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ABSTRACT

Consumer Driven Health Plans (CDHPs) have been identified as a high-deductible insurance option that has increased consumer responsibility while health care expenditures have decreased. Anticipated savings through the use of CDHPs have drawn increased interest of employers and policymakers. The increased need to control healthcare costs as well as healthcare utilization have also fostered the development of increased use of CDHPs. As the use of CDHPs have expanded, educated consumers have become more engaged in their healthcare services and have increased demands for transparency of healthcare costs. Healthcare costs, utilization, and moral hazard of this study are further discussed.

Keywords: *Consumer driven health plans, consumer engagement, cost, financial savings, healthcare spending, moral hazard, transparency*

INTRODUCTION

Consumer Driven Health Plans (CDHPs) are a type of high-deductible health plan with lower premium rates paired with higher minimum deductibles and higher out-of-pocket limits (Lo Sasso, Shah, & Frogner, 2010). CDHPs were first introduced to the United States (U.S.) through e-commerce ventures in the late 1990's (Parente, 2006). CDHPs have been described as a three-tier payment system for health insurance comprised of a savings account, out-of-pocket payments, and an insurance plan. (Yi, 2010). This three-tier system consists of: Tier 1) pre-tax dollars being invested into a health savings account (HSA) contributed by the enrollee or their employer which is used for insurance plan deductibles, Tier 2) the coverage gap between current amount in an individual's pre-tax account and the deductible with the insured being responsible for any amount not covered, Tier 3) when health care expenses surmounts the deductible, then the high-deductible health insurance plan becomes a more traditional health insurance plan with the insured paying a coinsurance amount for benefits until an out-of-pocket maximum is met (Yi, 2010). CDHPs have gained popularity: due to the need to create conscientious consumers who are informed users of healthcare while also reducing utilization has made CDHPs appealing to insurance companies as well as employers (Hibbard, Greene, & Tusler, 2008).

The original purpose of CDHPs were to decrease the rising cost of health insurance, premiums increased 73% over a period of 5 years, that employers were responsible for by making the consumer have a higher level of cost sharing and increased their awareness of their healthcare spending (Fronstin & Collins, 2005; Jordan, 2016). CDHPs have continued to hold the attention of policymakers, employers, as well as consumers due to the potential of decreased health care costs; those enrolled in a CDHP spent 6%-9% less than those enrolled in a traditional health care plan (Lo Sasso, et al., 2010). Consumer engagement through the use of pre-taxed savings accounts such as Health Reimbursement Accounts, HSA, Flexible Spending Accounts, and high-deductible insurance policies have reduced expenditures for employers, estimates are 20%-25% savings for employers (Buntin et al., 2006; Davis, 2008). When consumers planned and coordinated funds allotted to them for their health care services, deductibles for a single person were $1,050 and deductibles for a family were more than $2,700, they were exposed to the financial responsibilities of their healthcare expenditures (Jordan, 2016; Leung & Escarce, 2017, Lo

Sasso, et al., 2010). Kavanagh (2007) found that the estimated costs for a family who participated in a CDHP was $11,000 per year.

Enrollment in high-deductible health plans has increased from 26.3% in 2011 to almost 40% in 2016 compared to only 4% in 2006 (Claxton, et al., 2008; Cohen & Zammitti, 2016). The leading proponents in this increase in CDHPs have attributed to providing the consumers more control of their health care spending and effectively could be considered more control of their overall health care needs (Barry, Cullen, Galusha, Slade, & Busch, 2008). Buntin et al. (2006) found that CDHPs were associated with lower costs of health care, estimates of 10%-25% savings, yet the effects on quality were mixed and a need for evidence regarding prices, treatment choices, and quality was identified.

The debate over the efficiency of CDHPs has been controversial with proponents of CDHPs insisting that consumers were able to make more cost-effective decisions, while critics of CDHPs have stated that higher cost sharing would force enrollees to forgo needed medical treatment resulting in worse health outcomes and thus increase in healthcare expenditures (Greene, Hibbard, Murray, Teutsch, & Berger, 2008). A 2005 survey performed by the Employee Benefit Research Institute found that those enrolled in CDHPs were less satisfied with their health plan compared to those in a comprehensive health plan, CDHPs created higher-out of pocket costs---31% of those participating in a CDHP spent 5% or more of their income on health care, and those enrolled in a CDHP were more likely to avoid, skip, or delay medical care (Fronstin & Collins, 2005).

