DISSERTATION

At

NATIONAL HEALTH AUTHORITY PROJECT UNDER ERNST& YOUNG

By

SUDHANSHU BATRA

PG/21/114

UNDER THE GUIDANCE OF

DR. ANANDHI RAMACHANDRAN

PGDM (Hospital and Health Management)

2021-2023

International Institute of Health Management Research New Delhi

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(Completion of Dissertation from respective organization)

MR. SUDHANSHU BATRA

in recognition of having successfully completed his/her internship in the department of

ERNST & YOUNG LLP GOVERNMENT & PUBLIC SECTOR

and has successfully completed his Project on

Study on knowledge and awareness about Ayushman Bharat Digital Mission among National Health Authority employees

Date - 02-05-2023

Organization - ERNST & YOUNG

He comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning.

We wish him/her all the best for future endeavors.

Training & Development

Zonal Head-Human Resources

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **MR. SUDHANSHU BATRA** student of PGDM (Hospital & Health Management) from International Institute of Health Management Research, New Delhi has undergone internship training at from **01-02-2023 to 02-05-2023**.The Candidate has successfully carried out the study designated to him during internship training and his/her approach to the study has been sincere, scientific, and analytical. The internship is fulfilment of the course requirements. I wish him all success in all his/her future endeavours.

Dr. Sumesh Kumar

Associate Dean, Academic

and Student Affairs IIHMR, New Delhi

Dr. Anandhi Ramachandran

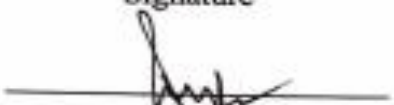
Professor

IlHMR, New Delhi

Certificate of Approval

The following dissertation titled **"Study on knowledge and awareness about Ayushman Bharat Digital Mission among National Health Authority employees"** at **"EY India"** 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 **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood thatby this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name	Signature
PRAVEEN KUMAR	
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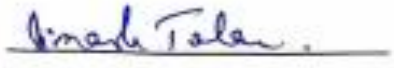
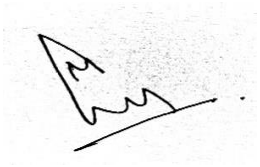
HINANSHU TOLANI	

Certificate from Dissertation Advisory Committee

This is to certify that **Mr. Sudhanshu Batra**, a graduate student of the PGDM (Hospital & Health Management) has worked under our guidance and supervision. He/ She is submitting this dissertation titled **"Study on knowledge and awareness about Ayushman Bharat Digital Mission" at "EY LLP"** in partial fulfilment of the requirements for the award of the PGDM (Hospital & Health Management).

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr. Anandhi Ramachandran,
Professor
IIHMR Delhi



Mr Mohit Goyal,
Senior Manager
EYLLP

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Study on knowledge and awareness about Ayushman Bharat Digital Mission among National Health Authority employees** and submitted by **Sudhanshu Batra**, Enrolment No. **PG/21/114** under the supervision of **Dr. Anandhi Ramachandran** for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from **01-02-2023 to 02-05-2023** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Feedback Form

Name of the Student: Sudhanshu Batra

Name of the Organization in Which Dissertation Has Been Completed: NHA LTI, Project Under ERNST & YOUNG, NEW DELHI

Area of Dissertation: EY LLP Government & Public Sector

Attendance: 100%

Objectives achieved: Identified available data extraction workflows with respect to Sandbox, Grievance Portal.

2. Detailed Analysis of Workflow of Sandbox, Grievance Portal including roles and data elements.

3. Gap analysis on the available services against required services.

Deliverables:

Detailed documentation including Inception Report and Business requirement Document (SRS & FRS) to LTI.

Strengths:

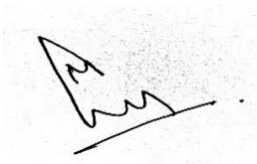
Good Communication skills, Action Oriented, Highly Patience and Calm at Work

Suggestions for Improvement:

Keep up the good work. Some effort to be put into enhance the documentation skills and take more initiation to participate in the discussions

Suggestions for Institute (course curriculum, industry interaction, placement, alumni)

Signature of the Officer-in-Charge/ Organization Mentor (Dissertation)



Date: 02 05-2023

Place: Delhi

ACKNOWLEDGEMENT

I would like to take the opportunity to devote my thanks and express deep sense of gratitude to my IIHMR mentor **Dr. ANANDHI RAMACHANDRAN (Professor)** and organization mentor **Mr. MOHIT GOYAL (Senior Manager)**. I am highly thankful to **Dr. AZFAR KHAN (Manager)** for providing me the opportunity to work on this assignment. I am greatly indebted to them for providing their valuable guidance, advice, constructive suggestions, positive and supportive attitude and continuous encouragement, without which it would have not been possible to complete the project. I owe my wholehearted thanks and appreciation to the entire EY and NHA team. I hope that I can build upon the experience and knowledge that I have gained and make a valuable contribution towards community in coming future. Lastly, I would like to thank my family for constant support throughout my journey.

SUDHANSHU BATRA

Table of contents

Abbreviations

Abbreviation	Full form
ABDM	Ayushman Bharat Digital Mission
ABHA	Ayushman Bharat Health Account
ANM	Auxiliary Nurse Midwifery
ASHA	Accredited Social Health Activist
CBAC	Community Based Assessment Checklist
CHO	Community Health officer
CPHC	Comprehensive Primary Healthcare
DGHS	Directorate General of Health Services
DLC	Digital Lifecare
FHIR	Fast Healthcare Interoperability Resources
GoI	Government of India
HFR	Health Facility Registry
HIE-CM	Health Information Exchange & Consent Manager
HIP	Health Information Provider
HIU	Health Information User
HPR	Health Professionals Registry
HRP	Health Repository Provider
JSON	JavaScript Object Notation
MO	Medical Officer
MoHFW	Ministry of Health & Family Welfare
NCD	Non-Communicable Diseases
NDHM	National Digital Health Mission
NHA	National Health Authority
PHR	Personal Health Record

PART A

ORGANIZATION PROFILE

Organization Profile

Ernst & Young Global Limited (EY) is a Multidisciplinary professional services organization with worldwide services network whose headquarter is located in London, England. It is one of the Big Four accounting firms along with Deloitte, KPMG and Price Waterhouse Coopers. Its main services to clients include assurance (which includes financial auditing), tax, consulting, and advisory. EY has extended beyond accounting into areas such as strategy, operations, human resources, technology, and financial services consulting.

