



Impact of Telemedicine on Healthcare Service Sector

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Abstract:

Telemedicine is an effective way to improve the overcrowding of hospitals and improve the utilization of medical resources. In this paper, we try to understand the mode patients prefer. Patients' postponement sensitivity and transportation cost are also considered in this study. The main results follow. First, in utmost cases, telemedicine service can help to cut the total cost of the healthcare system, and patients treated online or offline both can enjoy the benefit from the implementation of telemedicine. Second, the dual-channel healthcare system is more elastic than the traditional outpatient system and the gatekeeper system. There exists an optimal market segmentation of the two channels in the dual-channel healthcare system. Finally, we find the mentality of customers towards the telemedicine services.

Introduction:

Recently, telemedicine has become bizarrely important, due to increased distribution and development of digital technologies. During the COVID-19 pandemic, compulsory social distancing and the absence of effective treatments has made telemedicine the safest interactive system between patients, both infected and uninfected, and clinicians.

The pandemic further strained the importance of remote monitoring. It can provide a relaxed access to those living in isolated areas. It aids informed decision-making. It also simplifies the health decision-making process or communication between healthcare

providers and individuals regarding prevention, diagnosis or organization of a health condition.

What is telemedicine?

Telemedicine, also stated to as telehealth or e-medicine, is the remote distribution of healthcare services, including assessments and consultations, with the help of telecommunications infrastructure. Telemedicine allows healthcare providers to assess, diagnose and treat patients without the need for an in-person visit.

Advantages of Telemedicine for Patients

- No transportation time or costs.
- No need to take time off of work.
- Eliminate child or elder care issues.
- On-demand options.
- Access to Specialists.
- Less Chance of Catching a New Illness.
- Less Time in the Waiting Room.
- Better Health.

Literature Review:

Telemedicine is quite new in the healthcare system. There is limited research on impact of this mode of healthcare service. The previous studies assess the telemedicine service from three different perspectives: clinical outcome, economics, and satisfaction. The adoption of telemedicine is mainly influenced by the economic perspective like cost saving and added revenue. Many empirical papers have emphasized the transportation cost saving of the telemedicine services. So, we consider the patients' awareness and how likely are they to avail tele-medicine service. If we further measured the threshold at which the cost of telemedicine service is the same as that of the conventional in-person service. However, they all have not made a specific comparison and analysis of telemedicine service. Expect the economics, speed and quality of the healthcare service are also very important. After the pandemic of more than two year the outlook of patients have been changed. With the lockdown all over the country the scope of telemedicine was reviled. It is the scope of our study. How the mentality of the patients has been changed and the impact created by the telemedicine services.

There is a large body of literature concentrating on the effect of government regulations and welfare measures. However, the aims of the system planner or government are varied in those studies. For example, study the effect of government fiscal policy on the capacity decision of the two-tier service system, which includes a

free public service provider aimed at maximizing the patients' net utility and a toll private service provider aimed at maximizing its expected profit. Take healthcare service as a tool to achieve welfare redistribution, and the planner's aim is to maximize the total weighted patient welfare. Consider a medical market comprised of two hospitals with different service levels, and the aim of government is to maximize the number of patients who got treated. Additionally, considers the health condition and healthcare cost of patients with chronic diseases. In our study, we aim to find how patients feels about tele-medicine services as the pandemic coming to an end here.

The integration of online and offline channels to provide customers with products and services is very popular in many industries. Give an excellent review of the dual channel in a service supply chain. But we are considering the preference of customer, weather they prefer online mode of products and services or an offline mode. From early studies demonstrate that customers using self-service systems can reduce waiting cost and increase customer demand as well as employment levels. As to healthcare service, Wu and examine the channel effect in online health communities. We can find that online health communities broaden and diversify channels for the patient-doctor interaction and provide better treatment by decreasing medical costs, making full use of available resources. Most studies in the area of dual-channel management focus on channel competition, in which price and service level are important factors. In this paper, we try to decide the what a customer wants. Especially after this pandemic.

