Summer Internship Report

At

Centre For Chronic Disease Control

(April 26th to June 26th,2024)

A Report

By

Dr. Saumya Pathak

PGDM (Hospital and Health Management)

2023-2025

International Institute of Health Management Research, New Delhi

Acknowledgements

I express my heartfelt gratitude to **Dr. Nidhi Yadav**, my mentor, for her invaluable guidance, constant encouragement, and insightful feedback

throughout this study. Her expertise and support have been instrumental in shaping the research on "*Understanding and Performance Analysis of the Digisahayam Project"*.

I extend my sincere thanks to **Dr. Sutapa B. Neogi**, Director of IIHMR, for her visionary leadership and fostering an environment that encourages academic excellence and innovation.

I am profoundly grateful to **Nikki Pandey** from **CCDC** and the **CCDC organization** for their collaboration and for providing critical inputs that enriched this study.

A special note of appreciation goes to the **IIHMR organization** for their unwavering support, resources, and academic environment that made this endeavor possible.

Finally, I am deeply indebted to my family for their understanding, and constant motivation throughout this journey. Their belief in me has been my strongest pillar of support.

Thank you all for contributing to the successful completion of this study.

Saumya Pathak ST report

ORIGINALITY REPORT

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SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Southern New Hampshire University - Continuing Education Student Paper	<1%
2	www.msjonline.org Internet Source	<1%
3	Sai Kiran Oruganti, Dimitrios A. Karras, Srinesh Singh Thakur, Kalpana Nagpal, Shashi Kant Gupta. "Case Studies on Holistic Medical Interventions", CRC Press, 2025 Publication	<1%

FEEDBACK FORM
(Organization Supervisor)

Name of the Student: Saumya Pathak

Summer Internship Institution: Centre for Chronic Disease Control (CCDC)

Area of Summer Internship: Digital Health

Attendance: Saumya maintained excellent attendance throughout the internship period, demonstrating reliability and commitment to her role.

Objectives met: Saumya successfully met the objectives outlined at the beginning of her internship, including:

- Assisting in the development of strategies for a landscaping exercise and its tools.
- Collaborating with team members on various projects related to digital health interventions.

Deliverables: During her internship, Saumya delivered the following:

- A comprehensive report on current operations and innovations in telemedicine implementation program by CCDC.
- Assisted in Capacity Building of field staff and Doctor under the Assisted telemedicine project.
- A list of Mobile Healthcare programs in Andhra Pradesh.
- An insightful presentation summarizing her findings and recommendations for future digital health projects.

Strengths: She worked effectively with team members, contributing valuable insights and support. Presented findings clearly and confidently in both written reports and oral presentations.

Suggestions for Improvement: Increase proactive engagement in meetings and discussions to further enhance collaborative efforts.

Signature of the Officer-in-Charge (Internship)

Date: 22nd July 2024
Place: Delhi

FEEDBACK FORM

(IIHMR MENTOR)

Name of the Student: Dr.Saumya Pathak

Summer Internship Institution: **Centre For Chronic Disease Control, Delhi**

Area of Summer Internship: Digital Health

Attendance: Perfect adherence to internship norms.

Objectives met:

- Assisting in the development of strategies for a landscaping exercise and its tools.
- Collaborating with team members on various projects related to digital health interventions.
- Conducted Training Sessions .
- Gap Analysis for various projects.

Deliverables:

- A comprehensive report on current operations and innovations in telemedicine implementation program by CCDC.
- Assisted in Capacity Building of field staff and Doctor under the Assisted telemedicine project.
- A list of Mobile Healthcare programs in Andhra Pradesh.
- An insightful presentation summarizing her findings and recommendations for future digital health projects.

Strengths: • Strong willingness to learn and improve.
• work well in team.
•

Suggestions for improvement:

Signature

Date: 11/12/24

Certificate of Approval

The Summer Internship Project of titled "**The Study On Understanding & Performance Analysis Of Digisahayam Project"** at **"Centre For Chronic Disease Control, Delhi"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed, or conclusion drawn therein but approve the report only for the purpose it is submitted.

Dr. Nidhi Yadav

Associate Professor

IIHMR, Delhi

Table of Contents

Introduction

Focused At: Transforming Lives & Healthcare

(A World Health Organization & Indian Council of Medical Research Collaborating Centre)

CCDC (Centre for Chronic Disease Control) is a registered not for profit organization founded in 2000, working explicitly in the field of reducing the burden of non-communicable diseases by administering novel solutions backed by rigorous researched solutions.

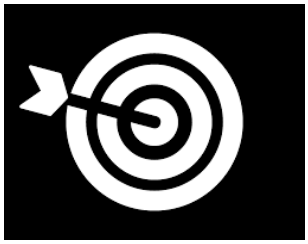
CCDCs research are a perfect blend of both science and technology which serves as base for any interventions thus helps in preventing and managing the chronic diseases.

CCDC is also focused to draw the inferences from research outcomes or findings and serves it as the building block to carry out the implementation part through various capacity building initiatives.

CCDC is a leading research institution with a proven record of strong engagement and connections with policymakers, across all levels of the health system.

Vision & Mision

To reduce chronic disease burden and promote innovative science to improve human health through implementation and translational research.



To address the growing challenge of chronic diseases in developing countries:

- Knowledge generation, which can inform policies and empower programs for the prevention and control of chronic diseases.

- Knowledge translation, intended to operationalize research results by bridging critical gaps between relevant research and effective implementation through analytic work, capacity building, advocacy, and development of educational resources for enhancing the health of people and empowerment of healthcare professionals.

Organization Profile

CCDC has been recognized as a Scientific and Industrial Research Organization (SIRO) by the Department of Scientific & Industrial Research (DSIR), Ministry of Science and Technology, Government of India.

