

A study on perception of Elderly residents on Telecare Services and factors influencing its adoption

Dissertation Submitted to



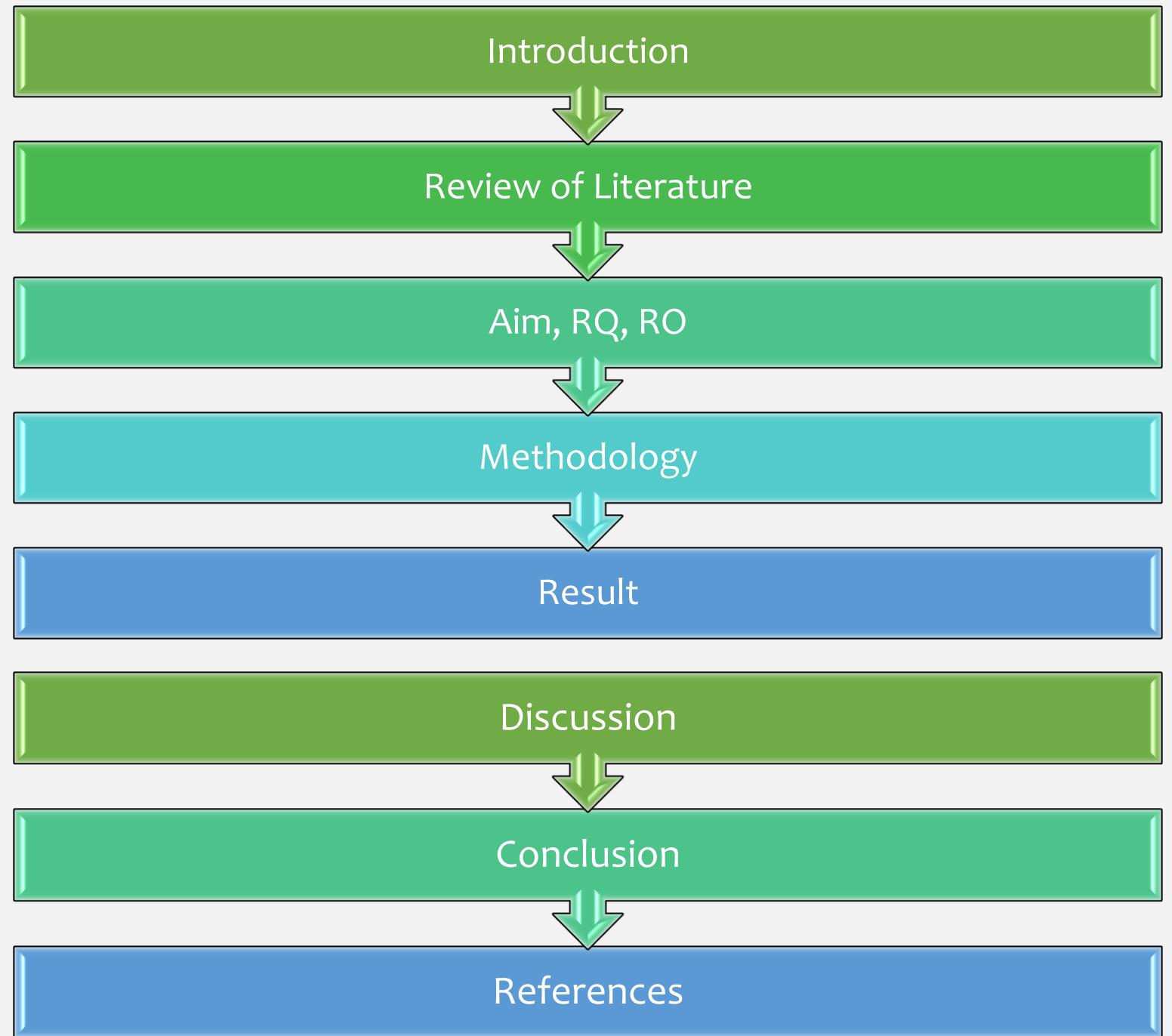
**For partial fulfilment for the award of the degree of
Master of Business Administration (MBA)**

**In
Hospital and Health Management**

**By
Priya Sharma**

**Under Supervision and Guidance of
Prof. Neetu Purohit**

CONTENTS



Introduction

What are Telecare Services?