Research Methodology:

There are several research methodologies available to meet the research objectives of this paper and none is inherently superior or inferior to the other. Thus, there is no explicit law for one to follow in choosing one system over another and the choice may differ according to several factors such as the nature and any other constraints affecting the collection of facts and figures.

For the motive of the study, both primary and secondary figures were used. Questionnaires were used to gather responses from respondents.

The researcher employed questionnaire to collect the basic information. A questionnaire was developed to look for the respondent's understanding of telemedicine procedures.

The questionnaire had two sections:

Section A identifies the respondents, their gender and their age;

Section B concentrates on weather the customers have heard about telemedicine services, what is their mentality towards telemedicine services. From when on they came to know about telemedicine services. Is before pandemic or after it.

The data was input into the software and it was also used to generate the pie chart which aided in the interpretation of the outcome obtained.

Research Findings:

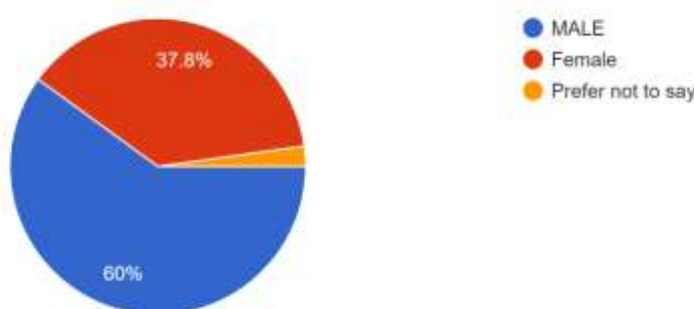
This part of the research work presents study and discussion of the data collected from the data collection process. Fifty (50) questionnaires were administered to some random people; how-ever 45 responded questionnaires were obtained representing a 90% response.

In the set of questions that sought to explore what a customer expects and what they think of telemedicine. From when did they were of the telemedicine service, was it before the pandemic or after it. The main objective is to find the mentality of the customers towards the telemedicine service.

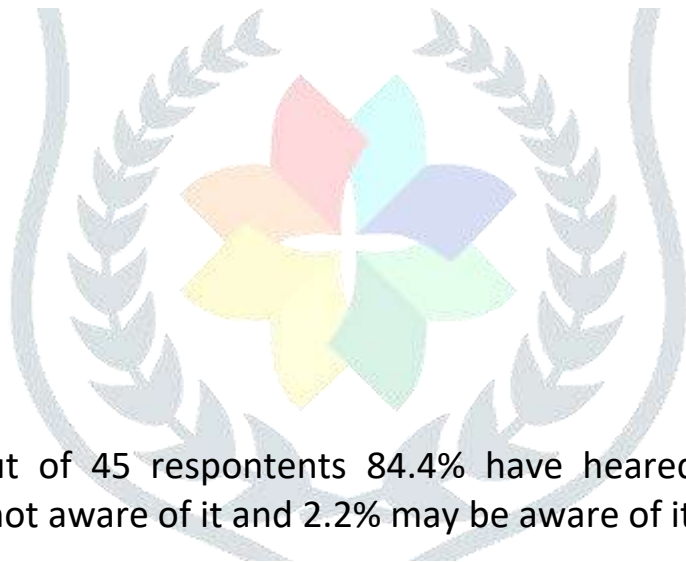
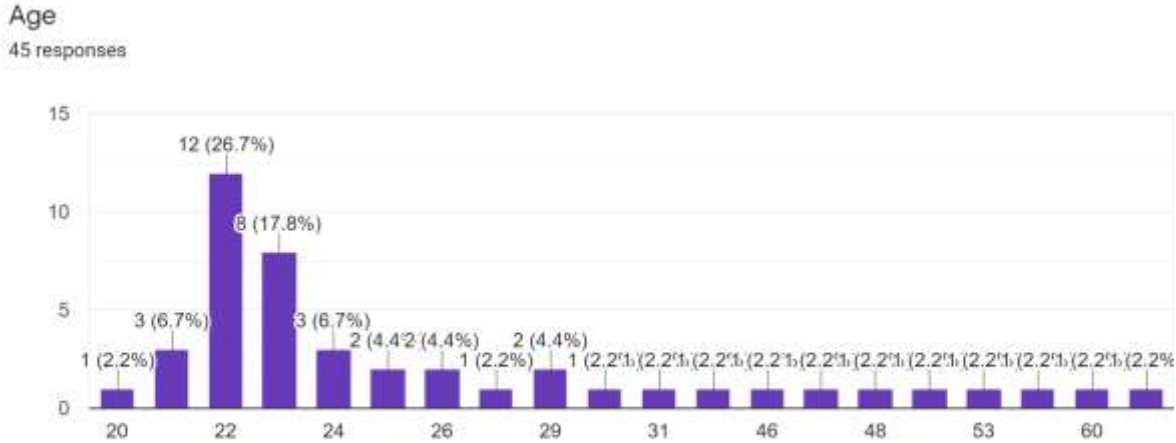
DEMOGRAPHIC INFORMATION OF THE RESPONDENTS: -

