Impact of Cost in Delay/Deferral of Care: A Systematic Literature Review

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Growing numbers of people in the United States are delaying or deferring medical care secondary to the cost burden. Those impacted by cost are not just low-income or uninsured persons. Individuals from higher economic ranges and those with private insurance are also affected. Consequences of the rising healthcare costs are individuals delaying or deferring care, testing, and therapies. As patients postpone or omit care, their conditions continue to decline, resulting in needs for additional medical care than initially anticipated. The greater level of care results in more significant healthcare spending and perpetuating the cycle of noncompliance due to healthcare costs.

Keywords: healthcare cost, deferred care, delayed care, medical noncompliance, access to care, quality of care

INTRODUCTION

Walter Cronkite famously said, "America's healthcare system is neither healthy, caring, or a system" (Cronkite, n.d., para. 1). Exemplification of this fact is the $3.5 trillion spent on U.S. healthcare in 2017, and yet the U.S. healthcare system is ranked near the bottom of 36 nations by the Organisation for Economic Cooperation and Development (OECD). As healthcare costs have continued to rise, concerned patients report the fear a significant medical condition will lead to bankruptcy. U.S. families have borrowed nearly $88 billion over the last year to pay for healthcare (West Health - Gallup, 2019). Studies indicate 1 in 4 adults in the U.S. have reported difficulty in paying medical bills in the last 12 months.

In addition, one-fourth of adults currently taking prescription medications indicate difficulty in affording the cost of their prescription medications. The result is nearly 30% of adults omitted taking some medication as prescribed (Kirzinger, Munana, Wu, & Brodie, 2019). Further, 43% of low-income adults and 33% of all U.S. adults did not seek medical care or fill a prescription due to cost (The Commonwealth Fund, 2016). The impact of delaying or deferring medical care affects both patients and healthcare systems and has far-reaching implications.

Background

In 1994, Dr. William Kissick released his seminal work, "Medicine's Dilemma: Infinite Needs Versus Finite Resources," which introduced the concept of the Iron Triangle of Health Care. The Iron

Triangle delineates the idea of improving access to care, improving the quality of care, and decreasing the cost of care. All three concepts are all intertwined and result in being competing interests. Further, the Iron Triangle demonstrates that the U.S. healthcare system frequently can meet two of the three legs, but often fails to achieve all three goals (Kissick, 1994). Dr. Kissick's concept of the Iron Triangle has been the basis of a large body of research in methods to maximize each leg of the Iron Triangle, plans to leverage the Iron Triangle, and the development of the Triple Aim. The Triple Aim - a framework developed by the Institute for Healthcare Improvement - looks at ways to optimize the performance of the healthcare system. The Triple Aim views healthcare through the lens of population health, the experience of health, and the per capita costs to pursue all three legs at once (Faerber, 2017).

The significance of delayed and deferred care is worrisome when applied to any patient. The effect is amplified among patients who have chronic or high-value conditions such as diabetes and cancer. Additionally, when patients defer healthcare, the long-term expense to the healthcare system escalates. The lost opportunity for preventative care or less costly interventions give way to high-cost medications and procedures as patients are sicker and perhaps in a healthcare crisis. Each of these components adds to the overall cost and ineffectiveness of the U.S. healthcare system.

Despite the body of work related to the Triple Aim and the Iron Triangle, there is relatively little information about how the impact of cost factors into the short-term decisions of individuals as well as long-term consequences to the healthcare system. As the cost factor becomes a more substantial consideration in patients' determination of whether to pursue care, the consequences to patient health and financial risks are not limited to patients. The consequences of rising healthcare costs of delayed or deferred healthcare have downstream considerations for healthcare systems as well.