CCDC is New Delhi based not for profit organization operating from its branches;

- **Delhi**
  C1/52, 2nd Floor,
  Safdarjung Development Area,
  New Delhi, India – 110016

- **Gurugram**
  Emaar Digital Greens,
  5th Floor, Tower-B, Unit 018 & 019,
  Golf Course Extn. Road, Sector 61,
  Gurugram - 122011, India.

CCDCs work has received recognitions and acknowledgment from the healthcare ecosystem comprising of medical veterans, government bodies and so. Mentioning few of them below-

- CCDC Awarded ICMR grant to establish a Centre for Advanced Research.
- Prof. Dorairaj Prabhakaran Awarded Commendable Faculty Award.

- Prof. Dorairaj Prabhakaran Presented Claude Lenfant Excellence Award.
- CCDC Designated as ICMR-Collaborating Centre of Excellence.
- CCDC has been recognized as a Scientific and Industrial Research Organization.
- CCDC is Recognized as a WHO Collaborating Centre.

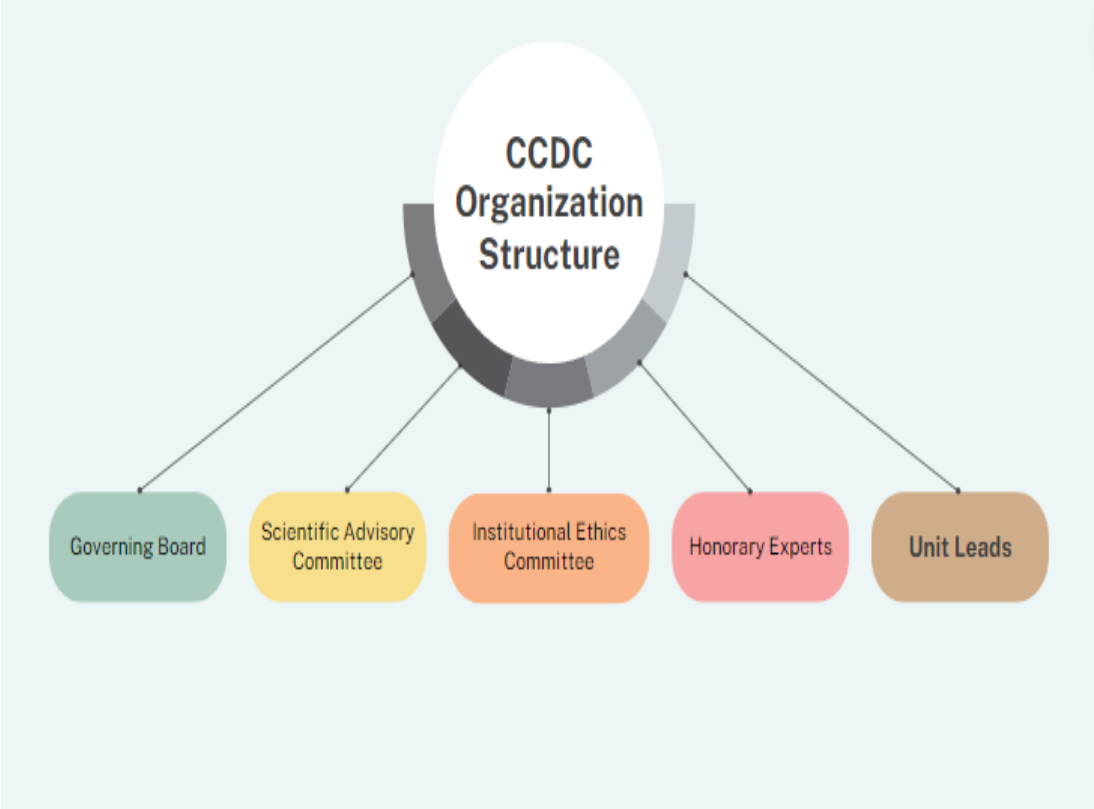
Collaborating Partners

(National)

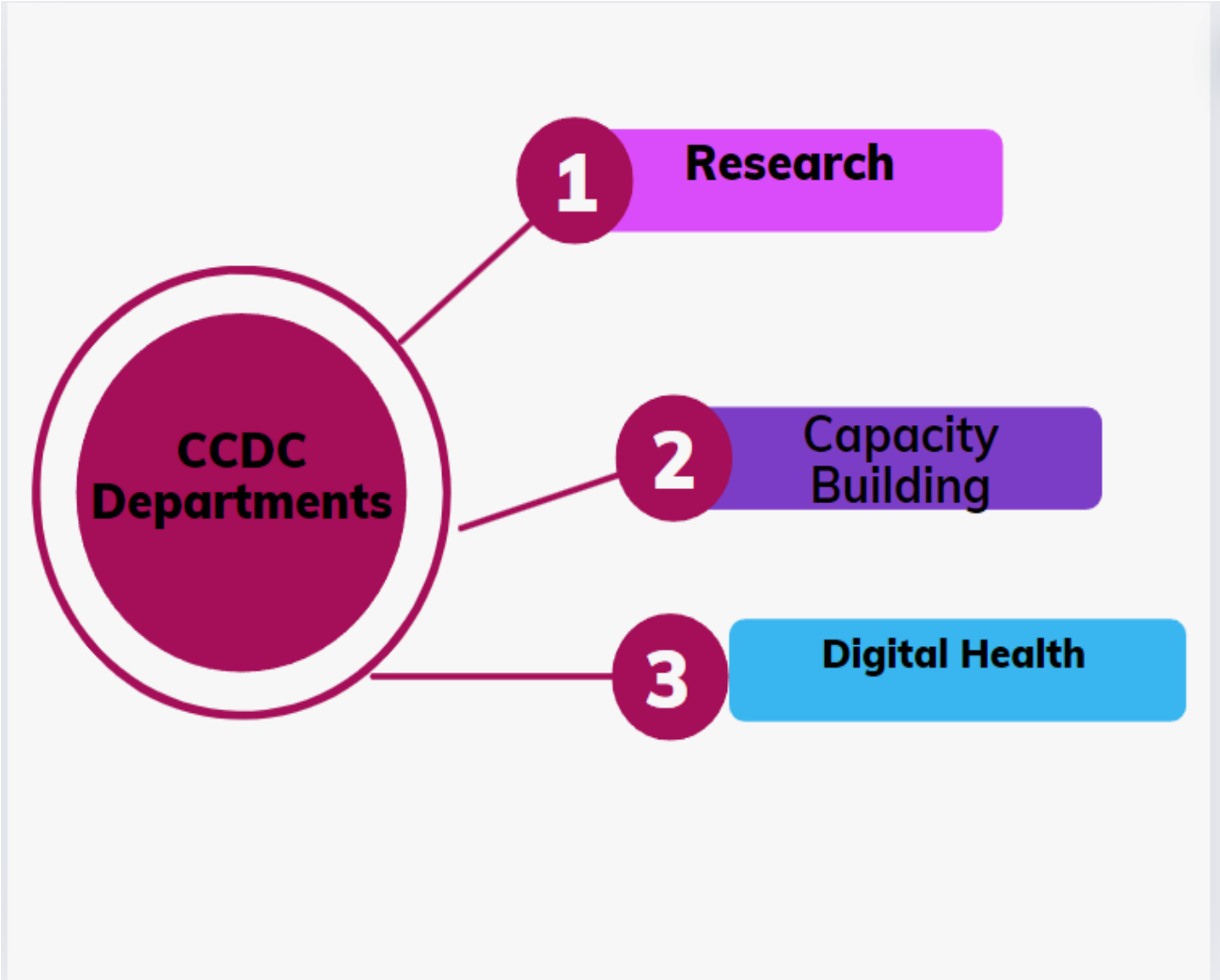
(International)

