions of gravity. This category includes both the individual's perception and their social network's consideration of illness severity. Gravity is based on the assumption that the culture classifies illnesses by level of severity; 2) the knowledge of a home treatment. If a person knows of a home remedy that is efficacious, they will be likely to utilize that treatment before utilizing a professional health care system. Home remedy knowledge is based on lay referral; 3) the faith in remedy. This component incorporates the individual's belief of efficacy of treatment for the present illness. An individual will not utilize the treatment if they do not believe the treatment is effective; 4) the accessibility of treatment. Accessibility incorporates the individuals' evaluation of the cost of health services and the availability of those services. According to Young, access may be the most important influence on health care utilization (Wolinsky, 1988b).

Figure 6: Choice-Making Model (Young, 1981)



Identifying Key Concepts of Health Care Utilization Theories and Models

The described health care utilization models and theories contain threads of commonality via three factors which influence the process of health care seeking: 1) health care access; 2) culture; and 3) social networks. Access describes the ability to utilize services and incorporates economics, geographic location, abundance of health services, and physical and social resources. If health services are not accessible, it is likely that there will be unmet need for health care.

Next, culture is a complex term referring to values, practices, meanings, and beliefs which are transmitted from one person to another through the process of enculturation.⁵ Culture, often considered a barrier to health services, can influence knowledge and beliefs of illness as well as the course of treatment for illness. Last, interacting with culture, social networks can also cue an individual to utilize or abstain from health services and can function in identification of illness and illness response. While other elements certainly affect health care utilization, exploring these three concepts is central to understanding determinants of health care utilization.

First, the economic costs of health care seeking include not only payment for treatment, but also lost productive time, and the expense of transportation. Unless provided with a subsidized health care plan, persons of lower socioeconomic status can have difficulty affording the costs associated with utilization of health care, making utilization less likely (Taylor, 2003). Similarly, due to the expense of transportation and time needed to access medical care, especially as health care services become more geographically scarce or distant, inaccessibility may increase (Young & Young-Garro, 1982).

Accessibility of health care is further influenced by physical and social resources. For instance, in individuals who have suffered debilitating injuries, geographic location can become an impediment to the use of health services (LaVela, Smith, Weaver, & Miskevics, 2004). Moreover, beyond physical limitations, social resources are also integral to utilization. Social resources include family economic capital, social support, and group knowledge of illnesses and illness treatments. For example, among Taiwanese, Kleinman (1980) found that if an individual's family has knowledge of an effective home remedy the person will often attempt that treatment before utilizing professional health care services. In Kleinman's study, families in Taiwan provided social resources, specifically knowledge, of which a lone ill person may not

have been aware. Thus the knowledge and social support available to an individual can affect accessibility of specific health care services.

Second, culture shapes not only illness treatment, but also illness recognition, perception of illness severity, and confidence in the efficacy of specific treatments for specific illnesses. For example, in many cultures, dementia in elderly is viewed as a normal process of aging; thus it does not necessitate medical treatment. However, in the United States, dementia is considered an illness requiring professional medical care (Ikels, 2002). As such, variance in health care utilization can result due to cultural knowledge and understandings of illness.

Likewise, categories and perceptions of illness are often cultural. Conceptual-incompatibility is a hypothesis frequently used to explain why members of another culture refuse to utilize health services. A person with conceptual-incompatibility would be unlikely to utilize available health care because the treatment conflicts with their culturally rooted knowledge of illness (Young & Young-Garro, 1982). For example, if a person staunchly believes they are infected with influenza yet are told by a healer that they are actually infected with malaria, the person may not have faith in the treatment prescribed. If a person lacks confidence in the ability for a healer to treat their illness, they may be unlikely to visit this healer for further treatment. As such, belief in the efficacy of treatment, influenced by cultural categories of illness, can shape adherence to prescribed treatment and ultimately the use of health care services.

Beyond faith in efficacy, cultures can have differing notions of the self which may influence health services utilization. For instance, in the United States as well as many other western nations, there are two main conceptions of self, one that is autonomous and one that is heteronomous (Gaines, 1992). If an individual is a member of a culture that considers the self as heteronomous, they are likely to have their course of treatment determined by people within their

social network (Kleinman, 1980; Ikels, 2002). Conversely, if a culture considers the individual as autonomous, the decisions for treatment are more likely to be made by the individual. In those cultures that consider the self as heteronomous, an ill individual's treatment may be delayed as persons within their social network discuss treatment options (Janzen, 1978). Yet, even in cultures that stress autonomy, the individual may consult social networks for illness advice. Social networks can provide an impetus for health care utilization but may also press an individual to abstain from accessing health services.