Methodology

The study design used in this paper was a systematic literature search of published articles that focus on the impact of cost on patients delaying or deferring care, as well as the impact of patients delaying or deferring care on the healthcare system. Only peer-reviewed articles from trusted websites were used to accomplish the maximum level of integrity. Utilized search engines were Google Scholar, Northcentral University Roadrunner, and ResearchGate. Keywords used to select the scholarly articles include: "financial impact to patient delay of care/treatment," "cost of care," "delayed care," "deferred care" "patient care cost impact," "healthcare cost delayed patient treatment," and "deferred healthcare due to cost." Initially, identified items to be included in the literature review numbered 73. A limitation related to the date of publication was instituted to assist in the timeliness of the data. To this, all articles published between 2010 and 2019 were eligible to be considered for additional review. After reviewing each of the possible choices, the focus was narrowed down to 11 articles. Since this paper involves a systematic review that did not include human subjects, nor did not require any access to identifiable private information, it did not require Institutional Review Board (IRB) approval.

Results

Between 2003 and 2007, the rate of those delaying or deferred necessary medical care in the United States rose from 1 in 7 to 1 in 5, respectively. Causes for the increasing rate of delaying or deferring medical care are thought to be related to the cost of coinsurance and copayments combined with societal, economic factors. Following the concept of Maslow's Hierarchy of Needs, individuals are more likely to spend their funds on housing and food (physiological needs) over healthcare (safety and security) when forced to choose. Persons from lower educational or economic groups are more likely to delay or defer medical care due to cost. Still, the pressure of rising healthcare costs impacts all socioeconomic groups. Ultimately, individuals who postponed or deferred medical care were more likely to report a decline in their health status and quality of life when compared to those who sought and received attention on a timely basis (Chen, Rizzo, & Rodriguez, 2011).

Another facet driving the cost of healthcare in the United States is related to drug therapies. While hospital and physician fees have risen by 69% since 2000, drug therapy expenses have increased by 89%. The increased spending on drug therapies is associated with the cost of biotech and specialty drug

therapies, as well as the increasingly pervasive use of drug therapies for a myriad of chronic diagnoses. Attempts to reign in the drug therapy expenses have included restrictive formularies, the mandatory substitution of generic medications for name-brand drugs, and increasing the patient cost share or coinsurance. The vast majority of studies reviewing the correlation between cost-share and adherence found when the patient cost share rises, the adherence to medication regimes decreases. Further, reduced adherence is likely to result in adversely impact outcomes. The additional cost of increased resource utilization is another factor to consider in the overall price tag of medication non-adherence (Eaddy, Cook, O'Day, Burch, & Cantrell, 2012).

The proliferation of high-deductible healthcare plans (HDHPs) is an additional factor impacting whether individuals delay or defer necessary healthcare treatment. Families with chronic healthcare conditions who also had an HDHP were more likely to delay or defer medical care when compared to families with chronic healthcare conditions who used traditional healthcare products with lower annual deductibles. The burden of the HDHP cost is not limited to low-income families. The probability of delaying or deferring medical care is 40% for families with an income under 400% of the federal poverty level (FPL) and 16% for families with an income over 400% of the FPL. While families with a traditional healthcare insurance plan with incomes below 400% of the FPL delay or defer care is 15.1%, the rate is 4.8% for families with incomes over 400% of the FPL (Galbraith et al., 2012).

Patients With Diabetes Delaying Care Due to Cost

There are about 30 million patients with a diagnosis of diabetes in the United States (Kang, Lobo, Kim, & Sohn, 2018). Many patients with diabetes face increasing cost-share through several factors, including pharmacy costs, HDHPs, and other out of pocket (OOP) expenses such as copayments and coinsurance. In the 2013 National Health Survey, 50% of all diabetic patients reported some level of perceived financial stress, and 20% specifying economic and food insecurity. Further, those identified as diabetic reported non-adherence due to cost twice as often as respondents without diabetes (Patel, Piette, Resnicow, Kowalski-Dobson, & Heisler, 2016). The prevalence of cost-related pharmacology noncompliance is 1.24 times higher for those using insulin as part of their treatment regime (Kang et al., 2018). In a study of diabetic patients who moved to an HDHP, findings showed that patients often delayed seeking care for initial outpatient complication visits. Additionally, the same patients were noted to have resulting increases in complications being treated in the emergency department (Wharam et al., 2017).