Organization Structure

CCDCs continuous efforts to transform lives is guided by a team of exceptional and highly skilled professionals.



Departments



Departmental Profile

1. *Research-*

CCDC holds prime position with 20 years of experience in the field of research with a perfect blend of science, innovation and technology. CCDC is specialized in carrying out clinical research with focus on chronic non- communicable diseases as well expanding the area of focus in sectors like environmental health, reproductive health, nutrition, and digital health and so on.

- **<u>Ongoing Projects Under Research Departments</u>**

  a). Precision CARRS

  b). The Indian Global Environmental & Occupational Health (GEO Health)

c). GEO Health II | Health Effects of Selected Environmental Exposomes Across the Life CourSe – India

d). Regional Center for Research Excellence (RCRE)

e).Yoga-based Cardiac Rehabilitation (Yoga-CaRe).

f). Strengthening Ambulatory Care for Non-Communicable Diseases (NCDs)India (STAR-NCD)

g). Sustainable and Healthy Food Systems (SHEFS)

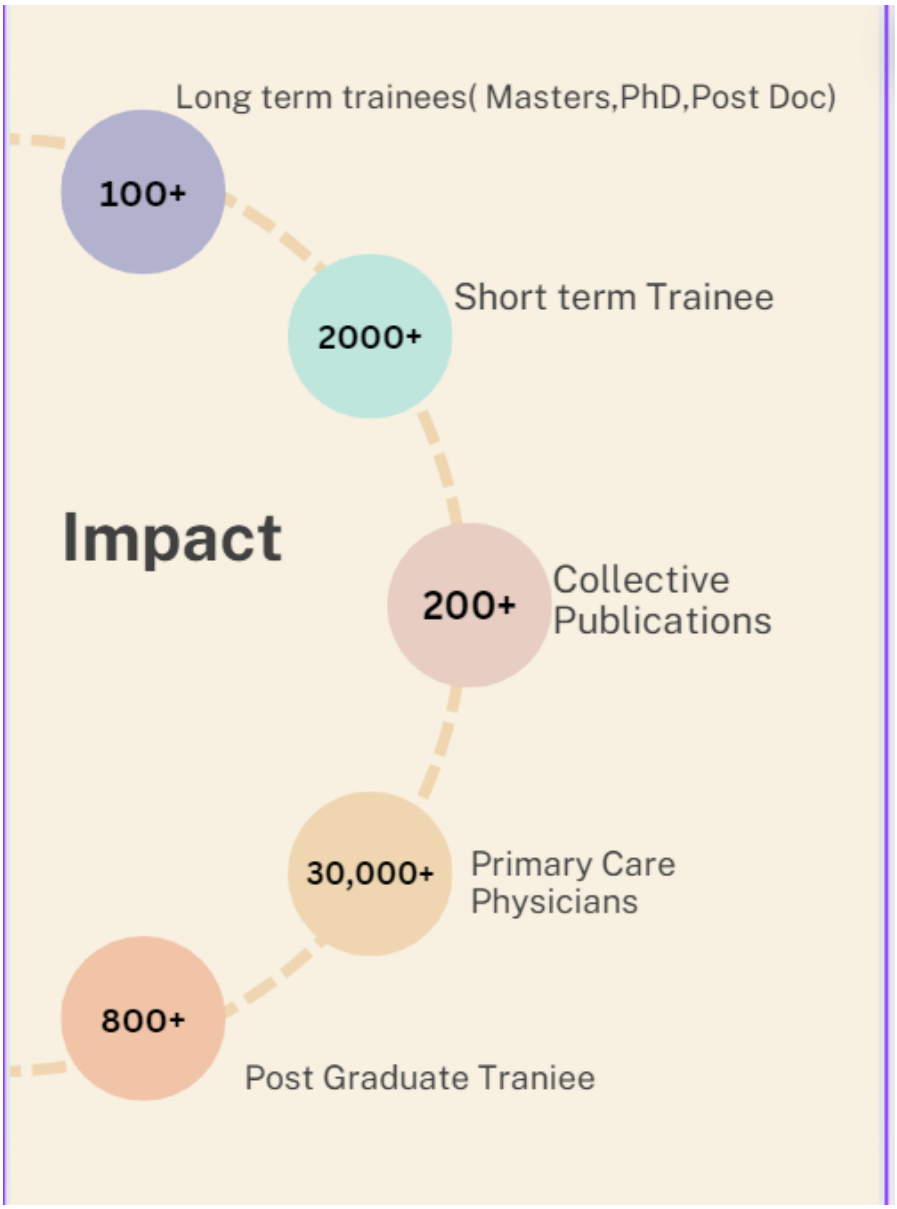
h).TOPSPIN Study

i).GMU Study

j).iMedrix

2). Capacity Building -

CCDC is committed to the process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need through professional trainings and specialized courses in order to adapt, and thrive in a fast-paced changing needs of the healthcare industry.