Telecare is defined as **care provided to patients remotely via telecommunications technology**, either synchronous (live video) or asynchronous (store-and-forward, remote patient monitoring). The telecare service is a social and sanitary healthcare system within the home that is designed to meet the needs of people who require assistance with their health needs.

Telecare is often **used to increase the access of patients to care, help patients with recovery and well-being at home and monitor risk or early warning signs of health conditions at a remote distance**. The care can be delivered through a range of technology, including telephones, virtual online visits and remote patient monitoring centres.

Telecare **also includes social and lifestyle monitoring**. Telecare aims to assist elderly or disabled people in remaining independent in their homes for as long as possible.

Need for Telecare Service

➤ **Increase in Old-age Population**

In 2011 census, the 60+ population accounted for 8.6% of population, accounting for 103 million **elderly** people. Growing at around 3% annually, the number will rise to 319 million in 2050. The southern states (Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu) are the greatest ageing drivers of India.

➤ **Increase in Number of NCDs**

Increase in Chronic non-communicable disease (NCD), which are mostly life-style-based diseases and disabilities, has emerged majorly as demographic transition continues. Indian elderly are more prone to chronic disease than acute. NCDs like high blood pressure, digestive disorders, diabetes, rheumatism and depression are the most common cause of death among the elderly.

➤ **Rapid trend of Nuclear families in India and Low self- health behavior amongst elders**

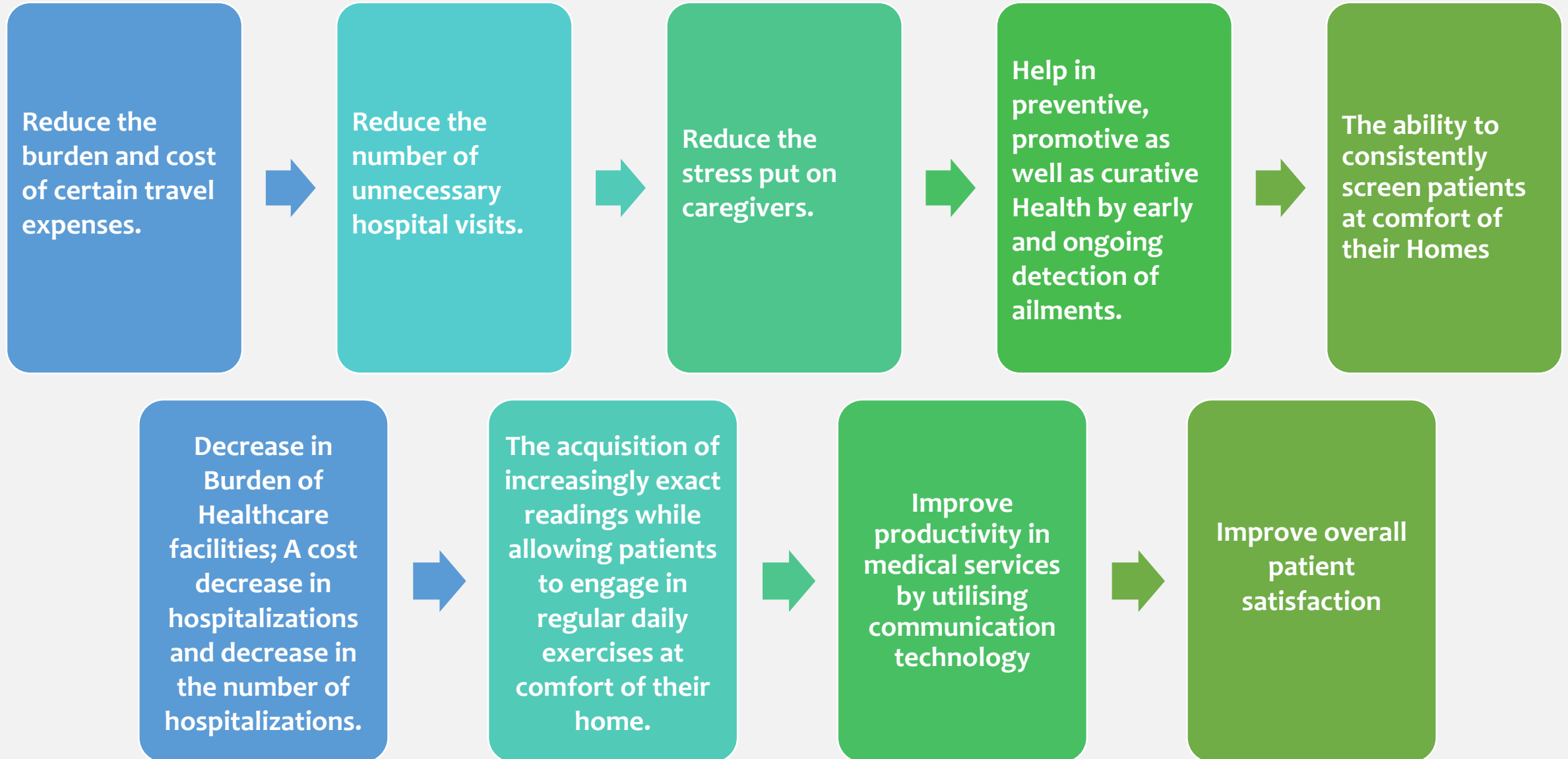
➤ **Increasing digitalization in Healthcare sector**