Organization is driven by the purpose- Building a better working World for our clients, our people and communities. EY has 300,000 employees in around 700 offices in more than 150 countries around the globe. The current partnership was created in 1989 when two accounting companies, Ernst &Whiney and Arthur Young & Co, merged to form the firm. Ernst & Young was the company's name until a rebranding drive in 2013 formally changed it to EY. For the past 21 years, EY has remained on Fortune magazine's list of the 100 Best Companies to Work longer than any other accounting company

Geographically, the firm is structured in Europe, Middle East, India and Africa(EMEIA), Americas, Asia-Pacific. 12 Over the previous ten years, EY has significantly changed its business strategy to provide a broader range of services.

Service lines based on services provided to clients

• Assurance: It incorporates Financial Accounting Advisory Services, Financial Audit and Forensic & Integrity Services.

• Tax: It incorporates of International Tax Services, Business Tax Compliance, Transfer Pricing, Global Trade, Indirect Tax, People Advisory, Tax Technology and Transformation, Transaction Tax, Tax Accounting & Risk Advisory Services.

• Consulting: It incorporated two sub-service lines – Business Consulting and Technology Consulting.

• Strategy and Transactions or SaT: It focuses on the capital transformation of businesses, including Business Valuation and Economics, Due Diligence, Real Estate Advisory, M&A, Financial and Operational Restructuring, and Corporate Finance Strategy.

Through these services, EY help their clients to subsidize on transformative opportunities and fulfilling regulatory requirements. They keep their investors informed and cater to all of their stakeholders' needs.

ACHIEVEMENTS

- The firm was ranked No. 44 in the Fortune list of "100 Best Companies to Work For", and the highest among the "Big Four", for 2009
- In 2013, EY earned 100% rating on the "Human Rights Campaign Corporate Equality Index"
- In 2016, EY was ranked 3rd in Universum World's Most Attractive Employers, and ranked 1st in area of professional services employers, in a survey that reveals perception of future employers among business students by an employer branding firm.
- Forbes list EY as one of the Best Management Consulting Firms for 2017.

LEADERSHIP

• Mr. Carmine Di Sibio- Chairman & CEO, EY Global

• Mr. Rajiv Memani- Chairmen and Regional Managing Partner, EY India

• Mr. Anurag Malik- People Advisory Services Partner, EY India

• Mr. Rohan Sachdev- Consulting Leader, EY India

• Mr. AbizerDiwanji- Financial Services Leader, EY India

INFRASTRUCTURE

EY develops and compares financial strategies and delivery methodologies for projects including public or private funding, project revenues, and grants, and assists clients in putting those plans into action. Infrastructure consulting services include the following:

- Assisting local and regional governments in achieving city mobility
- Strategic planning and policy
- Procurement and transaction advisory
- Program management and infrastructure delivery
- Strategy and process improvements in technology and information and communication technology (ICT)

ORGANIZATIONAL STRUCTURE

OBJECTIVES: -

The need for better digital citizen experiences is driving greater expectations for improved online public services and personalization. Digital transformation has become an imperative in the digital age. Digital technologies and social media are changing how governments and citizens engage with one another. COVID-19 has added extra pressure on governments to streamline their online approach. As a result, there is a need for a digital government that can help governments provide better public services to citizens and businesses. Governments are asking EY to help them develop effective strategies, understand their target audiences and expectations, manage change and execute information technology development and implementation. GPS is currently the second largest sector within Consulting worldwide with an active

global network, strong local DNA, and a passion for serving those who serve their nation. EY makes an impact through building trusted relationships with our clients, with a focus on large transformational projects, innovative solutions, and the collective leverage of a globally connected practice.

GENERAL FINDINGS: -

On 15th August 2020, the Hon'ble Prime Minister announced the National Digital Health Mission (NDHM) following which the NDHM pilot was launched in all the Union Territories. Later, on 27th September 2021, there was a nationwide rollout of a pilot project called Ayushman Bharat Digital Mission (ABDM). ABDM was launched by GoI for promoting the digitization of healthcare and creating an open interoperable digital health ecosystem for the country.