Ongoing Projects

- Regional Center for Research Excellence (RCRE)
- Cardiology Masterclass
- Short course on ECG
- Collaborative research, implementation, And Leadership training to address chronic Conditions across the lifecoursE (COALESCE)

- GEOHealth HEALS Training Grant
- Centre for Advanced Research for Rural Health Care Transformation
- GEOHealth Capacity Building

3). Digital Health-

It is the department which holds a crucial role as a standalone entity and as a catalyzing agent for bridging the other departments as well.

It offers solutions which makes healthcare accessible, affordable, available and acceptable.

Ongoing Projects-

- Rural Cardiovascular Insights | Solan Surveillance Study
- Improving Continuum of care-ITREC
- The Centre for Cardiometabolic Risk Reduction in South Asia (CARRS) Translation Trial
- A nurse-led teleconsultation strategy for cardiovascular disease management during COVID-19 pandemic in India: a pyramid model feasibility study
- Yoga Program for Type 2 Diabetes Prevention (YOGA-DP)
- Clinical Decision Support System
- Online Course for Accelerating NCD Service Delivery in the WHO South-East Asia Region: Risk-Based CVD Management

BRIDGE Centre for Digital Health (CCDC)

The Centre was established by CCDC in year 2000 to ensure equitable access towards digital health while focusing particularly in the field of Chronic Non-Communicable diseases.

Mission:

- Identify And Develop Solutions That Promote Equity in Digital Health.
- Be The Voice for Issues That Relate to Digital Health Inequity and Advocate Equitable Solutions to Achieve Universal Health Coverage.
- Assist Solution Developers in Taking into Consideration the Equity Lens During Design, Development and Scale-Up.

DIGISAHAYAM: (Assisted *Telemedicine Program)*

It is an assisted telemedicine program devised and implemented by the Bridge Centre for Digital Health- CCDC to provide equal health care access among the underserved population of India.

It is one of a kind and stands outstanding because of the unique approach that it has introduced by introducing a skilled healthcare personnel who will act as a bridge between physician and patient so that this healthcare is accessible to the vulnerable segment of the population. This is the simple, effective, and easy-to-use model that is based on a symptom-based template. It involves history collection, physical examination, and laboratory investigations before the patient-doctor interaction, hence saving time for improving the quality of care.

It works on the tenet of task sharing and hence sheds extra weight from the physician's shoulder.

OBJECTIVE

- Improving access to primary as well as tertiary care for the poor, vulnerable, and marginalized societies living in remote, rural as well as urban locations through assisted telemedicine solutions using trained health workers.

• Improving the quality of telemedicine care by equipping physicians with all the necessary patient information required to make evidence based TMCs decisions.

Elements of *DIGISAHAYAM*

1. Improving Access.
2. Improving Quality of Care.
3. Upscaling Skills.
4. Real time Monitoring.
5. Reducing the need of follow up visits.

Preeminent Innovations

Barriers	Our Solution	Innovation
• Challenges in accessing telemedicine services due to literacy, language or technological barriers among patients.	• Trained healthcare workers connect, convey findings, facilitate doctor-patient interactions and also prevent wasteful visits.	• Health workers from the local community. • Training in all aspects including basic life support.
• Lack of good TMC history, physical examination findings and laboratory parameters that aid physicians in evidence-based decision making.	• Trained healthcare workers collect history, perform a physical examination and carry out laboratory investigations before initiating teleconsultation, thereby saving time and improving the quality of care.	• Doctors obtain data in real-time about the patient in a curated manner. This includes both history and physical findings.
• Multiple innovations in digital health technology – but no inter-operable system that puts them on a single platform.	• The CCDC telemedicine platform embeds electronic health records (EHR), point of care diagnostics (13 commonly used lab tests including ECG), an in-built TMC decision support system and numerous state-of-the-art digital health technologies (including a digital stethoscope for remote auscultation and a physician-controlled high-definition camera).	• Instant lab reports. • Summary of patient diagnosis and management plan. Using AI-based on 25,000 case studies in the backend. • A whole range of services in a single platform.

Impact

- 63000+ (LIVES TOUCHED)
- 37000+ (CONSULTATIONS COMPLETED)
- 35000+ (PATIENTS TREATED)
- 7000+ (SPECIALIST COSULTATION)
- 1000+ (DOORSTEP COSULTATION)
- 200+ (SPECIALIST CAMPS)

Digital Healthcare Technology Enabled Devices (*used in the program*)

1. Swasthya Sahayak

   It is a specialized device which can measure the vitals such as blood pressure, body temperature, pulse rate etc.