Suchman's concept of parochial and cosmopolitan networks is useful in considering the effects of social networks. According to Suchman, parochial networks are those that are traditional, close in affiliation, and reluctant to accept new information (Wolinsky, 1988b). Because of their emphasis on tradition, these networks are theoretically likely to utilize home based treatments before scientific based health care such as professional biomedicine. However, persons belonging to cosmopolitan networks are more progressive, willing to accept new information, and more likely to have a scientific approach to illness. As a result, cosmopolitan network members would be more likely to use biomedical health care. Therefore, social networks affect illness knowledge and patterns of health care utilization. As an individual experiences illness, he or she will often consult their network in an effort to identify the illness and the best course of treatment or prevention (Cockerham, 1982).

Additional Sources of Variance in Health Care Utilization

While the three theories and three models described in this chapter are comprehensive in their attempts to understand utilization of health services, several shortfalls limit their ability to be generalized. To begin, although the theories and models address the influence of social networks, they fail to consider adequately the variety in these networks. For example,

Suchman's networks are described as dichotomous, yet Geertsen and Salloway (cited in Cockerham, 1982) found that social networks exist along a continuum between parochial and cosmopolitan poles. Thus, in considering treatment options, a network is likely to simultaneously consider both scientific and traditional health care, yet some may be more likely to use one or the other.

In addition, the theories and models do not adequately explain the effect of the individual's prior experience of illness. For example, while Young's choice making model considers gravity, the gravity is established within the individual's network group based on preconceived categories of illness severity, not the *individual's* prior experiences (Wolinsky, 1988b). Past experience of illness may influence perception of severity. For instance, some people exhibit relatively minor symptoms of malaria, yet others experience painful aches. To the person who has minor symptoms, malaria may not be perceived as severe. Yet, to the individual's networks, malaria may be an unusually severe illness. If an individual has a prior experience with an illness and perceives the illness as more grave, they may be more likely to utilize preventive health care.

Moreover, other than Young's choice making model and Andersen's revised behavioral model (phase 2), the models and theories do not adequately consider the kind of health care used. These scholars tend to focus on use of professional biomedicine and overlook alternatives such as traditional medicine or different types of professional medicine. As such, they are not predictive of which health care services are likely to be utilized.

Similarly, people often seek different medical care for different illnesses. For example, Kleinman (1980) noted that for chronic diseases, Taiwanese used traditional folk medicine while

for acute illnesses families often resorted to western based biomedicine. Yet, the models and theories do not make sufficient use of the impact of different diseases on health care utilization.

Finally, other than diseases for which a person believes himself or herself to be at risk, the models and theories disregard utilization of health care services for maintaining a healthy lifestyle. People may access health care simply to maintain their health, not because they perceive themselves as being susceptible to a specific disease.

The Importance of Understanding Health Care Utilization

Around the world, there is significant unmet need for health care. With a better understanding of why people use or do not use these services, health care organizations can seek to improve the quality of human life. Returning to the case of unvaccinated children in San Diego, California, the parents of the infected children were asked why they refused to provide their children with standard measles immunizations. Many of the parents explained that autism, a perceived health consequence of childhood vaccinations, provided a greater childhood health risk than measles (Steinhauer, 2008). Thus, the parents' failure to utilize health care services was a consequence of perceived needs, perceived threats, illness knowledge, autonomous health care choices, and faith in treatment.

The belief that autism results from childhood vaccinations may later be proved valid, but much empirical evidence suggests that autism and childhood vaccinations are not linked (Baird, Pickles, Simonoff, Charman Sullivan, & Chandler, 2008; Madsen et al., 2003). Despite compelling evidence of vaccination health benefits, an increasing number of parents are refusing to immunize their children (Omer et al., 2006). As such, the unmet need for health care is growing, a startling threat to quality of life. Identifying the factors that prevent and spur the use

of health care services will ultimately help health care organizations create programs for improving health services and increasing their utilization.

Health care management must discern the factors influencing health care utilization. Identifying who will use which services and when these services will be used can help organizations target consumers for medical contact. Importantly, this knowledge can also help managers identify new customers, spot concerns of consumers who are rejecting health services, and ultimately increase customer satisfaction.