Patients With Cancer Delaying Care Due To Cost

The use and availability of oral chemotherapy agents have become more prevalent. Currently, about 25% of chemotherapy agents are deliverable through oral routes. Like the traditional treatment modalities, adherence to the treatment regime is paramount (Kav, 2017). However, OOP expenses are likely to create a complication with medication compliance. In a 2017 study, OOP expenses were a common factor in compliance rates. Patients with prescription OOP expenses of $10 or less delayed the purchase of their medication, only 10% of the time. Patients with OOP expenses of $100–$500 were likely to delay oral agents 33% of the time, while those with OOP expenses exceeding $2,000 delayed oral agents 50% of the time (Doshi, Li, Pettit, & Armstrong, 2018). Patients facing rising cost burden may seek methods of adapting and absorbing the expenses. Some patients delay office visits, become non-compliant with therapeutic regimes, or avoiding tests, even though their actions may result in adverse clinical outcomes and higher death rates (Nipp et al., 2016).

Cost Burden of Medical Noncompliance

The growing costs of medical care affect the decisions patients make regarding whether to obtain care, fill a prescription, or pursue additional treatments recommended by a healthcare clinician. One-fourth of patients indicate routine healthcare costs, such as premiums and deductibles, create a financial challenge. Further, one-third of patients indicate it is challenging to meet the cost of their deductible. The economic burden of healthcare results in about 50% of people reporting they or a family member has

delayed care (Kirzinger et al., 2019). The cycle of noncompliance is a circular function feeding upon itself. Health care expenses rise and are passed on to the patient. The patients then become non-adherent secondary to the cost resulting in poor health outcomes. Increased levels of poor health outcomes result in increased resource utilization. Increased utilization then results in higher prices, and thus the cycle continues. In economic terms, the cost of non-adherence is 3% to 10% of the annual United States healthcare spending, calculating to virtually $100 to $300 billion annually (Iuga & McGuire, 2014).

DISCUSSION

The focus of the Healthcare Iron Triangle is improving access to care, improving the quality of care, and decreasing the cost of care. The selected articles confirm why the cost is considered the third leg of the Iron Triangle. Patients faced the decision of how to meet basic needs, including shelter and food, while trying to balance the rising costs of healthcare. The literature demonstrates, time-and-again, patients often engage in behavior attempting to mitigate the expense through delaying or deferring care. The delaying and deferring of healthcare due to cost are also known as cost-related noncompliance (CRN). The burden of rocketing healthcare costs influences the decisions of families from multiple socioeconomic backgrounds and is not only limited to low-income families. Further, insurance status is not a guarantee of adherence to medical treatment. Patients with private insurance, public insurance, traditional deductibles, or high-deductible health plans are all susceptible to the mounting expenditures and ensuring decisions on the best method of navigating the expense.

The consequences of CRN to the individual are extensive, including worsening of health, the progression of the disease, reduced quality of life, and shortened life expectancy. The repercussions of CRN to the healthcare system are increased resource utilization resulting in higher spending. Healthcare systems are not able to absorb the higher usage of services and the associated expense alone and begin to shift the cost to patients. Thus, the cycle of CRN renews. As rising healthcare costs are passed on to patients, who cannot afford the care, often delay or defer treatment, thereby worsening their conditions. The worsening conditions require additional or more expensive care, which, in turn, creates more extensive healthcare expenditures. The increase in healthcare spending is then distributed among the patient cohort through increased cost-share via premiums, deductibles, or percentage of co-insurance.

CONCLUSIONS AND RECOMMENDATIONS

The third leg of the Iron Triangle is the aim to decrease the cost of care. It is also arguably the most critical leg of Kissick's concept. The quality of care and access to care means little when patients cannot afford the care. The current literature available provides multiple sources documenting incidents of CRN and the associated causes. However, there is limited data on the forms of care patients delay or defer besides pharmaceuticals. Future research topics related to CRN are vast. They include the question of what type of care most frequently delayed or postponed or what kind of delayed or deferred care has the most substantial future financial impact on the individual and to the healthcare system. Another significant area of future research is related to determining the most critical factors impacting the decision of which type of care to delay or defer. The answer to any of these questions may allow for the development of effective policies leading to increased patient adherence, which, in turn, would potentially decrease the impact of CRN and strengthen the third leg of the Iron Triangle.

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