Lack of transparency has been described as a major issue for the consumers of healthcare in the U.S. (Betbeze, 2016). CDHPs have been touted as bringing a revolution to transparency in healthcare (Hilsenrath, Eakin, and Fischer, 2015). Transparency can be described as the results of the cost and quality of healthcare being delivered with this information accessible to be used by the consumer for an informed decision (Wetzell, 2014). According to Collins (2006), transparency of cost and quality of care have improved healthcare by three key reasons: 1) it has helped providers improve their benchmarking of performance against other providers, 2) it has encouraged private insurers and public programs to have a higher importance in quality and efficiency, and 3) it has allowed patients to make informed choices about their care. Improved transparency has also benefitted employers by informing their public policy agenda, supported improved benefit design strategies, stimulated competition based on value of health plans, and advanced provider payment reform (Wetzell, 2014).

An argument against CDHPs has been that it would dramatically decrease the moral hazard of the consumer resulting in the consumer not seeking medical care when necessary (Dixon, Greene, Hibbard, 2008). Moral hazard can be described as the shift in economic behavior when individuals are protected or insured against risks and losses because another party is carrying all of the responsibility of the behaviors (Mendoza, 2016). In the healthcare arena, moral hazard has been typically shifted from the consumer to the insurer or provider, but with CDHPs it has been hypothesized that all of the burden of cost has fallen upon the consumer thus decreasing consumer moral hazard and patients would no longer seek medical direction in fear of cost (Geyman, 2007).

The purpose of this research study was to determine if CDHPs have created financial savings by increasing transparency of healthcare cost and decreasing moral hazard.

METHODOLOGY

The hypothesis of this research was the use of CDHPs have increased financial savings to the consumer by increasing transparency of cost in healthcare.

The methodology for this study was a literature review. Electronic databases used included Ebscohost, CINAHL, Academic Search Premier, Alt HealthWatch, Health Source: Consumer Edition, Health Source: Nursing/Academic Edition, MEDLINE, and Primary Search which were provided by Marshall University's online library. Google search engine as well as Google Scholar were also exhausted in a search using keywords when articles could not be located from previously mentioned databases. Key words employed for literature recovery included "consumer driven health plans" or "consumer engagement" and "financial savings" and "cost" or "transparency" or "health spending" or "moral hazard". Research results were limited to articles written in the

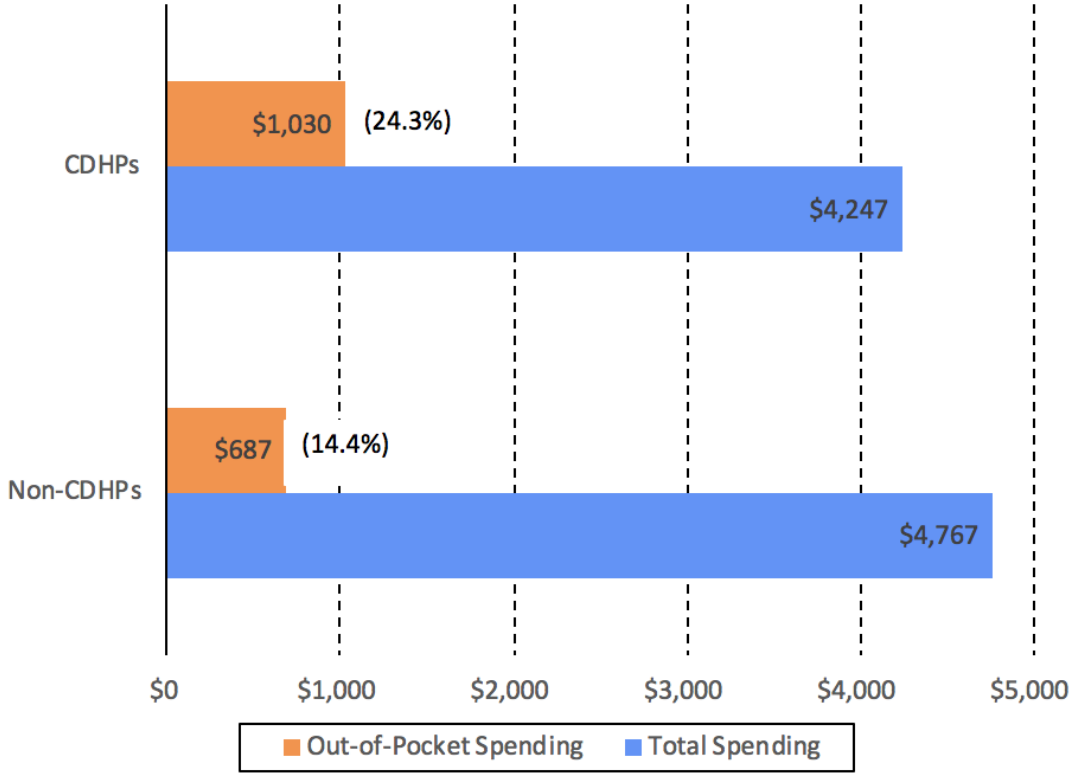
English language and published between 2005 to 2018. A total of 34 resources were selected for this research after a review of content deemed them relevant; 11 of these were utilized in the results of this study. The literature search was performed by CF, CM, JM, and BW with validation by AC who also acted as a second reader and verified literature met inclusion criteria.