Increasing utilization is challenging, especially as a significant number of people tend use multiple health services. In 1993, Eisenberg et al. performed a study of health care utilization in the United States and found extensive variation. In fact, use of non-conventional medical care providers, such as acupuncture, chiropractor services, and herbal remedies, surpassed use of conventional medicine (i.e., medical doctors and doctors of osteopathy) by nearly 37 million visits. Although several of the treatments then identified as unconventional are now common within professional biomedicine, this study highlights the extensive use of alternative medicines not formally offered by biomedical practitioners. Understanding why people utilize alternative or conventional medicines is central to increasing health care utility and efficacy.

In addition, many countries are becoming increasingly diverse, and as such, cultures are mixing and influencing one another. This trend is especially evident in the United States, where it is projected that by 2050, the population will be approximately 50.1% Caucasian, down from nearly 70% in 2000 (United States Census Bureau, 2004). With increasing cultural heterogeneity, health care utilization behavior is likely shifting. Addressing the needs and values of this shifting population requires an understanding of their culturally linked health care utilization determinants.

Similarly, another population trend is aging. Life expectancy in nearly every nation has increased. In 2000, the World Health Organization noted that global life expectancy was 65.5 years, nearly six years longer than in 1980 (Bonita & Mathers, 2003). Moreover, by 2050, there will be approximately two billion people over the age of 60, and the global median age will have increased from 28 (in 2007) to 38. (United Nations Department of Economic and Social Affairs, 2007). Elderly tend to utilize health care resources more often than people under the age of 65. As such, the shift in demographics should be an indicator that utilization of health services is likely to increase. However, despite increased *likelihood* of use, there are many determinants which can create unmet need for health services. For example, physical disability has been shown to be a significant predictor of health care utilization among elderly. Elderly who are disabled are less likely to access care than are physically healthy older adults (Linden, Horgas, Gilberg, & Steinhagen-Thiessen, 1997). Although seemingly self explanatory, as global population continues to age, health care organizations must recognize the determinants and impediments to health care utilization.

Summary

Health care utilization behavior is complex and multifaceted. This chapter briefly outlined three theories of health care utilization: Parson's sick role, Mechanic's general theory of help seeking, and Suchman's stages of illness and medical care. Likewise, the chapter reviewed three models of health services utilization: Rosenstock's health belief model, Andersen's health behavior model, and Young's choice-making model. While these models and theories of utilization have identified many variables as significant, no single factor has been shown to be more essential than another. Nevertheless, the models and theories seem to have three central

components under which many other variables may be placed: access, social networks, and culture.

In addition, although the models and theories provide an understanding of an individual's decision to utilize health care, they are generally lacking empirical support. However, one model has been shown to accurately predict behavior: Young's choice-making model. When Young's model was tested in a small Mexican community, it was shown to foretell a remarkable 94.7% of utilization behavior (Young & Garro-Young, 1981). As such, Young's model was a promising step in health care utilization research.

As discussed, research of utilization is central to improvements in quality of life. Understanding which factors are most important to health care utilization can assist in disease prevention and treatment through creation of effective health campaigns, policies, and promotion programs. Likewise, the study of utilization can further prepare health care organizations for the impending growth of aged and heterogeneous populations. Ultimately, this knowledge will facilitate the understanding of who uses which services, why they access these services, and when those services will be utilized.

Notes:

1. Lay referral describes a system of non-professional persons, such as family members or friends, who help an ill person interpret their symptoms and identify a treatment (Cockerham, 1982).
2. Parochial networks are defined as those with a close and traditional relationship who are reluctant to incorporate new information and are likely to utilize lay referral (Wolinsky, 1988b).
3. Cosmopolitan networks are social relationships that are individual, open to new information, and are likely to utilize a scientific approach to medical care (Wolinsky, 1988b).
4. Social Networks are an individual's social relationships which exchange opinions, knowledge, and care (Cockerham, 1982).
5. Various definitions of culture have been proposed by many scholars. While simplistic, this definition achieves the required understanding for this chapter.

For more information:

<http://www.cdc.gov/nchs/data/misc/healthcare.pdf> Centers for Disease Control and Prevention: reviews determinants and trends of health care utilization in the United States.

<http://www.nber.org/aginghealth/spring04/w10365.html> National Bureau of Economic Research: reviews economic resources, specifically health insurance, as a factor of health care utilization.

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