2. Digital Stethoscope

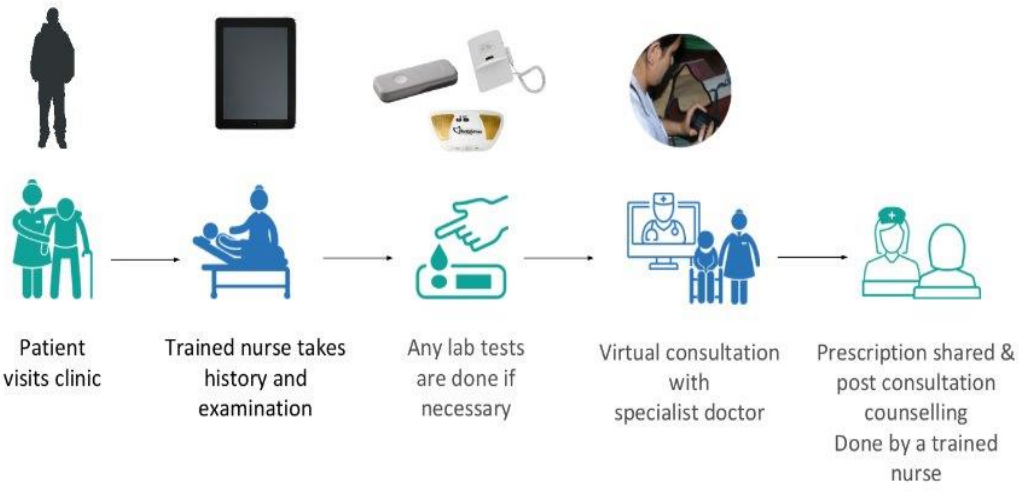
3. Kardioscreen

   It is portable ECG device which can be used with 6 as well as 12 leads based on the requirement.

4.Minray-Cam

It is high resolution camera which is used during the teleconsultation and can be controlled from both the doctor as well the patients end.

WORK FLOW



A Study on Understanding & Performance Analysis of "DIGISAHAYAM" Project

1. **Introduction**

The DIGISAHAYAM Project is one such leading initiative in delivering health care services through telemedicine, mainly to bridge the gap in access to quality health care by underserved populations living in remote and rural areas across

the country. This was the rationale behind the assisted telemedicine initiative, which was aimed at meeting the surging need for accessible, high-quality health care through cutting-edge technology and a highly trained health workforce. The twin tasks of the project will be met by going directly to the people in the neediest areas, through house-to-house visits and doorstep consultations, while simultaneously providing specialized health camps, totally free of cost to the patients.

The DIGISAHAYAM Project has come a long way since its inception in improving access to health care and improving patient outcomes.

This report will then go on to present an in-depth performance analysis of the ***DIGISAHAYAM Project is funded by Star health insurance which focuses only on clinic based at Nanganallur*** considering the key metrics since its ***inception December 2023- September 2024***. I have tried to look deeper into these metrics to understand the general effectiveness of the project in realizing its objectives and pinning down its strong and weak points.

Further evaluation of the performance analysis will be undertaken with a SWOT analysis of the DIGISAHAYAM Project.

The report evaluates the existing status of the DIGISAHAYAM Project with some insights and recommendations that will assist in its future development. The process of working out the successes and difficulties of the project would help the stakeholders in making more informed decisions that would increase the impact of the project and would also be very important for its long-term sustainability in improving health accessibility to underserved communities.

2. **Objectives of the study**

The study objectives are classified into primary and secondary based on their alignment with the project goal.

1 . Primary Objective-

To assess the performance of the Digisahayam Project in improving healthcare delivery and health outcomes of the catered population.

2. Secondary Objective-

To evaluate the scalability, sustainability, and overall impact of the Digisahayam Project .

3. **Methodology**

- *Study Design*- This study is a secondary data analysis to assess the Digisahayam Project's operational performance and outcomes.
- *Data Sources*- The study uses secondary data from the following sources:

  i. Consultation Records

  ii. Camp Reports

  iii. Diagnostic Data

  iv. Operating Framework

  v. Impact Metrics

  vi. Qualitative data from FDGs which was done for a group of 56 people.

- *Study Population* -The study examines data linked to:

  i.Beneficiaries: include patients having general and specialty consultations, camp participants, and homes visited by the project only in Nangnallur (Tamil Nadu).

Ii. Healthcare providers: include nurses, technologists, and other individuals who perform services under the assisted telemedicine approach.

- *Inclusion and exclusion criteria* -

  Inclusion criteria

  Patients who received treatment from the Digisahayam Project, including:

  i. Telemedicine consultations, both general and specialty.

  Ii. Diagnostic services include laboratory testing and electrocardiograms.

  Iii.Participants at telemedicine camps.

  Data relevant to operational actions, such as:

  i. Household visits and doorstep discussions.

  Ii.Healthcare personnel are involved in facilitating consultations.

Exclusion Criteria

i.Patients with missing or partial consultation records.

Ii.Records from non-project or unconnected programs.

Iii. Nonquantifiable data with insufficient documentation for analysis.

- *Data analysis*

i.) Quantitative Analysis: Statistical analysis of critical parameters such as consultation numbers, camp participation rates, diagnostic test results, and chronic disease cases discovered.

ii.) Qualitative analysis: Thematic study focuses on issues such as healthcare accessibility concerns, the crucial role of healthcare personnel, community participation, technological usability, and sustainability measures.

- *Ethical Consideration*

  i. Data Anonymity: Preserve the confidentiality and privacy of the people whose data is being examined.

Implementation: To guarantee that people cannot be recognized directly or indirectly, all personal identifiers—such as names, addresses, and contact information—are either erased or coded.

Strict security procedures, like encrypted files and limited access to sensitive data, are followed when processing and storing data.

In order to prevent any possible re-identification of individuals or groups, findings are reported in an aggregated format.

Ethical Standards: This strategy ensures respect for privacy and data protection by adhering to the standards set forth in international ethical norms, such as the General Data Protection Regulation (GDPR) and the Declaration of Helsinki.

ii. *Approval*: Verify that the study is carried out in accordance with organizational guidelines and with the appropriate authorization and moral principles.

Implementation: Prior to accessing and evaluating the data, the DIGISAHAYAM Project's management or pertinent ethical committees granted the required authorizations and approvals.

Transparency was ensured by providing the organization with explicit information regarding the goal, parameters, and methodology of the study.

