A Pilot Study Investigating Employee Utilization of Corporate Telehealth Services

by Seena Shazowee Edgerton, DHA, RT(R)(M)

Abstract

In line with the vision of the University of Mississippi Medical Center (UMMC) to improve health outcomes and eliminate healthcare disparities in Mississippi, a corporate telehealth program was initiated beginning May 2014. A descriptive study was performed to discover common characteristics among enrolled employee users who took advantage of UMMC's corporate telehealth services offered in their workplace throughout the program's first year of operation. This pilot study examined the number of videoconference visits (e-visits) throughout the first year of operation, from May 2014 through April 2015. This examination of common user traits may help identify characteristics that indicate an employee's likelihood of using corporate telehealth. The study revealed the highest use among employees between the ages of 30 and 49 years and among those who attended a formal orientation session including both the employer's human resources personnel and a UMMC corporate telehealth representative. Corporations may find that offering corporate telehealth serves as an effective means to reduce overall healthcare costs and productivity loss. Furthermore, the identification of common variables in this study may help the UMMC corporate telehealth program develop additional methods to reach and assist employees who may not otherwise seek medical treatment.

Keywords: telehealth; corporate telehealth; e-health; remote consultation; health services accessibility

Introduction

With healthcare costs continuing to rise nationally and globally, telehealth technology has become recognized for its potential to improve access to valuable, quality patient care at more manageable costs.[1–4] The potential for telehealth to assist active members of the workforce, who may sacrifice health concerns to meet employment obligations, has been explored in light of the encouraging achievements of telehealth. Telehealth technologies can furnish corporations with an innovative means of supporting a healthier workforce, improving productivity, and reducing healthcare costs.[5] Telehealth confers an increased ability to provide connections between patients and healthcare providers despite distance, transportation obstacles, and other factors that can interfere with routine care, such as physical limitations.[6]

The University of Mississippi Medical Center (UMMC) corporate telehealth program allows employees to seek medical treatment without leaving the workplace by making use of videoconferences, referred to as "e-visits." E-visits are provided at the workplace in a secure area with computer access. The employee can make a same-day appointment to consult with a telehealth provider and receive e-prescription services along with a referral to a local physician as needed. The visits can be scheduled at a convenient time for employees, such as on their break or lunch time. Telehealth technology can assist in the recognition of early signs of disease, as well as encourage a proactive mentality concerning health

needs within the workforce.[7] Employees with chronic conditions can also use this service for question-and-answer sessions to assist them in monitoring their health. This access encourages employees otherwise lacking access to a usual source of care to obtain medical consultation and treatment, thus contributing to a healthier workforce.[8]

Background and Significance

A general acceptance of corporate telehealth programs could provide a convenient, cost-effective delivery approach to offer employees convenient access to healthcare, regardless of location. As health information technology advances, employees in remote areas can receive quality care and treatment without leaving the workplace.[9] In support of the potential of telehealth, UMMC, in conjunction with the Mississippi Development Authority and the Office of the Governor, expanded the UMMC Center for Telehealth to include a workforce component. In 2014, the UMMC Center for Telehealth launched a corporate telehealth program to provide convenient access and cost-effective healthcare to employees of corporations operating in the state of Mississippi. The collaboration provided resources necessary to help meet the twin needs of increasing access to healthcare for employees and increasing interest in business development in Mississippi. According to Mehrotra, those who might not normally seek out face-to-face visits might be more willing to use e-visits.[10] Additionally, corporations who are self-insured and have high deductible plans may find that corporate telehealth offers a cost-effective alternative by providing access to healthcare at a minimal cost when compared with traditional insurance reimbursements. Thus, offering this service to corporations could potentially attract more businesses to Mississippi and create economic growth for the state.

Cost reductions and improved access remain critical healthcare concerns within Mississippi, a largely rural state known all too well for economic and health disparities that have an immediate effect on the state's business development, as well as its public health. Corporate telehealth has been reported to improve access to healthcare among corporate employees, the quality of that care, and its associated outcomes, while reducing corporate healthcare costs.[11] Telehealth technology permits corporations in the state to deliver convenient access to urgent care health services at a minimal cost for their employees.