RESULTS

Expenditures and Utilization

According to Bundorf (2016), CDHPs have reduced total yearly health care expenditures by approximately 5%–15% compared to similar plans consisting of lower deductibles and no health spending accounts. A study by Frost and Kennedy (2016), found that the CDHPs population spent $659 less overall than the non-CDHPs population; yet CDHPs population had a higher out-of-pocket cost, $1,030 for CDHPs compared to $687 for non-CDHPs as depicted by Figure 1. Figure 1 illustrates the average spending of different health care plans over a period of five years.

Figure 1. 2010-2014 Average Annual Total Spending Per Capita, Out-of-Pocket Spending Per Capita, and Share of Cost, by Plan Type



Source: Frost, A., & Kennedy, K. (2016)

Additionally, it was found that increasing the market share of employer-sponsored CDHPs to 50% from the current level of 13% had the potential to reduce health care spending by about $57 billion annually (Haviland, Marquis, McDevitt, & Sood, 2012). A decrease of this magnitude would be the equivalent of a four percent reduction in total health care spending for the consumers under the age of 65 (Haviland, et al., 2012).

Prior statements regarding enrollees underutilizing healthcare have proven to be debatable. An analysis by Rowe, Brown-Steenson, Downey, and Newhouse (2008) found that when comparing CDHPs and preferred provider organizations (PPOs) those enrolled in a CDHP utilized preventative services 29.1% compared to those engaged in PPOs utilized the same services 23.8% which is depicted in Table 1. Table 1 depicts preventative care utilization of a CDHP population versus a PPO.

Table 1. Preventive Care Visits Per Thousand Members Per Year, Nonelderly Health Reimbursement Arrangement (HRA) And Preferred Provider Organization (PPO) Enrollees, 2003–2005

	HRA (n=17,411)	**PPO (n=128,444)**
2003	315	260
2004	280	228
2005	279	226

Source: Rowe, J. W., Brown-Stevenson, T., Downey, R. L., & Newhouse, J. P. (2008)

While the study performed by Rowe, et al. (2008) found that CDHP participants utilized preventative care; in juxtaposition, a survey performed by Reed, Graetz, Fung, Newhouse, and Hsu (2012) found that enrollees with CDHPs, fewer than one in five understood they were exempt from the cost of preventive care visits and medical tests.

Medicine price information mechanisms, such as medicine objectives, target audiences, sources, and volumes, have been directly related to the need for increased medicine price transparency (Hinsch, Kaddar, and Schmitt, 2014). In a retrospective insurance claim analysis performed by Parente, Feldman, and Chen (2008) from an employer that offered CDHPs, a Point of Service (POS), and a PPO plan, the CDHP pharmaceutical expenditure was $240 lower than those in the PPO plan thus it created a cost neutral or cost saving to the employer and consumer.

Transparency

The cost sharing associated with high-deductible health plans has placed increased attention on the lack of transparency in the U.S. healthcare system (Winfield, 2018). Health Care Organizations (HCO) have been able to position and fight for their consumers when greater transparency was available thus decreasing the cost to the consumer while increasing quality of care (Winfield, 2018). Charge transparency interventions displayed to physicians alone modified their ordering practices and prescribing behaviors (Goetz, Rotman, Hartoularos, and Bishop, 2015). When residents were exposed to the transparent cost of tests, they were found to spend less; disclosed price $1,297 versus undisclosed price of $2,205 (Goetz, et al., 2015). HCOs have become more transparent through CDHPs which have made pharmaceutical sales more transparent as well, thus decreasing cost. According to Goetz, et al. (2015) when medication choices were displayed with the price, physicians trended to choose generic medication options to reduce cost and the use of expensive antibiotics dropped from 38% to 18%.