4. Findings

Quantitative Findings-

i. Healthcare Delivery Efficiency

Indicator: The overall number of consultations, divided into categories for general and specialized care, shows how effectively healthcare is provided.

Information:

- 38,517 consultations in total
- 31,627 general consultations
- 6,996 consultations with specialists

Analysis:

- Volume of Services: Strong service delivery and wide outreach are indicated by a high number of consultations (38,517).
- Specialist vs. General Consultations:
  - ❖ About 82% of appointments are general consultations, which highlight accessibility for everyday medical requirements.

- ❖ About 18% of consultations are with specialists, demonstrating the project's capacity to address more complicated medical conditions.

Note: Efficiency Insight: The division shows efficient resource allocation, guaranteeing that specialists concentrate on more pressing issues while general practitioners manage ordinary instances.

The project probably reduces access barriers with its easy scheduling and free services.

ii. Effect of Specialized Telemedicine Camps

Indicator: The quantity of camps held and the individuals they assisted demonstrate the project's influence on public health.

Information:

- 184 camps in total
- 18,683 in total beneficiaries

Breakdown of the Camp:

Camp Type	No. of Camps	No. of People Benefitted	% of Total Camps	% of Total People Benefitted
Anaemia	5	377	2.72%	3.23%
Hypertension Screening	44	1,868	23.91%	15.98%
Cancer Screening	3	136	1.63%	1.16%
Cardiac Screening	7	376	3.80%	3.22%
Dermatology	7	488	3.80%	4.18%
Eye Camp	7	1,092	3.80%	9.35%
Geriatric Camp	12	578	6.52%	4.95%
Obstetrics & Gynaecology	4	232	2.17%	1.99%
Non-Communicable Diseases (NCD)	77	5,540	41.85%	47.42%
Paediatric	3	158	1.63%	1.35%
Nephrology	2	151	1.09%	1.29%
Orthopaedic	2	167	1.09%	1.43%
Physiology	11	520	5.98%	4.45%

- 5,540 beneficiaries (47.4%) had NCD screenings.

- 1,092 people (9.3%) benefited from Eye Camps.
- Screenings for hypertension: 1,868 recipients (16%)
- Camps for Dermatology: 488 recipients (4.2%)
- 3,695 recipients (31.6%) from other camps

Evaluation: Coverage: The large number of beneficiaries (11,683) across 184 camps demonstrates effective planning and execution.

- Focus Areas:
- NCD Screenings have the highest reach, reflecting the project's alignment with the growing burden of non-communicable diseases.
- Hypertension and Eye Camps highlight targeted interventions addressing common community needs.
- Differentiation is added by dermatology and other camps, which address particular but significant health issues.

Note: Effectiveness insight: The project creates awareness and encourages preventative treatment in addition to meeting immediate health needs by planning a variety of camp kinds.

'Other Camps' beneficiaries include obstetrics and pediatric cases, demonstrating attentiveness to all aspects of family health needs.

Iii. Diagnostic and Disease Screening Effectiveness

Indicator: The DIGISAHAYAM Project's efficacy in early health condition detection, diagnosis, and management is demonstrated by the quantity of diagnostic tests performed and the cases of chronic diseases found.

Information:

- Diagnostic Examinations: Laboratory Tests: 26,446 ECGs: 4,416 .
- Cases of Chronic Illness Found: 4,472 cases of hypertension; 2,129 cases of diabetes

Analysis:

- *Services for Diagnostics*

  Test Volume: The substantial use of diagnostic capabilities is demonstrated by the substantial number of lab tests (26,446). This comprises lipid profiles, blood sugar testing, and other standard and sophisticated diagnostic procedures required for the treatment of both acute and chronic illnesses.

- *Efficiency and Reach:* The project's ability to serve a broad population is demonstrated by the high testing volume, which is probably going to ease the strain on conventional healthcare facilities.

  Point-of-care diagnostic services indicate better availability, particularly in underserved or rural locations.

- *Identification of Chronic Conditions:*

  Hypertensive Cases- The project's success in identifying and treating high blood pressure, a major risk factor for heart disease and stroke, is demonstrated by the 4,472 hypertensive patients that were found.

  Cases of Diabetes- The identification of 2,129 instances of diabetes highlights DIGISAHAYAM's contribution to the fight against this expanding public health issue.

Qualitative Findings-

Theme 1: Healthcare Accessibility Challenges.

This theme digs into the barriers that limit rural and marginalized communities' access to healthcare, as well as innovative techniques used to close these gaps.

Barriers Identified:

- Limited digital literacy: Major population was unfamiliar with applications, and digital platforms, making it difficult for them to receive telemedicine care.

Elderly people or those with less knowledge may struggle to navigate technology-driven healthcare solutions.

- Internet Connectivity Issues: Remote and physically isolated places may have inadequate network coverage or no internet connection.
- Lack of awareness: A large proportion of the public is unaware of the availability and benefits of telemedicine services.

  Misinformation or mistrust regarding the trustworthiness of telehealth adds to the poor adoption rates.

Strategies employed to overcome these challenges:

1. *Include doorstep consultations and household visits*

- Healthcare specialists visit patients' homes to provide consultations and care, ensuring access for people who are unable to travel to medical facilities.

- This technique removes constraints like transportation challenges, digital illiteracy, and physical impairments.

2. *Kiosks with telemedicine setups*
    - Units equipped with diagnostic tools such as portable ECG machines, blood pressure monitors, and teleconsultation technologies deliver healthcare to rural locations.
    - These kiosks serve as mini-clinics, providing real-time virtual consultations with professionals and performing lab tests.
    - Trained people help patients understand and use technology, thereby addressing digital literacy issues.

Theme 2: The role of healthcare workers in assisted telemedicine.

This theme emphasizes the crucial role of healthcare staff in the successful implementation of supported telemedicine services. Their numerous responsibilities range from patient care to community engagement and ongoing skill development.