Interpretation: Out of 45 responses, 60%(27) of the respondents are male,37.8%(17) are female and and 2.2%(1) prefer not to say.

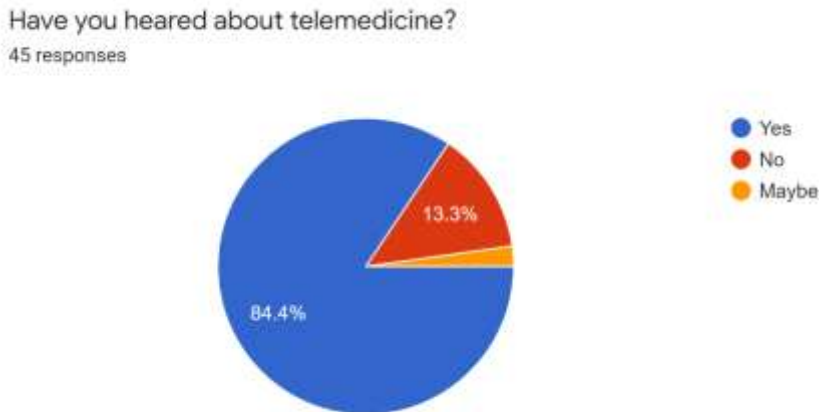
Gender
45 responses



Interpretation: Age wise charts gives us a coclusion of people from the age group 20-35 are the ones who are more familiar with telemedicine services and comfortable in availing the services.



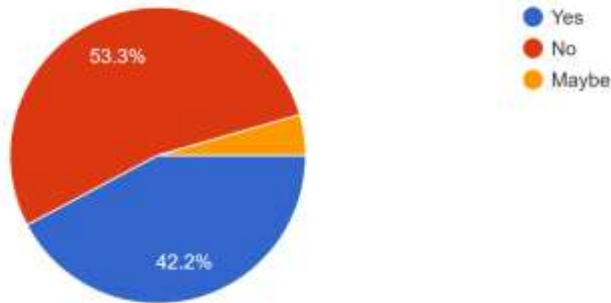
Interpretation: Out of 45 responentts 84.4% have heard about telemedicine services,13.3% were not aware of it and 2.2% may be aware of it.



Interpretation: 53% of the respondents have availed telemedicine services, 42.2 is not familiar with it and 4.4 have may be used it.

Have you ever availed telemedicine service?