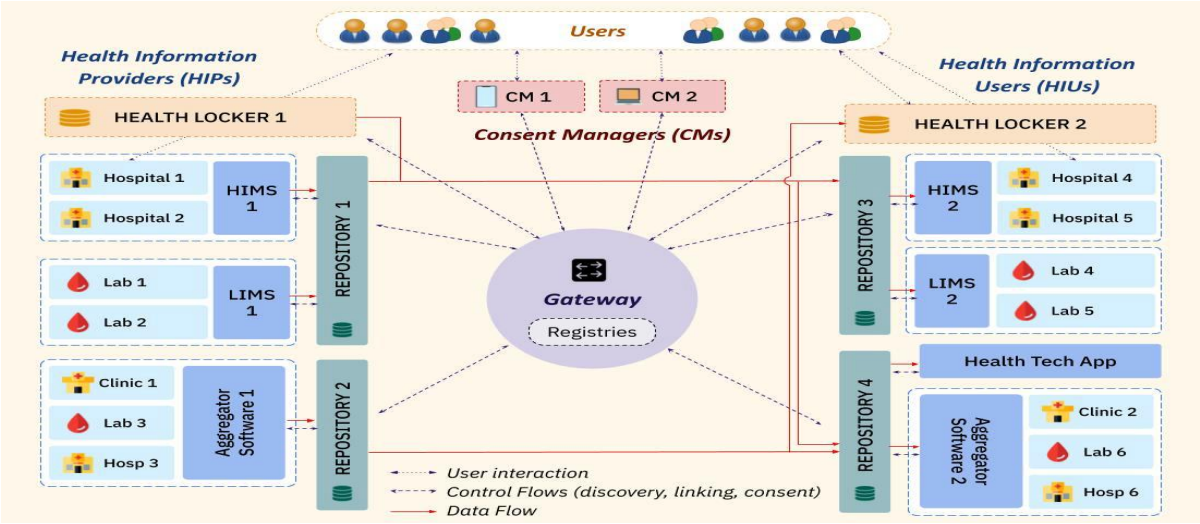
It aims to do so by:

• Common health data standards (FHIR),

• Registry of Health Facilities (HFR), Healthcare professionals (HPR), etc.,

The Ayushman Bharat Digital Mission aims to develop the backbone necessary to support the integrated digital health infrastructure of the country. ABDM seeks to bridge the gap among multiple stakeholders as part of the healthcare ecosystem.

ABDM ARCHITECTURE



ABDM SANDBOX INTEGRATION AND EXIT PROCESS

The Ayushman Bharat Digital Mission has developed building blocks and APIs to offer a seamless digital healthcare experience for all stakeholders – health facilities, patients, and healthcare workers. The digital infrastructure developed is now accessible to health facilities and health tech players for integration. Sandbox is a framework that permits technologies and product testing in a contained environment.

Anyone who wishes to develop software services and products linked with ABDM services can benefit from the hosting of the following building blocks in sandbox services:

- ABHA number services
- Consent Manager and Gateway
- Sandbox ABHA Mobile Application for Android
- Sandbox HIU application
- Sandbox Digi Doctor
- Sandbox Health Facility

The integration process is distributed in phases termed Milestones. Three milestones are recommended to develop the end-state patient experience:

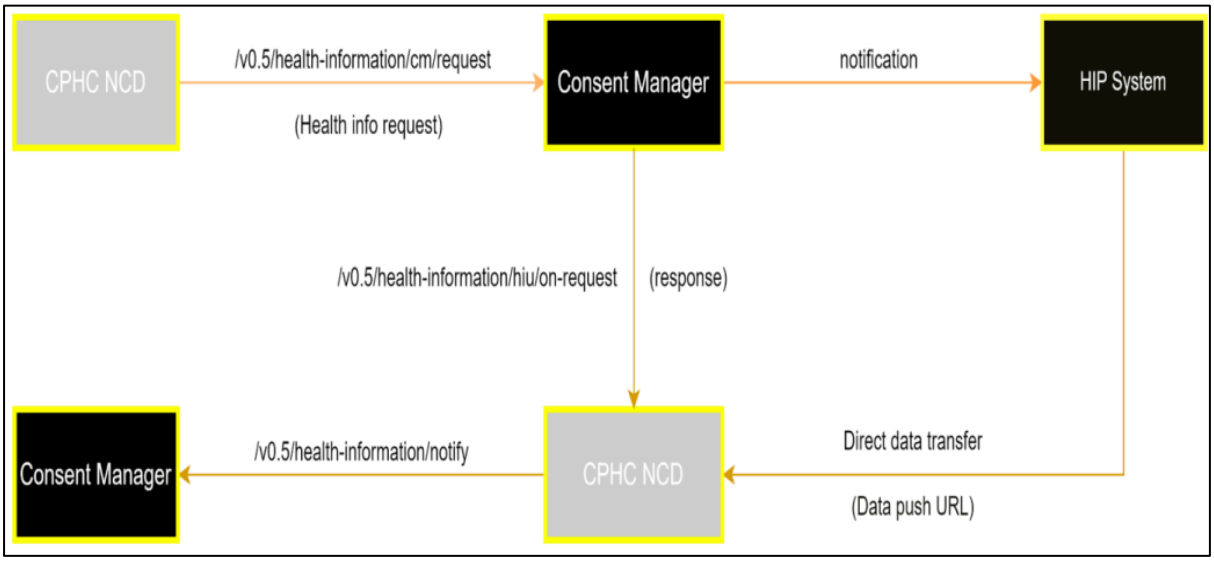
Milestone I: ABHA number creation and capture and verification for seamless patient registration

Milestone II: Building HIP services to share digital records via Personal Health Records (PHR/ABHA) app.

Milestone III: Developing HIU services to provide a few of the patient's medical history to authorized healthcare workers with complete consent.

HIE-CM

A health information exchange and consent manager is an entity that enables consent management and sharing and linking of PHRs for a user. ABDM's own HIE-CM lies in the PHR app where the user can sign up with a health ID. Health Data Consent Manager (HDCM) plays the role of fiduciary or trustee with which a patient signs up, to begin with



Healthcare IT Standards –

FHIR In healthcare information technology, standards provide a common language and set of expectations that enable interoperability between systems and/or devices. Interoperability is the capacity of two or more systems or components to share information and make use of that information, according to the IEEE Standards Computer Dictionary. For a standard to be successful it should have the following:

1. High Rate of Adoption

2. Consumer Demand

• Meets the user base

• Well documented

• Easy to use

• Inexpensive (or FREE!)

3. Government Required

"Fast Healthcare Interoperability Resources"

It is a new standard that leverages web-friendly formats that enables the interchange and comprehension of health data among applications and businesses.