- Assistance with patient history-taking and diagnostics:

Healthcare staff play an important role in gathering patients' medical histories, ensuring that correct and complete information is available for teleconsultations.

They use portable instruments connected into the telemedicine system to do basic diagnostic operations such as measuring vital signs (blood pressure, temperature, etc.), running blood tests, and taking ECGs.

- Teleconsultation Registration Assistance:

Many patients, require assistance in registering for telemedicine services due to their unfamiliarity with digital platforms.

Healthcare workers assist clients with the registration process, assuring their participation in the telemedicine ecosystem.

- Bridge the Digital Literacy Gap:

Healthcare personnel act as mediators, assisting patients in navigating the telemedicine platform, from logging in to understanding the consultation procedure.

Their presence decreases the fear of utilizing technology, especially among the elderly and less technologically skilled groups.

Theme 3: Integrating Technology into Service Delivery.

- Easy to use

The elegant design of the telemedicine platform makes it easy for healthcare staff to navigate and support patients. Multilingual assistance and optimized workflows offer accessibility for a wide range of demographics. One-click access to records and diagnostics simplify operations, increasing productivity and decreasing errors, providing flawless service delivery even in technologically challenged settings.

- Interoperability

Integrated diagnostic instruments, such as ECG machines and digital stethoscopes, communicate smoothly with the platform. This saves manual data

handling, streamlines procedures, and enables real-time data sharing with specialists.

- Decision Support Tools

Real-time clinical decision support systems (CDSS) provide healthcare personnel with warnings, recommendations, and protocols. These technologies improve diagnosis accuracy, identify irregularities, and recommend next steps, empowering non-specialist workers. They also serve as training tools, reinforcing knowledge, instilling confidence, and allowing professionals to handle difficult cases while sticking to established treatment practices.

- Impact of Technology Integration

The implementation of user-friendly technology improves diagnostic accuracy, reduces wait times, and increases healthcare delivery efficiency. Decision support tools empower healthcare staff, resulting in higher-quality patient care. With seamless device connectivity and scalable architecture, the system promotes adaptation, improving healthcare access for underprivileged people and laying the road for long-term innovation.

Theme 4: Perceived Scalability and Sustainability

- Community-Centric Model.

The project's dependence on qualified local healthcare staff assures operational stability. Their knowledge with community needs promotes trust and engagement. By integrating local talent, the approach decreases reliance on external resources, resulting in a self-sustaining system that can deliver healthcare services effectively even in resource-constrained environments.

- Cost-Effectiveness

Offering free services and using low-cost diagnostic techniques ensures financial sustainability. Portable and inexpensive technology cut operational costs without sacrificing care quality. This cost-effective technique maximizes resource use, making the initiative sustainable over time while increasing its reach to more disadvantaged communities.

- Potential for Expansion

The adaptability of the service concept enables replication in other underserved areas. Flexible workflows, scalable technology, and community participation make the concept broadly applicable. The concept can be customized to different demographics, allowing the project to expand regionally while remaining efficient and successful in providing healthcare.

- Government and NGO Support

Collaborations with local governments and non-governmental organizations (NGOs) provide crucial financial and logistical support. These collaborations assure continuity by delegating financial and operational tasks. Furthermore, government endorsements and NGO networks boost the project's credibility, allowing it to expand its impact and remain operational by integrating into larger public health frameworks.

SWOT Analysis Of Digisahyam Project-

I). Strengths

- *Extensive Outreach:* Household visits and camps can give access to even the remotest of the populations.
- *Technological Integration:* The system uses high-end diagnostic tools as well as a CDSS enabling to deliver quality services and better preciseness.
- *Service efficiency:* With time definition and trained staff, the waiting time and subsequently patient per time are very high.
- *Management of chronic illnesses:* With great screening and detection of conditions like pressure and diabetes, the program can be seen to have long-lasting effects on the health of patients.

ii). Weaknesses

- Other demographic information is not well elaborated. The patient tendencies in this case might be targeting a not well-defined population group.
- *Possibility of access disparity:* Populations with potential access problems are supposed to be identified to circumvent the accessibility problem associated with physical registration among other barriers.
- *Under-Representation in Some Specialties:* Some areas are not well represented, for example, camps regarding cancer and nephrology, and therefore they pose a chance of a gap in care.

iii). Opportunities

- *Extension of Impact:* Inauguration and diversification of camps may add to its rate of service to people.

- *Critical Information:* Information of patients in detail may assist health care targeting and management of resources.
- *Outreach Programs*: Registration and teleconsultation can be further proliferated to encompass more people.

iv). Threats

- *Sustainability:* As funds run out, dependency on the free services might pose an issue in sustaining the program.
- *Technological Reliability:* Since smart devices and a CDSS are relied on, if for some reason, there is a glitch in the technological machinery, services would be stopped again.
- *Resource Constraints*: If the program grows through the roof, an unquantifiable surge in staff and resources will occur.

5. Results

Objective 1: Performance and Outcomes of the Digisahayam Project

1. Healthcare Delivery Efficiency

- Total consultations: **38,517**
  - General consultations: **31,627**
  - Specialist consultations: **6,996**
- Doorstep consultations: **480**
- Household visits: **26,490**

2. Impact of Specialized Telemedicine Camps

- Total camps conducted: **184**
- People benefitted: 18,683

3. Diagnostic and Disease Management Effectiveness

- Lab tests conducted: **26,446**
- ECGs performed: **4,416**
- Chronic diseases identified:
  - Hypertension: **4,472** (56**.8% of those screened**)
  - Diabetes: **2,129** (**42.6% of those screened**)

Objective 2: Scalability, Sustainability, and Impact on Accessibility

1. Addressing Healthcare Accessibility Challenges

Interpretation:

The project demonstrates a strong commitment to overcoming systemic barriers through community-focused interventions and adaptive service delivery methods.

2. Integration of Technology

Interpretation:

- Technology integration has been a key enabler, simplifying service delivery while ensuring high-quality diagnostics and efficient care.