➤ **Burden on Healthcare Facilities**

➤ **Lack of Health Infrastructure**

➤ **High Cost of Healthcare**

Advantages of Telecare Service



Review of Literature

- Researcher Jain SH. stated, “In the world I work in senior-care, the dominant perception was that aging adult either couldn’t or wouldn’t use digital technologies to access care; but they proved us wrong.” According to the U.S. Department of Health and Human Services, 0.1 percent of Medicare primary care visits were provided through telehealth in February 2020. By April, 43.5 percent of visits were virtual. Older Americans used telehealth to access primary care, behavioural health care and cancer care.(3)
- Researchers Carolyn M Astley, Robyn A Clarke, Susie Cartledge, et.al. concluded that implementation of adaptive models for healthcare delivery using digital platforms has been accelerated during the COVID19 pandemic to assist maintenance of senior care. Facilitating transition to digital healthcare delivery for the community and ensuring the digital divide is considered, is a crucial challenge, especially among vulnerable groups, such as the elderly. Quality of outcomes, both positive and negative from digital models of healthcare delivery, require ongoing evaluation and elderly end-user design and support are a priority.(4)
- A study for the effectiveness and feasibility of home-based Telecare for rehabilitation purpose in elderly people in Southeast Asian countries said that although they could not obtain conclusive evidence due to limited relevant information with heterogeneity across the studies, findings suggest that home-based Telecare can be a strategy for rehabilitation service delivery with acceptable feasibility comparable to conventional rehabilitation for elderly people in the area(5).
- Peeters et.al. showed that elders' perceived attributes - relative advantage, compatibility, complexity and observability have a significant effect on adoption of home telecare explaining 61% of the variance. The chance of adoption is higher when a client already receives long-term personal and/or nursing care, he/she lives alone and when there are fixed daily contacts via the home telecare system. The perception of possible benefits can still be enhanced(6).
- Markert C, Sasangohar F, Mortazavi BJ, Fields S. et.al. concluded that Telecare systems including health coaching have been implemented in older populations as a viable intervention method for managing chronic conditions had mixed results. Health coaching combined with Telecare may be an effective solution for providing healthcare to older adults. However, health coaching is predominantly performed by human coaches with limited use of technology to augment or replace the human coach. The opportunity exists to expand health coaching to include automated coaching(7).