The most recent healthcare IT standard, FHIR, was developed by HL7 International and is now being used all over the world. Health Level Seven International (HL7), a not-for-profit, ANSI-accredited standards development organization, was established in 1987 to provide a thorough framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that will support clinical practice and the administration, provision, and evaluation of healthcare services.

Ayushman Bharat digital mission has chosen FHIR R4 as the mode of data exchange standard, where R4 represents version 4.

All of the platform's parameters were identified to make the NCD portal ABDM compliant, and they were subsequently mapped with the FHIR label to convert the data format that ABDM supports. Following that, the data format is placed in resource bundles known as care contexts.

The FHIR implementation guide for ABDM Health Data Interchange Specifications 1.0, which is based on FHIR R4 and sets basic conformance requirements for accessing health data to achieve continuity of care in the Indian setting, was created by NRCes (National Resource Center for EHR Standards).

This implementation guide's goal is to outline the minimal and necessary health record artifacts that can be shared by the ABDM Health Data Interchange Specifications 1.0.

The implementation of ABDM as contemplated by NDHB is referred to in this guide as well as other guidelines, such as EHR standards for India (2016), Medical Council of India (MCI), and Pharmacy Council of India (PCI).

ABDM profiles

The following is a list of profiles that define the minimum mandatory elements and terminology requirements that must be present.

1. Wellness Record

2. OP Consult Record

3. Prescription Record

4. Immunization Record

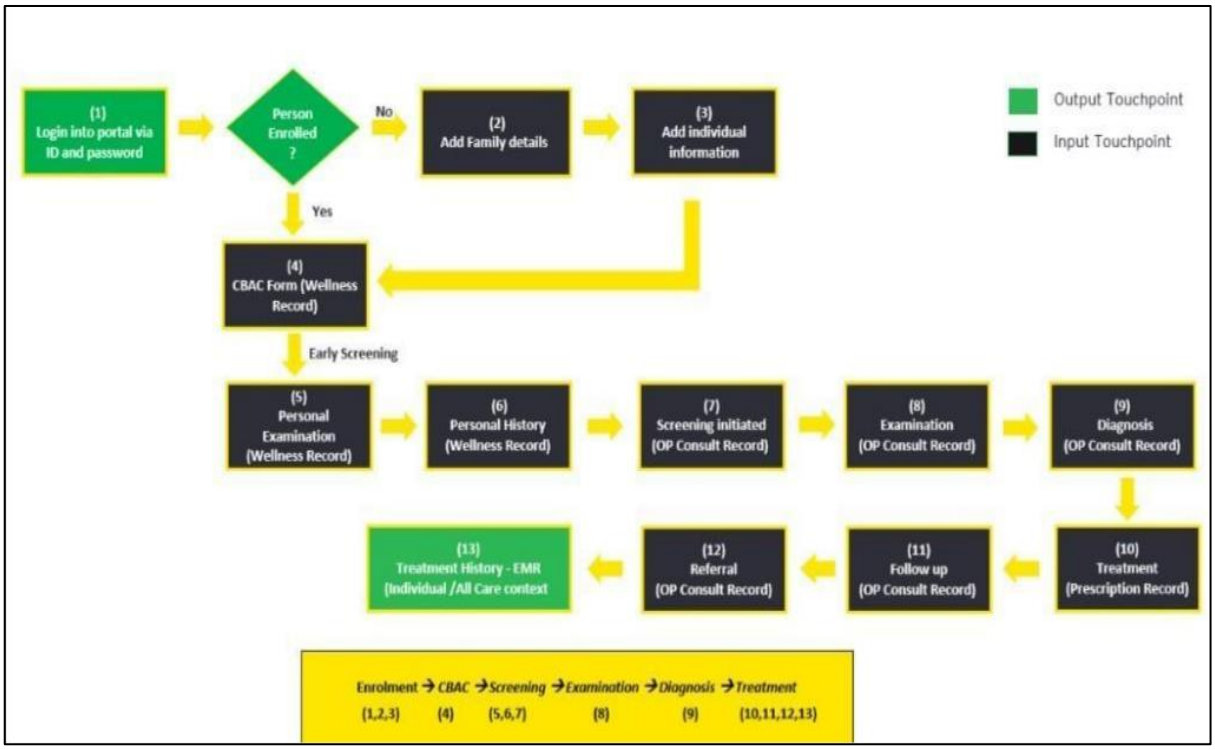
5. Diagnostic Report Record

6. Discharge Summary Record

7. Health Document Record

CPHC-NCD Platform

• Understanding the CPHC-NCD platform and creating an end-to-end workflow:



Non-communicable diseases (NCDs) are "silent" illnesses with few or no early signs, making diagnosing those with them challenging. Better health outcomes, higher survival rates, and reduced personal expenses result from screening for NCDs and managing them early. As a result, screening them as soon as possible

is critical so that they can be accurately diagnosed, treated, and given preventative care to maintain their health.

The DLC (Digital Lifecare Platform) makes it possible for registered health workers to screen adults over 30. The platform is capable of carrying out several tasks, including Enrolment, Screening, managing referrals, and storing relevant medical records. Below is a detailed explanation of each: -

1. Enrolment- An ASHA employee conducts enrolment; the person is enrolled with their demographic, lifestyle, and insurance details. Additionally, accurate records of personal data are recorded. If the citizen is already registered, ASHA will search for him or her and conduct additional risk assessments.
2. CBAC- ASHA is also in charge of completing the CBAC form (Community Based Assessment Checklist). The CBAC form is used to record signs and symptoms for risk assessment and to aid in early screening of the individual, after which the screening process begins. ASHA refers to the ANM for further evaluation
3. Screening – Screening is handled by ANM. You must first complete the CBAC and Personal Examination to begin the screening process. Screening is done for high blood pressure, diabetes, oral cancer, cervical cancer, and breast cancer. At the sub-center, ANM performs a personal examination (vitals are taken) and personal history. ANM also takes blood pressure and sugar levels and performs a visual examination in the field. The ANM then refers patients to a PHC or a higher-level facility (CHC, DH, TCC) as per their condition.
4. Examination – MO/CHO at PHC level further examines the patient physically to diagnose the condition.
5. Diagnosis – Diagnosis is made for the patient according to the understanding of the practitioner. NCD recommends action for diagnosis according to the information provided. The practitioner could either proceed with that or override the suggestion.