3. **Scalability and Sustainability**

InterpretationThe Digisahayam Project is well-positioned for growth and replication. Its reliance on local resources and strategic partnerships ensures long-term sustainability.

5.Discussion

The Digisahayam Project demonstrates an innovative approach to tackling healthcare accessibility issues in underprivileged areas using an assisted telemedicine model. By combining technology, community participation, and skilled healthcare staff, the project offers a scalable and sustainable

framework for healthcare delivery. This discussion delves into its benefits, limits, and possibilities for replication, drawing comparisons to comparable programs around the world.

One of the Digisahayam Project's distinguishing advantages is its ability to handle a large patient load. The initiative facilitated 38,517 consultations, including 31,627 general and 6,996 expert visits, demonstrating its strong telehealth infrastructure. Its efficiency extends to the organization of 184 telemedicine camps, which benefitted 11,683 people and focused on specific healthcare treatments such as NCD screening. These initiatives not only addressed specific community needs However, it also helped to manage chronic diseases, identifying 4,472 hypertensive and 2,129 diabetic instances.

The addition of advanced diagnostic instruments, such as portable ECG machines and lab kits, enhances its service delivery. These techniques enable early diagnosis and treatment of illnesses, lowering long-term healthcare costs. Furthermore, the utilization of cost-effective technology provides financial feasibility, making the project sustainable even in resource-constrained environments.

Trained healthcare staff are critical to the project's success. They help with patient registration, history-taking, and diagnostic procedures, bridging the technology gap for groups with low digital literacy. Their trusted presence in communities encourages engagement and trust, both of which are required for the project to be acceptable and effective.

The Digisahayam Project efficiently tackles systemic hurdles to healthcare access, such as poor internet connectivity, low digital literacy, and a lack of understanding of telemedicine. Innovative tactics such as doorstep consultations,

26,490 household visits, and mobile kiosks with telemedicine setups broaden the project's reach into outlying locations. Awareness campaigns strengthen community engagement by informing people about the availability and benefits of telemedicine services.

When compared to other projects, the Digisahayam Project stands out due to its integrated and holistic approach. India's eSanjeevani platform, for example, provides free teleconsultations but lacks the supported paradigm that underpins Digisahayam, in which trained professionals actively guide patients throughout the process. Project ECHO in the United States focuses on increasing healthcare provider capacity but does not include direct patient engagement or diagnostic services. Similarly, Bangladesh's BRAC community health worker program relies on grassroots workers but does not use advanced telemedicine technologies to the same extent as Digisahayam. These contrasts highlight Digisahayam's distinctive value offer as a holistic, community-focused telemedicine initiative.

Despite its success, the Digisahayam Project has some limits. The use of secondary data may add gaps or biases, limiting the comprehensiveness of the conclusions. Furthermore, a lack of patient feedback limits insights into satisfaction and perceived service quality. Follow-up data on individuals with chronic conditions is frequently limited, making it difficult to measure long-term health effects. Finally, the findings are particular to the territories served by Digisahayam, which may limit their applicability to areas with differing demographics or healthcare concerns.

To increase its impact, the project should prioritize fixing its limitations. Collecting patient feedback could provide significant information about service quality and satisfaction. Furthermore, including follow-up procedures for chronic disease care would allow for a more accurate assessment of long-term health

outcomes. Expanding the range of services, such as mental health or pediatric care, may also boost their relevance and impact. Finally, doing economic evaluations may improve the case for expanding the project nationally or globally.

6.Conclusion

The Digisahayam Project efficiently bridges healthcare gaps in impoverished communities, demonstrating the viability and efficacy of aided telemedicine as a healthcare delivery strategy. By combining technology, community engagement, and educated healthcare staff, the project establishes a standard for similar programs globally. Addressing its weaknesses and focusing on future improvements can strengthen its position as a model for enhancing healthcare access and outcomes.

A Visit to CHC (Chiri)

Introduction

This paper gives a concise and thorough insights gathered during a substantial training aimed at improving the skills and knowledge of healthcare staff and Doctors concentrated on our platform, "DIGISAHAYAM".

Objective

The fundamental goal of this training project was to empower healthcare workers, professionals with the most recent innovations and best practices used by CCDC in the field of "Assisted Telemedicine", thereby supporting excellence in patient care and Medical services.

- Duration and Participation: The visit began at Rohtak.
- On 03/04/24 from 7 a.m. until 7 p.m.
- The participants included—
- Healthcare staff at Chiri CHC (Sheetal, Seema, and Monika).
- PG Residents at PGIMS Rohtak (Dermatology and Medicine).
- Dr. Ruksar, Himanshu, and Dr. Saumya conducted the training.
- The session was witnessed by Dr. Anita Saxena (VC PGIMS Rohtak), Dr. Varun (Public Relations Officer), and Dr. Kuldeep (SMO Chiri CHC).

Training Program Overview:

The training program was created to address many areas of the "DIGISAHYAM PLATFORM". It included theoretical lessons, practical demonstrations, hands-on training, and interactive workshops. The training covers the following major topics:

- Introduction to DIGISAHAYM PLATFORM (for nurses and doctors).
- Demonstrations of point-of-care devices.
- Dummy consultation, etc.

Key highlights:

- Hands-on workshops allowed healthcare staff to apply theoretical knowledge to mock cases.
- Networking chances: Engaging with peers and industry professionals provided significant networking chances. It facilitated the sharing of ideas, experiences, and best practices.

- Site visits provided insight into potential operational problems during launch.

Challenges Faced: Despite our best efforts, the biggest problem we encountered was internet connectivity.

Recommendations: The following suggestions are made:

- We should continue such enriching sessions for the smooth operational flow of the program.
    - The platform updates should be looked after for the scalability.
    - Internet connectivity problem should be resolved at the earliest.
    - Frequent virtual sessions and dry runs for the healthcare personnel for the success of program.