According to a study performed by Wilson, et al. (2009), the potential for increased financial responsibility in CDHPs did not deter the consumer in pursuing necessary care when compared to a comprehensive major medical plan (CMM). Furthermore, Wilson et al. (2009), found through Healthcare Effectiveness Data and Information Set enrollees in CDHPs received higher quality of care than CMM enrollees related to lower back pain and better than or equal care when consumers had chronic conditions. The CDHPs population were responsible for 24% of healthcare costs compared to 14% for the non-CDHP population (Frost & Kennedy, 2016). Westover, Arredondo, Chapa, Cole, and Campbell (2014) found that when CDHPs were offered to uninsured, non-Medicaid eligible adults with incomes under 200% of the federal poverty line and compared that to a consumer with a Medicaid plan or

commercially insured health plan that the cost sharing aspect of CDHPs did not sway the low-income CDHP enrollee from seeking or receiving appropriate medical care.

The majority of CDHP enrollees tended to portray a higher education level, especially regarding their health status and wellbeing (Bundorf, 2016). As a result, CDHP participants frequently utilized their healthcare coverage frequently, properly, and efficiently (Bundorf, 2016). This researcher found CDHPs enrollment and utilization to be directly proportional to income level and education level.

DISCUSSION

The purpose of this literature review was to determine if CDHPs had an effect on transparency in healthcare, created financial savings, and affected the moral hazard of the consumer. The results of this research indicated that CDHPs created an improved price transparency in healthcare as well as decreased health care expenditures. The outcome of this literature review supported the use of CDHPs in an effort to control healthcare expenditures and utilization.

Limitations

This literature review was limited by the data available for research, databases used, as well as research bias of the studies selected for review. Limited quantitative data was found regarding consumer healthcare premiums and out-of-pocket spending for consumers; and it was noted that the quantitative data utilized may have been skewed by confounding factors. Minimal data was found regarding transparent healthcare cost and consumer cost sharing.

Implications

Healthcare expenditures in the U.S. have skyrocketed to exponential amounts, in 1990 the gross domestic product of healthcare was 5.98 billion dollars and rose to 18.03 billion dollars in 2015 (CDC, 2016), and efforts made by the U.S. government to control these costs have been futile or only slightly effective. However, the utilization of CDHPs has been an effective solution for cost control as well as appropriate utilization. CDHPs have placed an increased amount of responsibility on the healthcare consumer and the result has been the creation of more conscientious users of healthcare. Increased responsibility has created a beneficial effect on utilization of healthcare services as well as transparency of healthcare costs; while not deterring the healthcare consumer from accessing care when needed. As consumers of CDHPs have been burdened with a larger portion of their healthcare costs initially, they have increased the demand for transparency in the cost of healthcare services.

The research conducted showed the demand for increased transparency had an effect on how physicians created treatment plans for their patients. As prices were revealed, physicians were less likely to order unnecessary medical tests and procedures; and patients were more likely to question the need for these services.

It was noted that those who participated in CDHPs were more conscientious users of healthcare. CDHPs encouraged an appropriate use of healthcare services, thus decreasing over utilization of unnecessary healthcare benefits. The necessity to make diligent decisions regarding healthcare forced participants to become better educated regarding healthcare needs. As participants were better informed, they sought out cost effective services. Even though concerns regarding the underutilization of healthcare services were noted, participants in CDHPs were identified as being higher users of preventative services compared to those in other healthcare models. The use of preventive healthcare services has been linked to healthier consumers and decreased healthcare cost (CDC, 2017).

Recommendations

CDHPs have been a valid alternative healthcare model for those who were willing to be educated, conscientious consumers. CDHPs have allowed consumers to have greater control of their healthcare services through negotiations and price transparency, but this model has not been identified as a feasible option for all consumers. According to the results, there have been conflicting reports on consumer satisfaction of CDHPs. This has been attributed to how the consumer utilized CDHPs. When a consumer utilized HSA and assessed cost comparison of services, CDHPs were an appropriate insurance option. If the consumer failed to save for HSA and used healthcare services frivolously, then CDHPs were not appropriate for that consumer.

CONCLUSION

When healthcare consumers chose CDHPs they experienced decreased healthcare costs and improved transparency in healthcare. Participants in CDHPs were more educated, conscientious users of healthcare than participants in other health plan models. This literature review did support the hypothesis of these researchers; yet in order to make a better-informed conclusion, more recent quantitative studies should be performed with concentration placed on the use of preventative services, consumer cost sharing expenses, and transparency of healthcare prices.

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