6. Treatment – Treatment is done via Counselling and Medication advice. Follow-up is conducted. The patient is referred further in case special care is required. We get the treatment history as an EMR (Electronic Medical Record) at the end of the process. Investigation Report includes ordering test for a particular condition if required and the result is updated in the work plan section (Pending investigation) with the report file. Drugs can also be tracked for the quantity and the name of the drug being issued.

To protect the client's confidentiality, we are not permitted to share the following corresponding files of the deliverables mentioned below: -

7. Identification of entry and exit touchpoints –

8. Documentation of the APIs (Application Program Interface) involved in the workflow- API (Application Program Interface) facilitates communication between two programs or applications. Hence, for the implementation, it is important to keep track of the existing APIs.

9. Identification of the Parameters of the platform – We mapped the parameters of the platform with the UI (User Interface) of the application by extracting it from the GET JSON (JavaScript Object Notation) response.

10. Creation of business process flows, which is a flowchart or diagram that illustrates each step of a process, including what tasks are performed, using diagrams.net.

11. Creation of use case diagrams, which describe the high-level functions and scope of a system or simply put, it identifies the interactions between the system and its actors.

12. Project management involves the planning and organization of the company's resources to move the specific project towards completion.

13. Documentation on "Requirements for CPHC-NCD certification for Milestone 2 & 3 on ABDM sandbox" via Inception report, Software Requirements Document (SRS), Functional Requirements Document (FRS), and Business Requirement Document (BRD)

Inception Report:

The final report, which is written after the project is over, is based on the inception report. The project evaluation deadlines, benchmarks, and techniques are outlined in the inception report. Measures chosen during the project's conception and before to execution can be used by evaluators to gauge results.

Software Requirement Specifications (SRS): The most crucial document in the software development process is the software requirements specification. Both the foundation for development and validation are provided by it. All criteria must be adequately defined in the SRS without mentioning implementation or project management concerns. The SRS needs to be finished as soon as possible during development. Despite the fact that changes will probably happen during the development life cycle, the SRS should have all the data required to move forward into the design phase.

Functional Requirement Specifications (FRS): The product to be offered is described in terms of the functions it will carry out and the facilities needed to satisfy the user needs in the functional requirements specification.

1. Detailed information about each screen's activities

2. The system should be programmed using data handling logic.

3. It needs to describe system reports or other outputs.

Business Requirement Document (BRD): A Business Requirements Document is a formal report that outlines all the goals or "requirements" for a new project, programme, or business solution. It outlines a business need or goal as well as what is anticipated moving forward with the project.

Benefits of BRD include:

1. Reducing project failure due to misaligned or misrepresented requirements;
2. Connecting to larger business goals and monitoring overall project health;
3. Fostering consensus and teamwork among stakeholders and team members;
4. Saving money on change requests, infrastructure, training, and other costs.

PART B

PROJECT REPORT

PROJECT REPORT ON

"Study on knowledge and awareness about Ayushman Bharat Digital Mission among National Health Authority employees"

BACKGROUND

To strengthen the accessibility and equity of health services, including continuum of care with citizen as the owner of data, in a holistic healthcare programme approach leveraging IT & associated technologies and support the existing health systems in a 'citizen-centric' approach, a digital intervention has been adopted to create a national digital health ecosystem.

The digital health ecosystem aims to support universal health coverage in an efficient, accessible, inclusive, affordable, timely and safe manner, that provides a wide range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems, that ensures the security, confidentiality and privacy of health-related personal information.

Various building blocks have been identified by taking into consideration, the most common requirements of the overall health ecosystem. All these blocks are designed to be cross-functional in nature. Currently there are 8 existing building blocks which have already been launched under the pilot National Level Roll out of the digital intervention and are in use, namely; ABHA ID, Healthcare Professionals Registry (HPR), Health Professionals ID (HPID), Health Facility Registry (HFR), PHR App, Sandbox, Grievance Portal, and Website.

Ayushman Bharat PM-JAY is the largest health assurance scheme in the world which aims at providing a health cover of Rs. 5 lakh per family per year for secondary and tertiary care hospitalization to over 10.74 crore poor and vulnerable families (approximately 50 crore beneficiaries) that form the bottom 40% of the Indian population. The households included are based on the deprivation and occupational criteria of Socioeconomic Caste Census 2011 (SECC 2011) for rural and urban areas respectively.