Review of Literature

(Contd.)

- Jana et.al. found that telecare can improve seniors' confidence in evaluating and addressing their symptoms in relation to heart failure. This patient management approach should be coupled with targeted education geared toward self-maintenance and self-management practices(8).
- Al-khafajiy et.al. findings of study conducted to analyse the effectiveness of Telecare of elderly through wearable sensors reveals that the proposed system can improve clinical decision supports while facilitating Early Intervention Practices. Extensive simulation results indicate a superior performance of the proposed system: low latency. Thus, the system runs efficiently and is cost-effective in terms of data acquisition and manipulation(1)
- Le Deist F, Latouille M et.al. said that telecare appears to be a future solution to this problem, while improving comfort of life, management, autonomy and eliminating the constraints of travel and distance. While the utility of this technology has been demonstrated, the focus here is on the fact that the conditions for development and use of this technology involve user acceptability and the ability to meet their expectations(9).
- Bujnowska-Fedak and Grata-Borkowska conducted a study in Poland that reveals that if technologies are introduced that are familiar, usable, desirable, and cost-effective, and able to be adapted to seniors' lives and plans, then telecare would become an integral part of the lives of the elderly in the near future, allowing them to function independently in a friendly home environment(10).
- Matheus et.al. studied usefulness of Telecare in type 1 diabetes patients during the COVID-19 pandemic in Brazil, showed that Telecare T1D patients during the pandemic helped reduce the need for in-person consultations, detect clinical and psychological needs, and offer support to patients in addition to monitoring suspected COVID-19 cases and the adherence to protective measures(11).

Review of Literature

(Contd.)

- Researcher Johan Lyth, Leli lynd, Hans Pearson et.al. studied a total of 36 COPD and 58 HF elder patients with advanced stages of disease. They concluded that the number of hospitalizations was significantly reduced for both HF and COPD patients participating in Telecare. Accordingly, hospitalization costs were significantly reduced for both groups, but the total healthcare cost was not significantly different from the expected costs(12).
- According to Huygens et al. nationwide survey to assess the Uptake and Use of Telecare in Chronic Care Between 2014 and 2019 in the Netherlands both elder patients and professionals, Telecare improves the quality of life and quality of care. Although it was concluded that high level of skilled individuals is required for both monitoring implementation and sustainability of Telecare model(13).
- Telecare was valued by patients who found it empowering and convenient. This, combined with initial professional concern that increased surveillance may create dependency led to the development of a more patient led service. However, despite a number of initial concerns being addressed as the service evolved, primary care professionals identified a number of barriers to widespread routine adoption of Telecare, many of which could be addressed by improved system design(14).
- Ross, 2021 said, as the many different barriers to telehealth break and the industry sees rising acceptance and adoption, one thing has never been clearer: The future of health care is in the home, COVID-19 pandemic has shown the importance of in-home care and proven to be a strong catalyst for telehealth adoption. By getting accessible services to vulnerable populations and maintaining patient-provider relationships over distance, providers proved to the CDC that telehealth has become an essential element in maintaining continuity of care indicated in a survey conducted by CDC(15).

Aim of Study

- In April, **Silver Genie Pvt. Ltd.**, a Delhi-based Elder Healthcare organization, that supports senior citizens through telecare services, decided to launch a **100-day Telecare program in collaboration with Fitbit, India** in the month of July, 2021.
- It is a known fact that Telecare does not simply 'work' or 'not work' because its success relies on a variety of factors, such as acceptance in users, the organisation, complex technology, user compliance and the involvement of clinicians.
- Therefore, **for any program to be a success, it is important to understand the knowledge and perceptions of the customer** first and customize and design the intervention accordingly. Hence to evaluate the benefit and success of program, the team identified the need **to gain a better understanding of the perceptions of telecare services**, its health effect and the ability of patients to self-care and the challenges faced in its adoption.