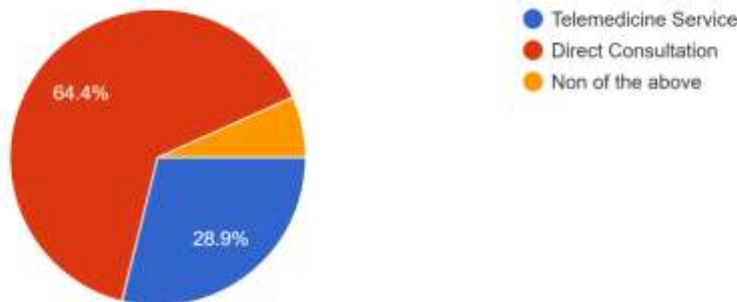
45 responses



Interpretation: From 45 respondents 64.4% prefer direct consultations over telemedicine services, 28.9% feels telemedicine services are better and 6.7 thinks none of them are good.

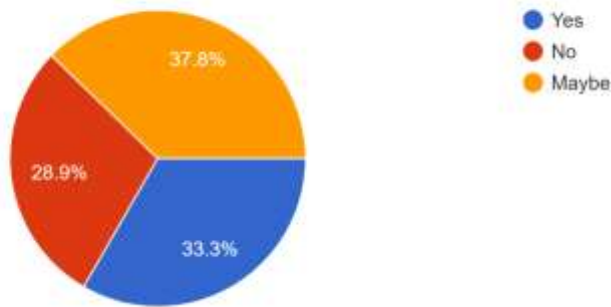
Which one do you prefer telemedicine service or direct consultation?

45 responses



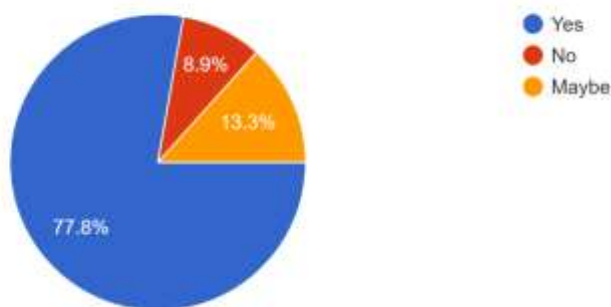
Interpretation: 37.8% out of 45 respondents feels that telemedicine may be cost effective compared to direct consultation, 33.3% strongly feels that telemedicine services are more cost effective, and 28.9% feels that telemedicine is not cost effective.

Do you think telemedicine is more cost effective?
45 responses



Interpretation: 77.8% feels that telemedicine is more time saving, 13.3% thinks maybe and 8.9% feels that it is not time saving.

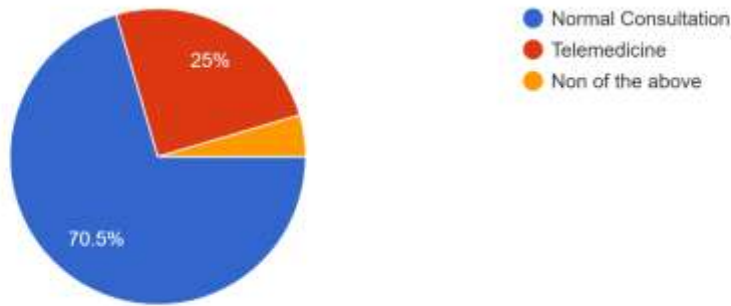
Do you think telemedicine is more time saving?
45 responses



Interpretation: 70.5% feels that diagnosis from direct consultations are more accurate, 25% thinks that diagnosis from telemedicine are more accurate, and a 4.5% feels non pf the above

When compared to normal consultation which diagnosis gives you more accurate results, telemedicine or traditional consultation?