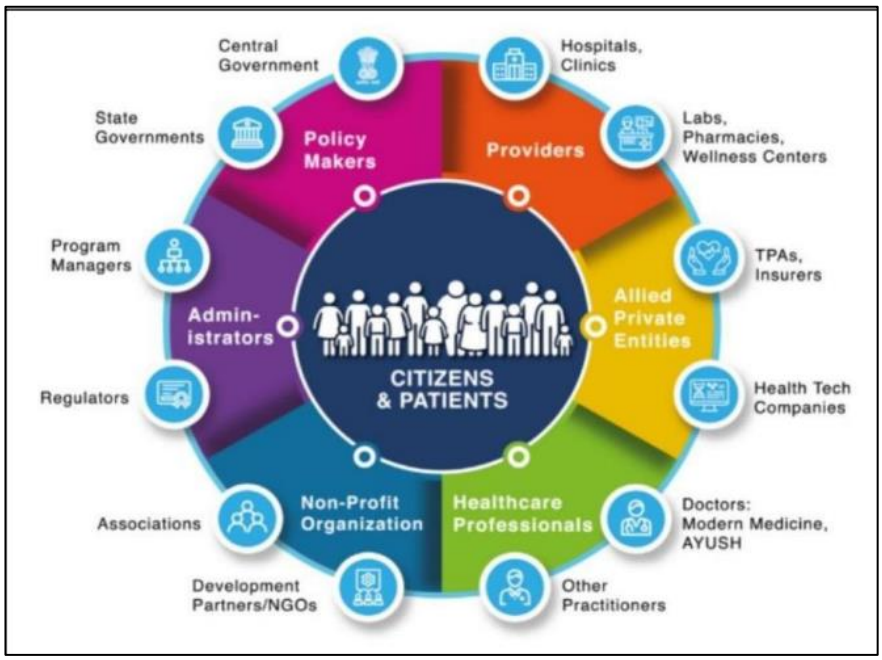
INTRODUCTION

The Ayushman Bharat Digital Mission (ABDM) aims to build the framework needed to sustain the nation's integrated digital health infrastructure. Through digitalization, it hopes to bridge the gap between the various stakeholders in the healthcare ecosystem.

As part of this initiative, all Indians will receive digital health IDs, which will allow hospitals, insurance companies, and individuals to electronically access medical records as needed. The implementing agency will be the National Health Authority (NHA), which is part of the Ministry of Health and Family Welfare. Its vision is to create a national digital health ecosystem that is effective, affordable, accessible, inclusive, and safe while supporting universal health coverage.

This ecosystem should also provide a variety of data, information, and infrastructure services while utilising open, interoperable, standards-based digital systems and ensuring the security, confidentiality, and privacy of personal health information.

ABDM Ecosystem



Benefits:

1. Make it simple for medical professionals, institutions, and service providers to conduct business.

2. With consent, make longitudinal health records of citizens accessible and exchangeable.

3. The objective will increase "equitable access" to high-quality healthcare by promoting the use of telemedicine and other technologies and making health services portable across national borders.

Every Benefit comes with certain concerns as well, so the major concerns are: -

1. The misuse of data by private companies and undesirable actors may result from the absence of data protection legislation.

2. Concerns also exist over the exclusion of citizens and the denial of healthcare as a result of systemic flaws.

ABDM Building Blocks:

1.ABHA number: Any participant in India's digital healthcare ecosystem would be uniquely identified by their 14-digit ABHA number. ABHA number will establish a strong and trustable identity for you that will be accepted by healthcare providers and payers across the country. The ABHA number will be utilized to authenticate individuals, identify them specifically, and connect their health records across various systems and stakeholders (but only with the patient's informed consent).

2.Health facility registry (HFR): - The Health Facility Registry is a comprehensive database of healthcare facilities across both traditional and advanced medical systems. It consists of both governmental and private health facilities, such as clinics, hospitals, diagnostic centers, imaging centers, and pharmacies

3.ABHA app (PHR): A PHR is an electronic record of a person's health-related data that complies with nationally accepted interoperability standards, may be obtained from various sources, and is managed, shared, and controlled by the person. The PHR's most notable characteristic, which sets it apart from the EMR and EHR, is that the information it contains is in the person's hands. An individual will be able to handle information about his or her medical

care thanks to the features enabled by a personal health record system (PHR). Viewing a longitudinal record that contains all health information, lab results, treatment information, and discharge summaries from one or more healthcare facilities is part of this.

4.Healthcare Professional Registry (HPR) - The Health Professional Registry (HPR) is a comprehensive database of all healthcare providers working in both modern and conventional medical systems

A key component of the Ayushman Bharat Digital Mission is HPR (ABDM).

Key features of the ABHA mobile application are: -

- Creation of ABHA Address
- Discovery of Health Information
- Linking of health records/ with a given ABHA Address
- View Health Records
- Management of consents

Adopting technologies to enhance workflows, efficiency, and patient care is what digital transformation actually involves. EHRs, telehealth applications, and cloud security technology all aid in the digital transformation.

The infrastructure of the digital healthcare ecosystem facilitates the transition from an organization-centered healthcare model to a patient-centered model.

The primary goal of this system is to provide collaborative and multidisciplinary health services. This means that several care systems collaborate to provide patient care.

In addition to providing treatment, being patient-centered entails addressing wellness and prevention. The ecosystem of digital health services investigates the physical, mental, and spiritual determinants of social health.

The goal of launching ABDM is to build a national digital health ecosystem that supports universal health coverage and a seamless online platform in an effective, accessible, inclusive, affordable, timely, and safe manner by providing a variety of data, information, and infrastructure services, appropriately leveraging open interoperable, standards-based digital systems, and ensuring the security, confidentiality, and privacy of health-related personal information.

(1) But there are operational areas that need capacity building without which the exercise might prove costly in terms of acceptance, usability, and data aggregation

(2). Undoubtedly, the present coronavirus disease 2019 (COVID-19) pandemic poses a serious threat to traditional medical services. The need for modifying and modernising clinical care delivery systems has been underlined by COVID-19. It has done a great job of emphasising the need to modify and modernise clinical care delivery systems.

(3). The involvement of several stakeholders, such as patients, clinicians, the insurance industry, and regulators in medicine, is still relatively low despite the rapid expansion of digital technologies.

PROBLEM STATEMENT

1. What is the awareness and perception level of the NHA employees regarding ABDM building blocks and implementation process?
2. What are the benefits of ABDM implementation as perceived by the NHA employees?