RQ & RO



Research Question

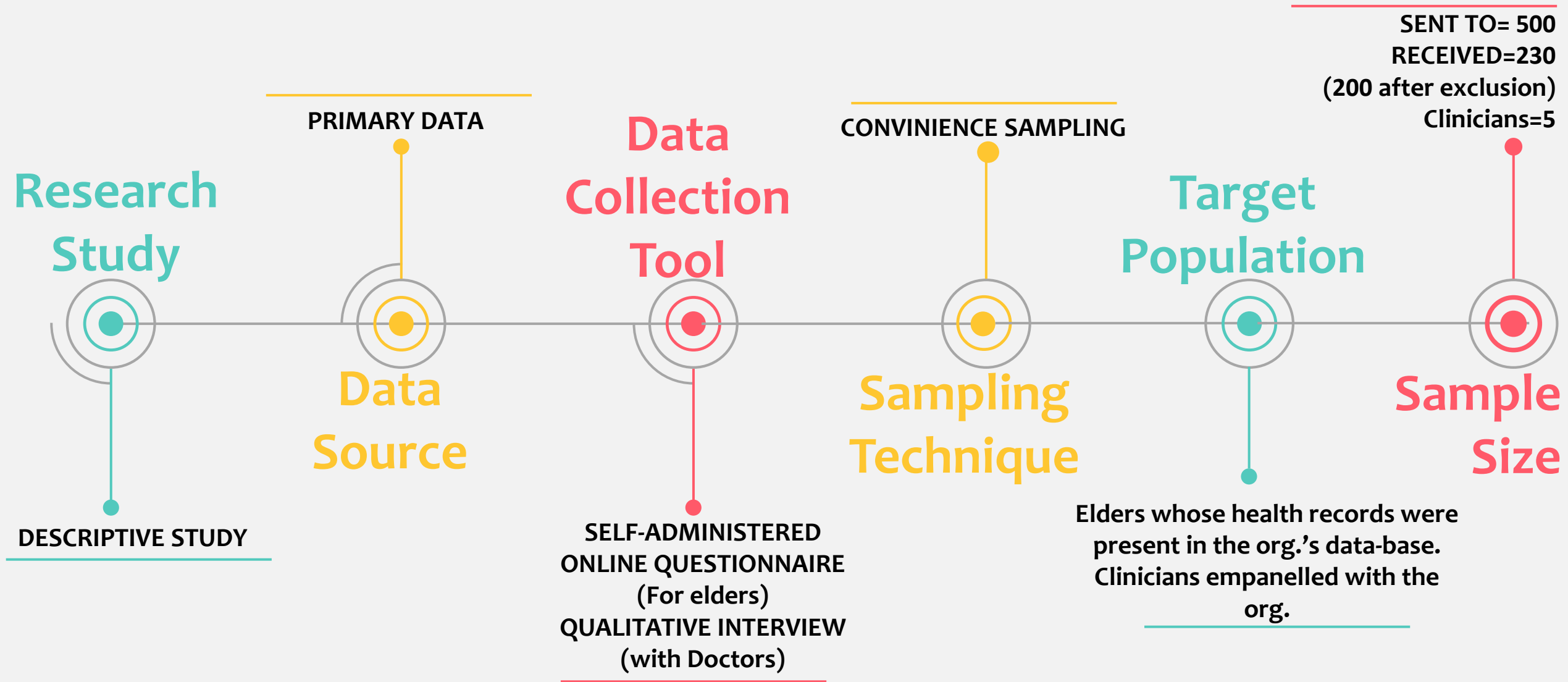
What is the perception of Elderly residents and Clinicians on Telecare Services and factors influencing its adoption?