This program offers corporations a choice between "opt-in" or "all-inclusive" telehealth plans. The opt-in plan provides employees with the option to participate in the program but requires that the minimal cost of enrollment (approximately $10 per month for unlimited usage) be paid by the employee. The all-inclusive plan automatically enrolls all employees of affiliated corporations into the program, with the cost paid by the employer.[12] The UMMC corporate telehealth center provides on-site formal orientation sessions to all enrolled employees of each participating corporation. However, some corporations opted to provide information and/or orientation sessions to employees through their individual human resources departments in lieu of a formal orientation session including a representative from the UMMC telehealth center.

Acceptance and Utilization

The ability of telehealth to concurrently increase care and reduce costs for users and physicians has thus been largely established.[13] E-visits may further encourage healthcare providers to make use of patient-centered communication approaches that encourage shared decision making. The potential of telehealth to orient providers toward greater utilization of patient-centered communication is important because a major factor in patient dissatisfaction is the communication style of the healthcare provider.[14] By contrast, patient-centered communication has been associated with higher satisfaction and improved health outcomes.[15] The shared decision making encouraged by e-visits can alone be important to maintain health. Patients who participate in decision making regarding their medical treatment assume more accountability for their health, adopt a healthier lifestyle, and take a proactive approach when seeking medical care.[16, 17] Similar findings were reported by the California Public Employees' Retirement System, which offers telehealth services via Teladoc, a national corporate telehealth provider.[18] Their analysis of telehealth use indicated an increased access to medical care for patients who did not have any prior connection to a provider. Additionally, this analysis, which included assessment of the use of healthcare

services before and after the implementation of telehealth services, concluded that adult users were younger, were healthier, lived in more affluent areas, and required fewer follow-up visits than those who visited physicians' offices or an emergency department for similar conditions.[19] Harris Poll, in a survey undertaken on behalf of American Well, a national corporate telehealth provider, reported the following trends:

1. 64 percent of Americans were willing to use telehealth visits,
2. consumers expected e-visits to be less expensive than conventional visits,
3. consumers would seek a telehealth visit before seeking further medical treatment for nonemergent issues, and
4. 70 percent of participants were more likely to choose a primary care physician who offers telehealth services.[20]

Guidelines published by the American Telehealth Association require that the quality of e-visits be comparable to that of traditional face-to-face visits.[21] Additionally, providers are required to follow and meet guidelines set forth by the Patient Protection and Affordable Care Act (PPACA) designed to improve access, delivery, and coordination of healthcare services. The California Healthcare Foundation suggested in 2014 that the success of the PPACA would be affected by the acceptance of technology allowing healthcare providers to have efficient access to treat and track those seeking medical treatment.[22]

Concerns

Mehrotra suggests that the biggest advantage of telehealth is convenience; however, there is no guarantee that those most needing access to medical care will utilize this technology.[23] Consumer and provider e-literacy, defined as the ability to operate software and put information into proper context, is necessary for a successful telehealth system.[24] In short, telehealth systems depend on the technical skill and knowledge of the users (providers and consumers).[25] In a report by Uscher-Pines and Mehrotra (2014), the lack of a true physical examination and attainability of certain diagnostic testing in telehealth could create fragmentation in the quality of care.[26] However, the intent of corporate telehealth services is to bridge the gap between employees and convenient access to medical care for employees' urgent care needs.[27]

Methodology

The information provided in this article is the result of a pilot study regarding employee use of corporate telehealth services offered through UMMC during the program's first year of operation. A descriptive study methodology was chosen for this investigation. According to the Office of Research Integrity of the US Department of Health and Human Services, descriptive studies refer to the collection of information used to describe "what is;" can provide information about behavior, attitudes, or characteristics of a set group; and involve two types of approaches. One method involves direct interaction with participants, whereas the second method involves no interaction but a review of existing records.[28] The latter method was used to describe who was taking advantage of telehealth services in the workplace offered by the UMMC corporate telehealth program. This pilot study describes employees from nine corporations who used corporate telehealth services provided by UMMC's corporate telehealth program during the program's first year of operation.

For this research, de-identified telehealth utilization data from the UMMC corporate telehealth program for the period of May 2014 through April 2015 were examined. Monthly utilization reports, comprising a total of 1,127 e-visits by the 3,551 enrolled employees of the nine participating Mississippi corporations, were assessed. Table 1 displays an overview of the participating corporations included in the study. During this evaluation, the type of industry, location of corporation, user age, user gender, type of enrollment, and type of program orientation were recorded. These factors were then compared with the number of e-visits per corporation. A limitation should be noted: the overall population of each corporation was not available. Therefore, a breakdown of those employees who actually participated in e-visits was used.