NEED OF STUDY

The rationale/need of study mainly is to know the awareness and knowledge about ABDM & its building blocks. This also help us know about the gaps and challenges faced and would help to find required implementation strategies to address the challenges

OBJECTIVE

To understand the perception of the NHA employees regarding ABDM building blocks

METHODOLOGY

- **STUDY DESIGN** - Cross section study design
- **STUDY DURATION** - The detailed study will be done for period of 3 months.
- **STUDY AREA / Site** - NHA Delhi
- **STUDY POPULATION -** NHA employees working in functional domain. There are approximately 70 to 80 NHA employees in functional domain in Delhi.
- **SELECTION CRITERIA** -

1. Inclusion criteria - NHA employees including male and female with more than 1 month of experience and currently working in functional/operation area.
2. Exclusion criteria - NHA employees at higher official positions that include strategy planning, policy, nonfunctional areas like finance, HR, and sales.

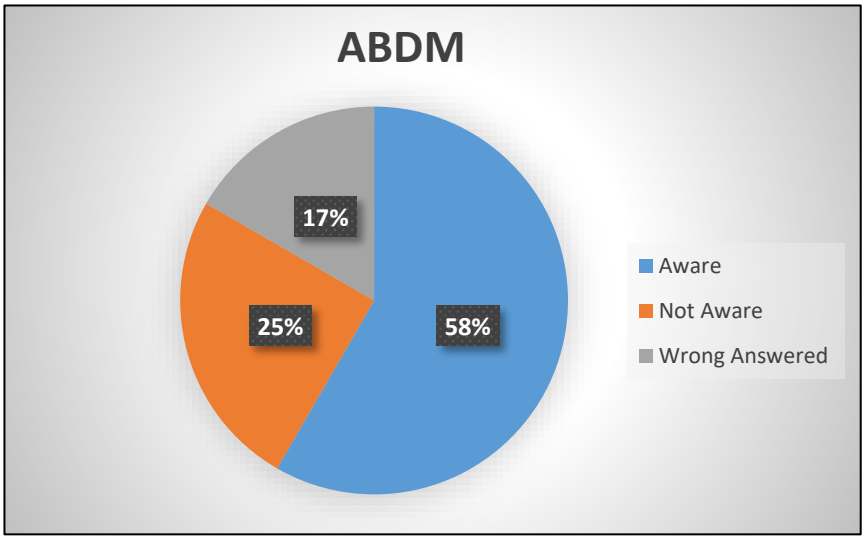
- **SAMPLE SIZE** – 60 (out of 100 people)
- **SAMPLING METHOD** - Purposive sampling
- **STUDY TOOL** - Semi structured questionnaire containing closed and open questions. The tool will contain items related knowledge related to ABDM building blocks, the registries, process of compatibility between any software and ABDM, gaps in functionalities, barriers in implementation (Annexure)
- **METHOD OF DATA COLLECTION -** A list of all employees working in the functional areas like coding, supporting, integration, sand box etc will be obtained. Each one will be included**.** The Google form will be circulated among the eligible participants and their responses will be recorded and stored in MS Excel Spreadsheet

RESULT & ANALYSIS

The result and analysis are based on the questionnaire asked from employees of NHA. The questions were asked in order to gain the knowledge, attitude and perception of an employee. The analysis is being done keeping in mind about the inclusion / exclusion criteria. There were about 10 questions in a questionnaire and was being asked from sample size (n = 60).

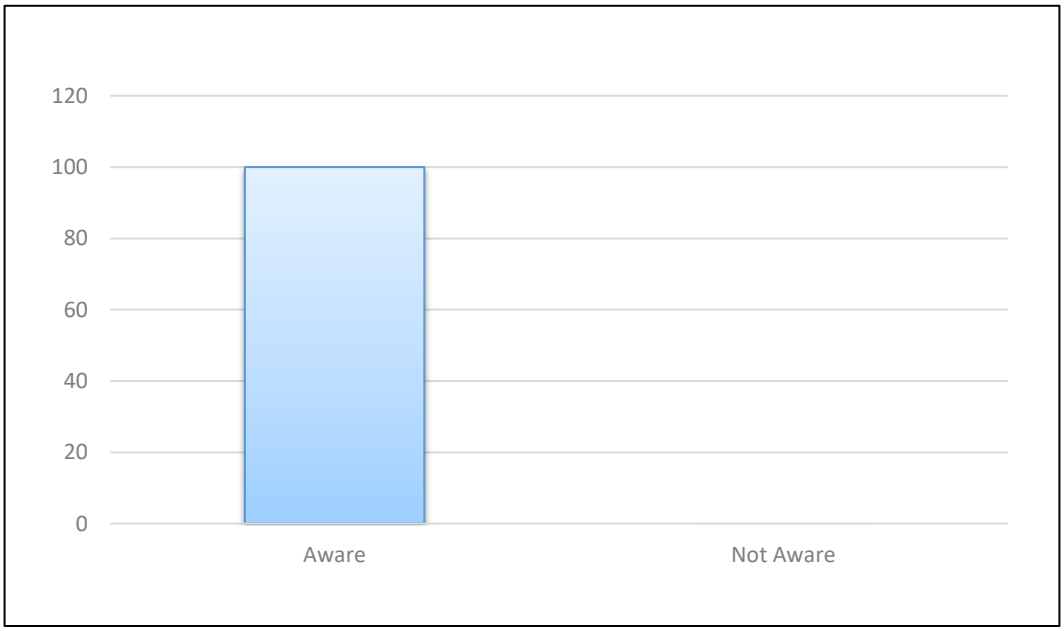
The Questions and Analysis of each question asked are analysed on basis of different parameters: -