Research Objective

- **To assess the knowledge and gather perception of elderly on telecare services.**
- **To gather the perception of empanelled clinicians on telecare services.**
- **To analyse the challenges and factors influencing the adoption of Telecare services.**

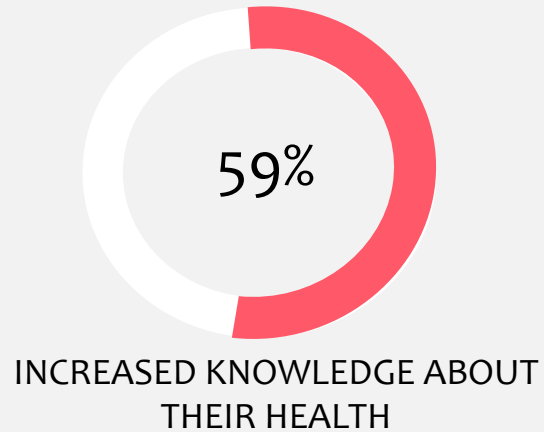


METHODOLOGY

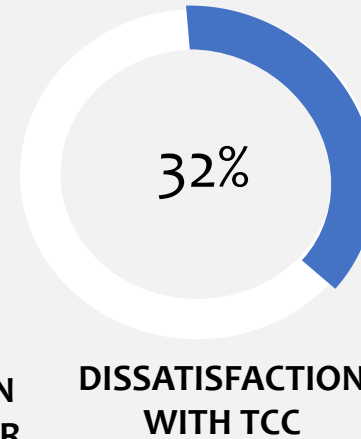
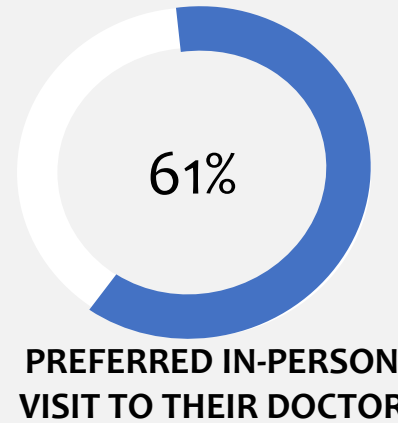
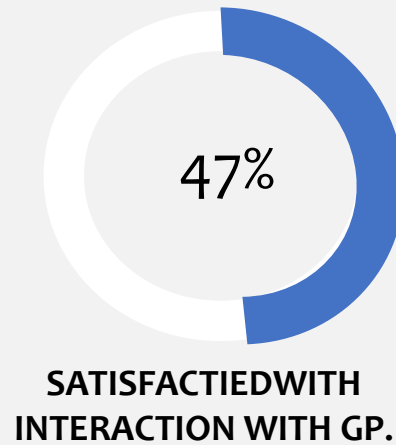