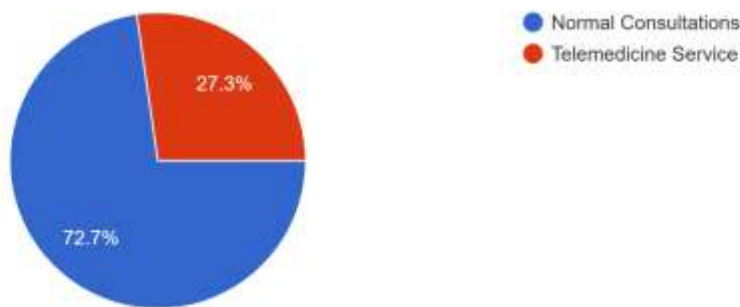
44 responses



Interpretation: In consultations with doctors 72.7% finds more qualified doctors in direct consultations, and 27.3 finds it in telemedicine services.

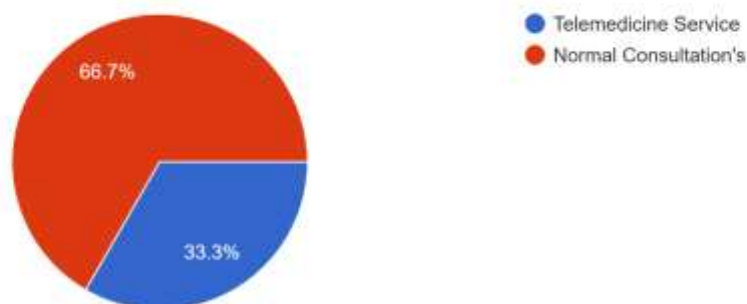
In which service you find more qualified doctors? Is it in normal consultation's or telemedicine service?

44 responses



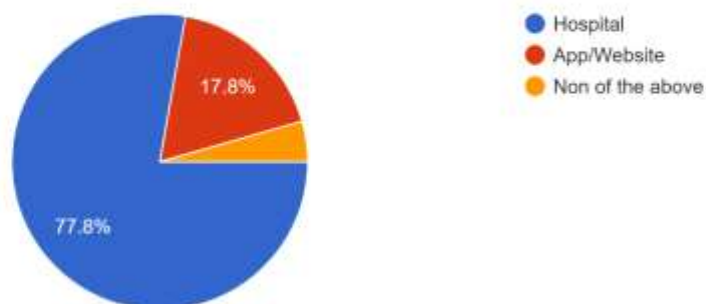
Interpretation: 66.7 of the respondents find satisfaction in normal consultations and 33.3% find satisfaction in telemedicine services.

Which one gives you more satisfaction, whether Telemedicine Service or Normal Consultation's?
45 responses



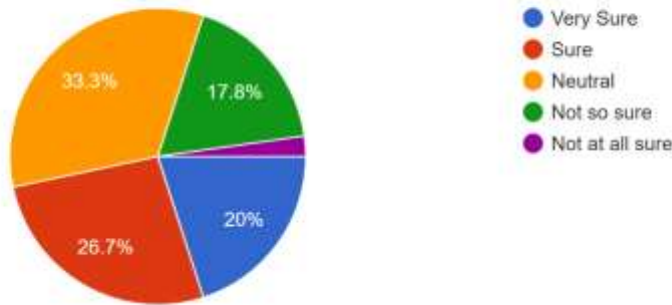
Interpretation: 77.8% of our respondents prefer telemedicine service provided by a hospital, 17.8% prefer app/ website and 4.4% feels none of the above.

Which one do you prefer, telemedicine service provided by a hospital or an online app/website?
45 responses



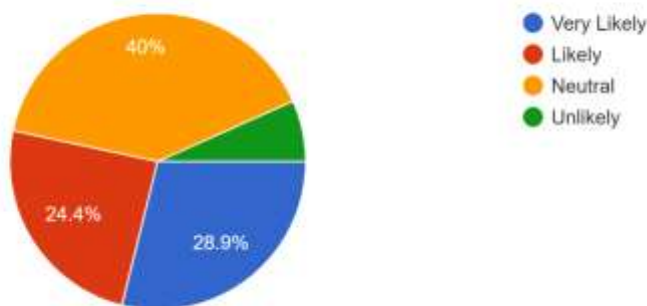
Interpretation: 33.3% of the respondents feels neutral about the accuracy level of the telemedicine diagnostics, 26.7% are sure about the accuracy level, 20% of the respondents are very sure about it, 17.8% are not so sure and 2.2% are not at all sure.

