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Healthcare Utilization

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Synonyms

Health care use; Health care utilization; Health services use; Health services utilization; Realized access to health care services

Definition

Healthcare utilization is the term used to describe the use or consumption of a healthcare service, procedure, device, or pharmaceutical drug for the purpose of maintaining one's health and well-being, preventing and/or treating health problems, or obtaining information about one's health status and prognosis (Mkanta and Uphold 2006; Carrasquillo 2013). Healthcare utilization may further be characterized as discretionary or non-discretionary, depending upon whom (the patient or the provider) controls the decisions around the use of healthcare services. For example, a situation where a person makes the decision to seek care in the emergency department for themselves would be considered discretionary healthcare utilization, whereas a healthcare provider deciding to admit a patient to the hospital would be characterized as nondiscretionary healthcare utilization (Mkanta and Uphold 2006).

Operationally, healthcare utilization is defined in numerous ways depending upon the specific context. Healthcare utilization is most frequently characterized as the number of outpatient visits to various healthcare providers and/or healthcare facilities in a given period, hospital admissions, length of in-patient hospital stays, hospital readmissions, emergency department visits, prescription drug utilization, and the costs associated with the use of these services (Diehr et al. 1999; Corrao and Mancia 2015). The costs associated with the provision of healthcare services, including diagnosis, treatment, prevention, and management costs, are considered direct healthcare costs. Indirect costs refer to the foregone opportunities and resources associated with health conditions, including lost productivity, disability, and premature mortality.

Overview

Healthcare utilization includes complex and multifaceted behaviors with many influences beyond those related to health and illness. Sociodemographic characteristics, culture, economics, personality, perceptions, access to services, attitudes and beliefs, and social roles are just a few examples from a long list of nonhealth factors that

influence the decision to seek health care, the type and volume of services used, and the outcome of health-related services (Linden et al. 1997). Furthermore, the substantial structural differences between health care systems of different nations (or regions within nations), even where systems have similar methods of public financing and universal healthcare coverage, limit the extent to which generalizations about healthcare utilization can be made outside of a given healthcare system (Welzel et al. 2017).

There are several models describing the relationships between the various factors that influence an individual's use of healthcare, with the prevailing model being the Andersen-Newman Behavioral Model of Health Services Use, first published in 1968 (ANBM; Andersen 1968; Andersen and Newman 1973; Babitsch et al. 2012; See ▶ "Andersen Model"). The ANBM uses a systems perspective to integrate a range of individual, environmental, and provider-related factors associated with healthcare utilization (Phillips et al. 1998). Within the context of a given healthcare system and political, economic, geographic, and cultural environment, the ANBM describes the use of health services as a function of three characteristics: predisposing, enabling, and need-related factors. Predisposing factors refer to the sociocultural characteristics that influence an individual's propensity to use health services before they have a need to do so. These include demographic characteristics (age, gender), social structure (marital status, education, ethnicity), and health-related beliefs (factors related to a person's knowledge, attitudes, and values related to health, illness, and health services). Enabling factors include both individual- and community-level characteristics that facilitate or impede one's ability to obtain healthcare services, such as income level, health insurance coverage, accessibility of healthcare providers and facilities, type of municipality (urban/rural), employment, and family size. For example, whether a person has a family doctor (individual factor) and the gender of the healthcare provider (provider characteristic) may act along with community-level enabling factors, such as the availability of physicians in the community, to provide

measures of the context within which healthcare utilization occurs (Phillips et al. 1998). Need factors include one's perceived and evaluated health, illness, and functional status. As might be expected, a person's health or illness level is the most salient determinant of healthcare utilization (Andersen 1968; Andersen and Newman 1973; McCusker et al. 2003). Predisposing, enabling, and need factors both directly influence and are influenced by personal health practices (diet, exercise, self-care; See ▶ "Healthy Lifestyle") and healthcare utilization which, in turn, both directly influence and are influenced by health outcomes (Andersen 1995; Ku et al. 2017). The ANBM includes feedback loops describing these dynamic interrelationships between the various components of the model.

Other conceptual frameworks have also been used to describe healthcare utilization, including the health belief model (HBM) and the biopsychosocial model (Janz and Becker 2016; Mkanta and Uphold 2006). Originally described in the 1950s and expanded upon in the 1980s, the HBM uses a systematic approach to predict various areas of health-related behavior including the utilization of healthcare services (Janz and Becker 2016). In this model, perceptions of one's susceptibility to and the perceived severity of a particular health condition are weighed together with one's perceptions of the benefits and negative consequences of a particular course of action, the balance of which provides the impetus (or lack thereof) for an individual to seek healthcare (Janz and Becker 2016; Mkanta and Uphold 2006). The biopsychosocial model has been widely adopted in healthcare settings as an alternative to the traditional biomedical model of healthcare (Wade and Halligan 2017). This model describes healthcare utilization as being determined by the interrelated and combined influences of biological (genetic predisposition, biological function) and psychosocial (lifestyle, stress, health beliefs, social conditions, family relationships, social support) factors (Wade and Halligan 2017). Although less complex than the ANBM, the emphasis on health beliefs and perceptions inherent in both the HBM and the biopsychosocial model make them useful

frameworks to examine healthcare utilization among different patient populations and/or specific cultural groups with varying attitudes and beliefs about health and health care (Mkanta and Uphold 2006). The alignment of the biopsychosocial model with current healthcare practices and interrelated nature of model's key would also facilitate the examination of relationships between key determinants of healthcare utilization.