RESULTS

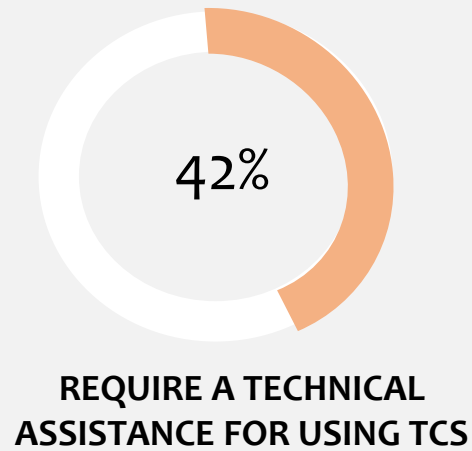
1. SELF-HEALTH & EXPERIENCE



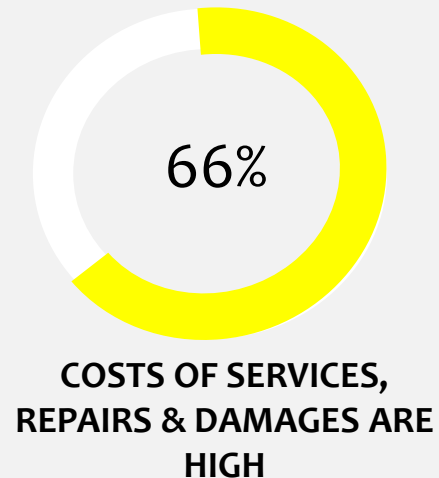
2. INTERACTION WITH GP/NURSE/TCC



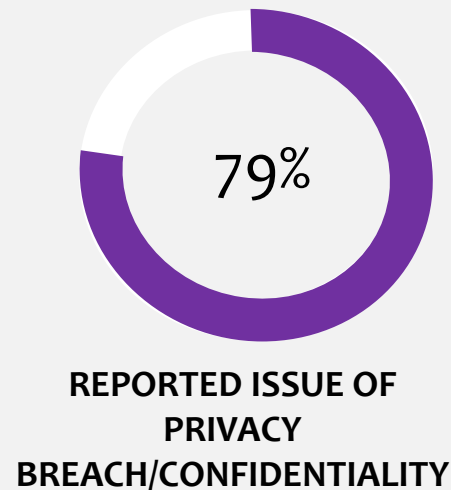
3. TECHNICAL ISSUES



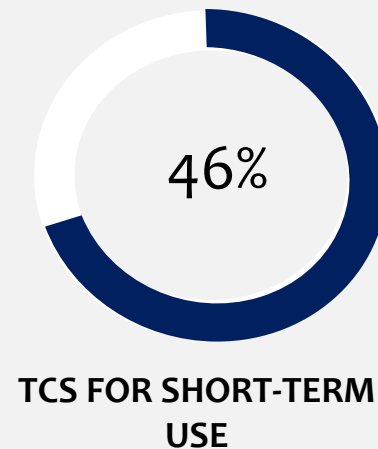
4. COST OF TCS



5. PRIVACY & CONFIDENTLY



6. USABILITY



QUALITATIVE INTERVIEW WITH GPs

- All 5 of them agreed that consistent body vital monitoring improves the elders' self-care behaviour and knowledge, making them feel more secure about their health conditions.
- Interaction with Clinicians/Nurses and TCS provider can hugely impact the adoption of telecare services.
- Adoption is also a culture Barrier. 2 of the senior GPs said that Face to face interaction are more beneficial and efficient according to them.

Barriers in Adoption of Telecare Services

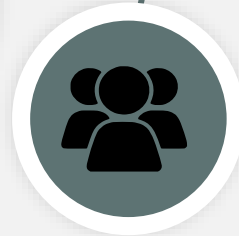
PRIVACY BARRIER

BREACH OF PRIVACY AND CONFIDENTIALITY OF THEIR DATA. SHARING OF DATA WITH PHARMACEUTICAL AND OTHER COMPANIES IS HIGH CONCERN AMONG ELDERS



CULTURAL BARRIER

PERCEIVED MINDSET THAT TECHNOLOGY IS COMPLEX, DEVICES ARE HIGH MAINTENANCE AND ONLY FOR YOUNGER PEOPLE.



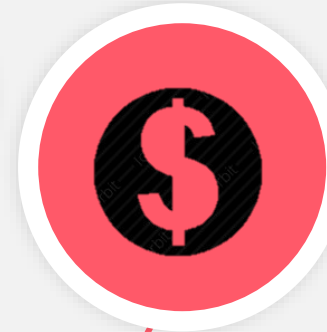
TECHNOLOGICAL BARRIER

PERCEIVED NOTION THAT DEVICES, APPS AND COMPUTERS USED IN TCS ARE NON-USER-FRIENDLY, CUMBERSOME, SMALL FONT SIZE, USER MANUAL ARE UNCLEAR



FINANCIAL BARRIER

CHILDREN ARE FINANCIAL-DECISION MAKERS IN HOME SERVICES; DAMAGES & REPAIRS ARE COSTLY.