The initial step of this investigation included meetings and discussions with the staff of the UMMC corporate telehealth center regarding the program's history, goals, and services offered. Utilization reports for services provided during the time frame of May 2014 through April 2015 were used to identify common characteristics among participating corporations. After personal identifiers were removed by telehealth staff, information was reviewed and categorized. The final step was analysis of selected data to determine possible links that may have existed between the chosen variables and the number of enrolled employee e-visits.

Because not all of the corporations were enrolled for the same period of time throughout the study, the formula in Figure 1 was used to obtain a comparable comparison of utilization among corporations enrolled. This formula resulted in obtaining usage in terms of number of visits per 100 employees enrolled per year. An example of the calculation is as follows: the number of employees enrolled is 700, with 200 e-visits in a six-month period. The calculated utilization is (200 visits/700 employees) × (12 months/6 months) or $0.2857 \times 2 = 0.57$, or 57 visits per 100 employees per year.

Categories chosen were based on common factors that included the following:

1. the type of industry,
2. the location of the corporation,
3. the age of the users,
4. the gender of the users,
5. the type of program enrollment, and
6. the type of program orientation provided to enrolled employees during the program's first year of operation.

The timeline represented in this study was May 2014 through April 2015.

Findings

A greater number of e-visits was noted among employees in the manufacturing and banking industries, which also enrolled the largest number of employees during the study. Table 2 provides an overview of the type of industry, number of enrolled employees, and number of e-visits of participating corporations.

No consistent connection was found between participating corporations' county locations (rural versus urban) and the corresponding number of e-visits (see Table 3). However, these findings suggest that studies of corporations with multiple locations in both rural and urban areas should include a way to distinguish whether employees accessing corporate telehealth services do so from sites in a rural or urban county.

Users' ages were compiled from all participating corporations and were divided into six categories: ≤19 years, 20–29 years, 30–39 years, 40–49 years, 50–59 years, and ≥60 years. Findings revealed the percentages of e-visits per group as follows: ≤19 years, 4 percent; 20–29 years, 21 percent; 30–39 years, 28.5 percent; 40–49 years, 22.5 percent; 50–59 years, 19 percent; and ≥60 years, 5 percent. Further studies are needed to help determine whether this finding reflects consumers' level of e-literacy and degree of comfort in the digital environment, autonomy at work sites to schedule and keep appointments, questions about ill family members (particularly children), or other factors that may influence access to corporate telehealth services. This finding also suggests that further research may be needed to determine whether this technology is effective in helping employees with more complex and comorbid issues. Figure 2 demonstrates the number of e-visits by age group. A limitation of this category was that the overall population age per corporation was not available. Findings may be skewed regarding the age of users because of a corporation employing a predominant age group.

The number of e-visits was compiled from all participating corporations to compare the number of visits by male and female employees. In total, 573 visits were made by male employees, and 554 visits were made by female employees. This finding suggests overall acceptance of using telehealth services by both male and female employees. Table 4 provides a breakdown of male and female users per corporation. A limitation of this finding is that the overall gender composition of each corporation was not available. Corporations may have a predominately male or female employee pool, which may skew findings.

No consistent increase in the number of e-visits was noted according to the type of corporate telehealth plan selected. The greatest use of corporate telehealth services was noted among employees who had participated in an orientation session that included UMMC corporate telehealth staff. The greatest use of corporate telehealth services, however, at 95 e-visits per 100 employees per year, was observed for the corporation in which the employees participated in an orientation session including both corporate telehealth and human resources staff. The two programs that used corporate telehealth staff alone for orientation had 63 e-visits per 100 employees per year and 35 e-visits per 100 employees per year, respectively. Table 5 illustrates the number of e-visits per 100 employees per year according to the type of program orientation.

Discussion

Corporate telehealth programs must follow the American Telehealth Association guidelines to ensure that employees receive medical care comparable to a traditional face-to-face visit regardless of location. UMMC's telehealth center can serve as part of the solution to Mississippi's shortage of healthcare providers, increased demand for healthcare services, and noted health disparities. Telehealth services are not meant to replace traditional face-to-face visits but to expand the access to quality healthcare and help reduce the costs of unnecessary emergency room visits and hospitalization. The ability to offer local referrals to primary care providers and specialists allows corporate telehealth to assist employees who may not have an established medical home. The use of telehealth services necessitates a patient-based style of communication, resulting in the patient's participation in decision making regarding care and treatment. Encouraging patients' involvement in their care can give patients a sense of self-efficacy and create accountability for their well-being.