How sure are you about the accuracy level of telemedicine diagnostics?
45 responses



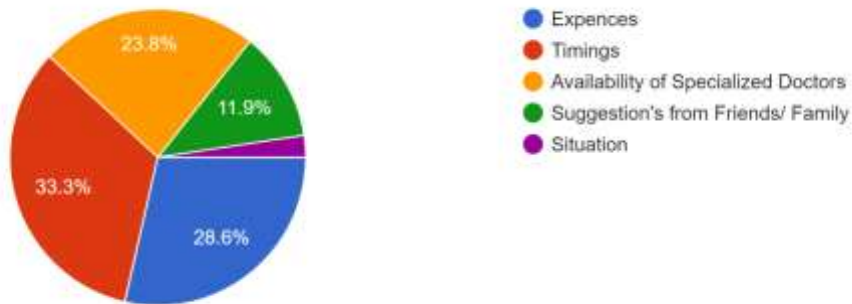
Interpretation: 40% of the respondents are neutral about suggesting telemedicine to family and friends, 28.9% are very likely to suggest, 24.4% are likely to suggest and 6.7% are not so sure about it.

How likely are you to suggest tele medicine to family and friends?
45 responses



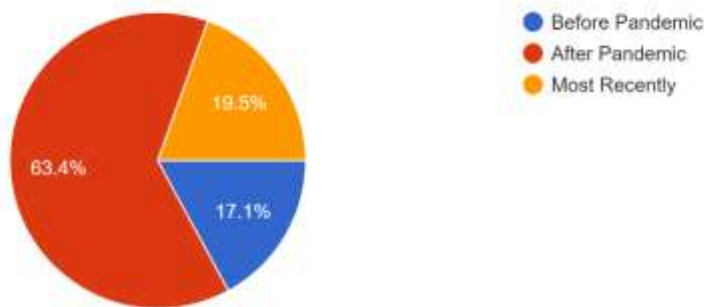
Interpretation: 33.3% of the respondents switched to/ willing to switch to telemedicine for saving time, 28.6% of them are for the availability of specialized doctors, 11.9% are due willing/ already switched by the taking suggestion from family or friends and 2.4 due to their situation.

If you are a telemedicine user, what made you switch from normal consultation's to telemedicine service's?
42 responses



Interpretation: 63.4% of the respondents have started availing telemedicine service after the pandemic has arrived, 19.5% have started most recently, and 17.1% have started using before the pandemic.

If you are a telemedicine user, from when on you started to avail telemedicine service?
41 responses



Conclusion;

Even though the term telemedicine was active in the field of healthcare sector before the pandemic, people became aware of it after the pandemic. From the analysis of responses from random customers its clear that, still they prefer the old ways of consultations with their doctors. Bigger part of them agrees that telemedicine is cost effective and above all time effective. The major drawback of this implementation is the mentality of the customers. They feel more secure with direct consultations and diagnostics. The lack knowledge and awareness of this service maybe the reason why more of the patients are still sticking on to the old ways.

The patients who are currently using telemedicine service are more comfortable with telemedicine service provided by a hospital than an app/website. The mindset of the people is the reason for that. In this tech era fusions of online and offline services in the healthcare sectors have proven its worth. It is clear from the pandemic. So, we can conclude that the scope and impact of telemedicine service is increasing day by day. The only thing that is needed to boost this process is more awareness and support from both the Government and Private sector. With that a nation with better health condition can be emerged.

Reference's;

- 1) https://en.wikipedia.org/wiki/Main_Page
- 2) <https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/benefits-of-telemedicine>
- 3) <https://chironhealth.com/telemedicine/resources/ebooks/>
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