SOCIAL BARRIER

LACK OF SELF-HEALTH BEHAVIOUR STIGMA / FEAR ABOUT HEALTH ISSUES BEING KNOWN TO EVERYONE, REDUCE SOCIAL INTERACTION WITH PEOPLE.



Interpretation and Recommendations for Organization

The perspective of Elders can either make adoption of telecare services easier or act as a barrier. The trend of older people to avoid computers and the Internet is a cultural change, and that is an important explanation for why a lower rate of acceptance of TM may be present.



For many senior citizens, the telecare service is an innovation which involves learning of new technology that old-people are resistance to adopt in the beginning but if raised their curiosity and interest in right way, it can gradually be accepted easily.



Age-related impaired cognitive and motor function (e.g., vision impairment, listening impairment, short-term memory loss, disabilities), thereby making it difficult to absorb new information and adjust to changeable environments and assimilation of new forms of behaviour more easily.



The need and preference for in person interaction with the doctor is another characteristic feature of the seniors.



Although telecare services offer health benefits and long-term costs savings, Elders rarely buy preventive health care and are often unwilling to invest on systems for home-health surveillance.



Sensitive information leaks, such as medical conditions or test results, are useful tools for marketing for insurance and pharmaceuticals. Concerned about other companies obtaining personal information about themselves or their families. Privacy safeguards in tele-service platform is necessary for full acceptance of telecare by seniors.



Older patients may opt out of health monitoring because they believe that constant monitoring of their health will signal others of their poor-health and will make them anxious and worried. Some stated that these devices were only useful for short-term use like for follow-ups.

The study shows the interest of elders in usage of home Telecare services as curative care. To remove the perceived barriers, and increase the interest of elders in adoption of TCS as preventive model , Organization must take certain measures.



TELE-WELLNESS & WHATSAPP CHANNEL

Prior to the launch of Fitbit program, dedicate time to Educate and aware the seniors through

- Organization's WhatsApp channel by sending videos, visual/audio messages on TCS topics by empaneled clinicians.
- Make calls to the prospective elders asking for health and educating about preventive health, TCS.
- Videos showing how to use devices.



LAUNCH A DUMMY-PROGRAM

- The team must make come-up with a Dummy program that replicates the main program but at small-scale and preferably with people who already have used TCS/TMD.
- Smaller Cohorts rather than large scale
- tailored to the cognitive, physical and living condition of each customer like Language preference.



DEDICATED TCS CONCIERGE

- TCC is required who can form bonds with elders, communicate effectively with GP support each individual, not only when their reading is outside of their parameter, but at all times.
- Try to enable the elderly to make informed choices by showing visual results



DOCUMENTATION & GP COORDINATION

- Activities of the client must be coordinated and properly documented.
- Promote empanel Doctors to interact with clients through webinars.



FAMILY INVOLVEMENT

- Involve family members of the elder receiving telecare.
- Provide frequent Discount and offers to active client, referral client, etc.

CONCLUSION

The study clearly shows the perception of elders and clinicians perceived impact of TCS on chronic care in elders and implementation of a service. Increased elder empowerment and satisfaction with the GPs and Nurses interaction, were perceived by both elders and GP's. Qualitative analysis of GPs showed that technology is biggest concern and sometimes it can cause dissatisfaction and also affect the efficiency of results. An adaptive approach is required for programs to become fully incorporated into routine TCS service delivery and part of long-term strategic planning. It is essential to address doctor's and TCC's challenges regarding increased workload, communication and guideline requirements. The collaboration of different clinicians from hospital, primary care and community services is required to realize the potential of TCS becoming a core part of care pathways for management of various chronic conditions and as a preventive Health model.

LIMITATIONS

Also, this study had its own **limitations** like convenience sampling was unable to cover a few aspects like clients with different cultural, economic and educational background who are less privileged in terms of using social media, low knowledge of technology, etc and limited number of respondents. A study covering these aspects with a bigger number of participants must be conducted in future.

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