Conclusion

This study describes the active users of UMMC's corporate telehealth services during the program's first year of operation. Overall, findings regarding the number of e-visits during the first year reveal a higher number of e-visits among those who attended an orientation session including the presence of corporate telehealth staff. These findings suggest the importance of employee education regarding the services offered by corporate telehealth plans and how to access the services. Because this analysis was a pilot study of a program in the development phase, further studies should be done after three to five years to address changes in the health status of employees, patient satisfaction, and use of telehealth services in comparison with this study.

Seena Shazowee Edgerton, DHA, RT(R)(M), is an associate professor and clinical coordinator of the Radiologic Sciences Program at the University of Mississippi School of Health Related Professions in Jackson, MS.

Notes

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Table 1

Overview of Corporations Participating in Telehealth

Participating Corporations	No. of Employees Enrolled	No. of E-visits	No. of Months
Corp. 1 (manufacturing)	797	503	12
Corp. 2 (banking)	725	344	6
Corp. 3 (education, postsecondary)	536	40	5
Corp. 4 (manufacturing)	462	160	12
Corp. 5 (planning and development)	350	15	6
Corp. 6 (education, private, K–12)	250	17	4
Corp. 7 (manufacturing)	172	25	8
Corp. 8 (manufacturing)	130	8	5
Corp. 9 (education, public, K–12)	129	15	1

Table 2

Number of E-visits by Industry

Industry	No. of Employees Enrolled	No. of E-visits per 100 Enrollees per Year
Banking (corp. 2)	725	95
Manufacturing (corp. 1)	797	63
Manufacturing (corp. 4)	462	35
Manufacturing (corp. 7)	172	22
Manufacturing (corp. 8)	130	15
Education, postsecondary (corp. 3)	536	15
Education, public, K–12 (corp. 9)	129	12
Education, private, K–12 (corp. 6)	250	7
Planning and development (corp. 5)	350	9

Table 3

Total Number of E-visits by Location of Corporation

Corporation	No. of E-visits per 100 Enrollees per Year	Location
Banking (corp. 2)	95	R&U
Manufacturing (corp. 1)	63	R&U
Manufacturing (corp. 4)	35	U
Manufacturing (corp. 7)	22	U
Manufacturing (corp. 8)	15	R
Education, postsecondary (corp. 3)	15	U
Education, public, K–12 (corp. 9)	12	R
Planning and development (corp. 5)	9	R
Education, private, K–12 (corp. 6)	7	U

Abbreviations: R, rural; U, urban. R&U (rural and urban) indicates corporations with multiple sites.

Table 4

Number of E-visits by Male and Female Employees per Corporation

Corporation	Total No. of E-visits	No. of E-Visits by Males	No. of E-visits by Females
Manufacturing (corp. 1)	503	369	134
Banking (corp. 2)	344	94	250
Manufacturing (corp. 4)	160	88	72
Education, postsecondary (corp. 3)	40	5	35
Manufacturing (corp. 7)	25	8	17
Education, private, K–12 (corp. 6)	17	4	13
Planning and development (corp. 5)	15	0	15
Education, public, K–12 (corp. 9)	15	0	15
Manufacturing (corp. 8)	8	5	3
Total visits	1,127	573	554

Table 5

Number of E-visits by Type of Program Orientation

Corporation	No. of E-visits per 100 Enrollees per Year	Type of Orientation
Banking (corp. 2)	95	Orientation with human resources and telehealth staff
Manufacturing (corp. 1)	63	Formal orientation with telehealth staff
Manufacturing (corp. 4)	35	Formal orientation with telehealth staff
Manufacturing (corp. 7)	22	No formal orientation
Manufacturing (corp. 8)	15	No formal orientation
Education, postsecondary (corp. 3)	15	No formal orientation
Education, public, K–12 (corp. 9)	12	No formal orientation
Planning and development (corp. 5)	9	No formal orientation
Education, private, K–12 (corp. 6)	7	No formal orientation

Figure 1

Utilization among Corporations Enrolled

$$\text{Utilization per 100 employees per corporation per year} = \left(\frac{\text{no. of visits}}{\text{no. of employees enrolled}} \right) \times \text{time enrolled}$$

Figure 2

Number of E-visits by Age