Health Policy and Technology (2016) 5, 74–83

Available online at www.sciencedirect.com

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journal homepage: www.elsevier.com/locate/hlpt

Assessing the adoption of a home health provisioning system in India: An analysis of patients

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Available online 23 October 2015

KEYWORDS
Concierge medicine;
Technology;
EMR;
Home care;
Health service;
ICT

Abstract
Background: Unlike the developed countries, a home healthcare provisioning system (HHPS) is not widely prevalent in India. Our aim was to evaluate the knowledge, attitudes and perceptions of Indian patients in adopting the HHPS.
Methods: We used a paper based and online survey for adults in India to conduct the study. We used bar and pie charts to represent the frequency distributions. We also conducted multivariate logistic regression analysis to understand the importance of the selected factors upon the dependent variables of interest, which include patient willingness to pay extra for utilizing services through HHPS, willingness to pay extra for utilizing services during non-office hours, and willingness to enroll into HHPS.
Results: A total of 193 patients were surveyed (141 paper, 52 online). The study sample was comprised of 74 males and 119 females; 64.9% of males and 37.8% of females were interested in having routine medical check-ups through HHPS. In addition, 52.7% of the males and 31.9% of females were interested in utilizing services through HHPS during the weekends. A large proportion of patients (97.9%) were also open to utilizing a non-personal means of communication like telephone, email, SMS or video chat for simple follow-up queries. Furthermore, we noted that a significant proportion of patients (56.5%) were willing to enroll voluntarily, and 35.2% were willing to enroll for a free trial to obtain services through HHPS. Patient willingness for extra payment to obtain services through the HHPS was likely due to the patients' desire to receive answers to follow-up queries through information and communication technology (ICT) (computer, email, text messages, or telephone call). Patients who believed that routine medical checkups are important in life were willing to pay extra for utilizing services through the HHPS. Young male patients were more likely to have medical checkups during non-office hours as compared with their female counterparts.
Conclusions: A sizeable proportion of Indian patients are willing to enroll into a HHPS. A large proportion of patients were also open to utilizing non-personal means of communication like telephone, email, SMS or video chat for simple follow-up queries. There appear to be age based and

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http://dx.doi.org/10.1016/j.hlpt.2015.10.009

gender based differences in the overall willingness to enroll into such a system.

Introduction

Home health provisioning systems (HHPS) have been argued to represent the best as well as the worst systems of the healthcare delivery in developed nations such as the United States. First started in the mid-1990s, these are popularly known as "concierge," "luxury," "retainer" or "boutique" practices in the modern era. The HHPS represents an arrangement where physicians provide routine, emergent, as well as "enhanced" healthcare services, at the patient's home both for the patient's convenience and need for a supplemental fee [1]. As a part of the system, patients are generally provided emergency services as well as routine primary healthcare services. Several existing systems also provide enhanced services like nutrition and diet-related advice along with psychological counseling.

There are several purported benefits of HHPS, which have been pointed out by physicians in these types of practices [2,3]. The principal aim of such a system is to improve the overall health of the members by providing more personalized care to their patients. The practicing physicians claim that this system helps establish a more solid physician patient relationship by having a provision for longer appointments, 24-h access to doctors, as well as comprehensive preventive examinations [2,3]. The provision of routine and expanded primary health care services, in addition to the emergency healthcare services, helps make the system more financially viable. Although such systems have been prevalent in various forms and capacities in developed countries for many years, they are yet to be introduced in developing countries like India.

On the other hand, multiple questions have been expressed regarding the widespread implementation of HHPS [4-8]. Concerns have been voiced by some professional organizations including the American Medical Association and several others [4-8]. These include exacerbation of existing healthcare inequalities along with abandonment of patients by their physicians based on income and ability to pay. In addition, these systems have ill-defined payment systems, as they may be considered "out of network" by most conventional insurance plans. They also may pose a risk for "insurance fraud" due to the possibility of duplicate billing by the practicing physicians, as most of the physicians have traditional practices as well. Furthermore, it has been argued that several of these practices might offer inappropriate services that may not be evidence based and hence contribute to healthcare overuse [4,5].

Despite the heated controversy regarding the benefits and risks posed by HHPS, there appears to be rather scant evidence regarding the utilization of HHPS and the outcomes of patients enrolled in such systems. The majority of articles published in current literature represent anecdotal evidence or consensus statements. Alexander et al, conducted a comparative study using mail survey of physicians in HHPS like systems and those in traditional practice systems [9]. They found that HHPS physicians had much smaller patient panels and cared for less racially diverse populations as compared to traditional practice physicians. A large proportion of HHPS physicians provided specialized services such as accompanied specialist visits, house calls, 24-h physician access, same day appointments, coordinated hospital care, as well as private waiting rooms, which were often lacking in the traditional physician practices [9]. The study explored from the physicians' perspective, but the experiences and perspectives of patients were not reported. To the best of our knowledge, there are no systematic evaluations of patient attitudes, beliefs and perceptions regarding HHPS and other similar systems in the current literature.

There are several reasons why HHPS is being contemplated by several patients in the developed nations like the US [10]. The existing primary healthcare system has several recognized deficiencies, and unfortunately most of these appear to be increasing over time [10]. Three of these are specifically relevant to HHPS implementation: after-hours access, same day scheduling and non-personal interactions. With increasing work commitments during routine office hours, most patients are unable to seek routine medical care. In a 2007 survey, only 28% of patients had access to medical care during non-office hours [11]. If healthcare policies aim to reduce inappropriate and costly emergency room visits, medical care during non-office hours is imperative. Similarly, open access, same day scheduling is an important provision that patients of today look forward to in their physician practices. Furthermore, many chronic and preventive issues can be easily handled by non-personal methods of communication like telephone or email [12-15]. Patients should generally have the option to choose between in-person office visits, house calls or videoconferences with physicians [12-15]. This would help open up more face-to-face time for patients that need traditional visits.

Research perspectives have previously identified considerations such as "How much should the patient be charged for service provision through HHPS?" [16]. All the identified research perspectives were not comprehensively addressed by the previous research work. Moreover, to the best of our knowledge, there is scant research on the importance of factors such as demographics (age and gender) of patients likely to have interest in HHPS, compatibility of the HHPS with patient needs, and the benefits of information and communication technologies (ICT) for the implementation of HHPS. With this background, we attempted to understand the needs, modes of accessibility, attitudes, and perceptions of the patients towards a system wherein different healthcare services can be utilized by the patients through HHPS. In this study, we try to address the following research questions: (1) What factors influence the enrollment of patients into HHPS? (2) What is the likelihood of patients utilizing HHPS during non-office hours? (3) What is the