Key Research Findings

Older adults' health needs tend to become increasingly chronic and more complex with age, with approximately two-thirds of older people reporting multimorbidity, resulting in greater interaction with and dependency on the healthcare system than younger adults (Lehnert et al. 2011; Salive 2013; Mitchell 2019). Consequently, older adults account for over 40% of healthcare expenditures despite comprising just 16% of the population (Canadian Institute for Health Information 2018). Across countries, studies have shown that healthcare utilization increases with age, peaking at approximately 80 years of age (He et al. 2016). Healthcare utilization can also intensify at the end of life, with estimates suggesting that 13% of annual healthcare expenditures attributable to the costs of care during the last year of life (Aldridge and Kelley 2015).

Not only do older adults use a disproportionate amount of healthcare services, compared to other age groups, they also use healthcare in different ways. Older adults use far fewer preventive healthcare services such as health educations or health screenings that would help delay the onset or progression of chronic health conditions (Chung et al. 2018; See ▸ "Health Literacy and Health Behaviors"). In the United States, the introduction of the Annual Wellness Visit under the Affordable Care Act in 2011 resulted in a marked increase in the use of preventive services among Medicare beneficiaries; however, studies have shown that substantial disparities in the use of preventive care remain (Hu et al. 2015; Chung

et al. 2018; See ▸ "Health Coverage"). Older African American or Hispanic patients, those of advanced age, those with greater comorbidity, or frequent users of healthcare are all less likely to seek preventive healthcare (Hu et al. 2015; Chung et al. 2018). In contrast, emergency department (ED) use by older people occurs at much higher rates, their visits are of greater urgency and longer length, and they are more likely to be admitted or to have repeat ED visits than younger people (McCusker et al. 2003). It is important to note, however, that patterns of healthcare utilization are highly variable among older adults and both over- and underutilization of healthcare services are evident, with both having the potential to cause harm (Zayas et al. 2016). While the need for healthcare is consistently found to be the most salient factor in explaining variability in healthcare utilization, recent studies highlight the importance of social relationships as determinants of healthcare utilization (See ▸ "Social Support and Social Isolation"). Social support gained through social relationships can increase or decrease the probability of physician use, depending on the form of social support (Bremer et al. 2017). Having social support is associated with higher rates of physician visits than having less social support on no support at all (Bremer et al. 2017). In contrast, older adults reporting loneliness also have higher rates of physician visits (Gerst-Emerson and Jayawardhana 2015).

Of greatest concern to health policy makers is the small group of high healthcare users that account for the greatest proportion of healthcare expenditures. People aged 65 and older account for 60% of the top 5% of healthcare users and 80% of those users in the top 1% (Mitchell 2019; Lee et al. 2018).

Definitions of high use vary between studies, but this group of healthcare users has a significant effect on the sustainability and delivery of healthcare (Lee et al. 2018; Sheets et al. 2017; See ▸ "Healthcare Financing"). Cohen et al. (2018) examined patient trajectories, demonstrating that high-cost utilization of community and acute care services act to signal future hospitalizations. A recent systematic review of high

healthcare users showed that the main drivers of high healthcare utilization are ill health and the need for medical treatment but highlight the need for more rigorous research to better understand the underlying needs of this group and to design interventions that properly address their clinical and social needs (Welzel et al. 2017; Lee et al. 2018).

Future Directions for Research

Despite a lack of strong evidence of their effectiveness, health policy makers are implementing complex care management models to address issues related to high cost users of healthcare, the majority of whom are older adults (Lee et al. 2018). Machine-learning approaches are increasingly being used to identify and describe clusters of patients with similar healthcare utilization patterns and expenditures to better identify the clinical and demographic characteristics of patients at distinct levels (high, low, median) of healthcare utilization (Zayas et al. 2016). These novel analytical approaches are promising in that they will allow for the earlier identification of patients with characteristics associated with high healthcare utilization and stronger evidence on which to base case management decisions.

Administrative health databases and electronic health records are a rich source of healthcare utilization data but are not without limitations (See ▶ "Electronic Health Record"). Administrative data are often difficult to obtain in a timely, cost-efficient manner and may lack clinically important information because the original purposes for which the data were collected were not research-related. For example, administrative health databases do not capture indirect healthcare utilization variables such as lost productivity or caregiver time, which are necessary for economic evaluations (Leggett et al. 2016). Neither do these databases typically consider nonpublic healthcare utilization such as that associated with complementary and alternative medicine. Future research

should also consider these important, but understudied, aspects of healthcare utilization, given that the use of complementary and alternative health services among older adults is likely to increase in the coming years. Lastly, differences in healthcare systems and systems databases currently make cross-national comparisons of healthcare utilization difficult; however, the development of standard indicators of health system performance along with improved universality and level of detail in healthcare data systems will increase the validity and versatility of these databases in healthcare utilization research going forward (Welzel et al. 2017).

Summary

As the population ages, the increasing proportion of people aged 65 years and older will challenge healthcare systems, providers, and policy makers to meet the growing demand for healthcare services (Vegda et al. 2009; Zayas et al. 2016). Healthcare reforms, particularly those focused on primary care, are being undertaken in many nations to alleviate the pressures but to be effective, these efforts need to be grounded in timely and relevant evidence regarding the healthcare utilization patterns of older adults that considers utilization from a comprehensive and dynamic perspective. Addressing both the overuse and underuse of healthcare services by older adults is critical to avoid unnecessary personal and financial harm. The existing literature on healthcare utilization patterns has largely focused on characterizing utilization related to specific conditions or describing utilization patterns based on segmenting population groups by sociodemographic (e.g., age, gender, race, income) or enabling (e.g., proximity to healthcare providers, insurance, community) characteristics. While it is necessary to understand specific aspects of healthcare utilization patterns, adequately preparing for and addressing the complex healthcare needs of an aging population will require a comprehensive approach based on the

totality of an older person's healthcare utilization profile (Zayas et al. 2016).

Cross-References

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