- **What is ABDM and When ABDM was launched?**



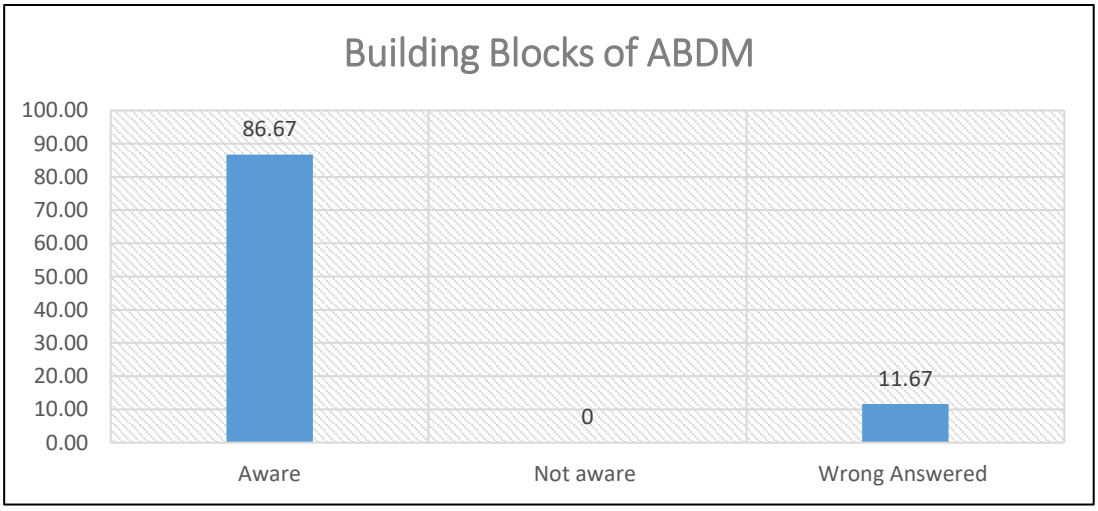
It is observed out of 60 employees working in NHA, 58% (n= 35) of respondents were aware about ABDM & its launch date i.e 27 September 2021, while 25% (n=15) of employees were not aware whereas 17% (n=10) wrongly answered.

- **Are you aware about the building blocks of ABDM?**



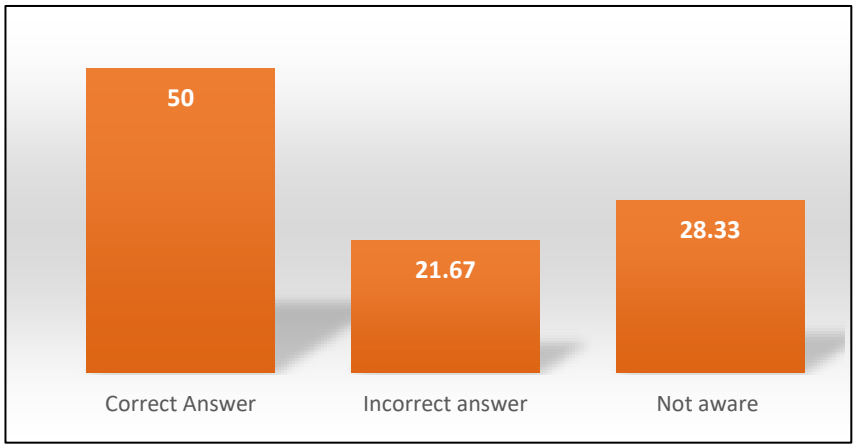
Awareness about building blocks of ABDM. The result displays that all the respondents i.e 100% (n= 60) were aware about the building blocks of ABDM

- **How many Building Blocks of ABDM are?**



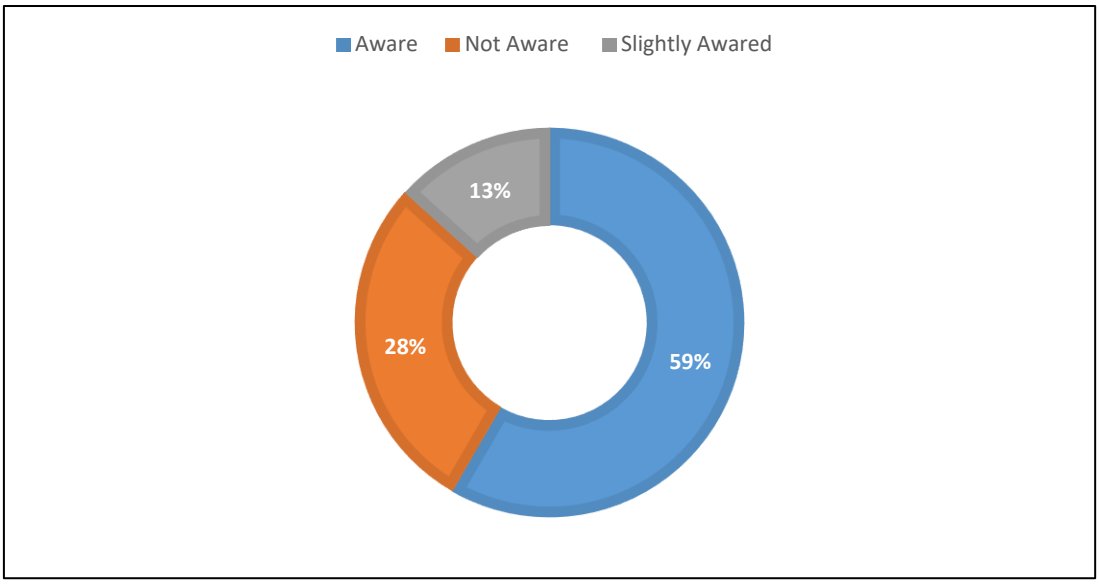
Whereas the accurate details of awareness about total number of ABDM building blocks is being described in which shows that 86.67% of respondents i.e (n =52) are aware about the names of building blocks (ABHA ID, HPR, HFR, PHR) whereas 11.67% (n= 08) wrongly answered and none of the respondents were present who were not aware about the building blocks

- **Do you know about the objectives of ABDM?**



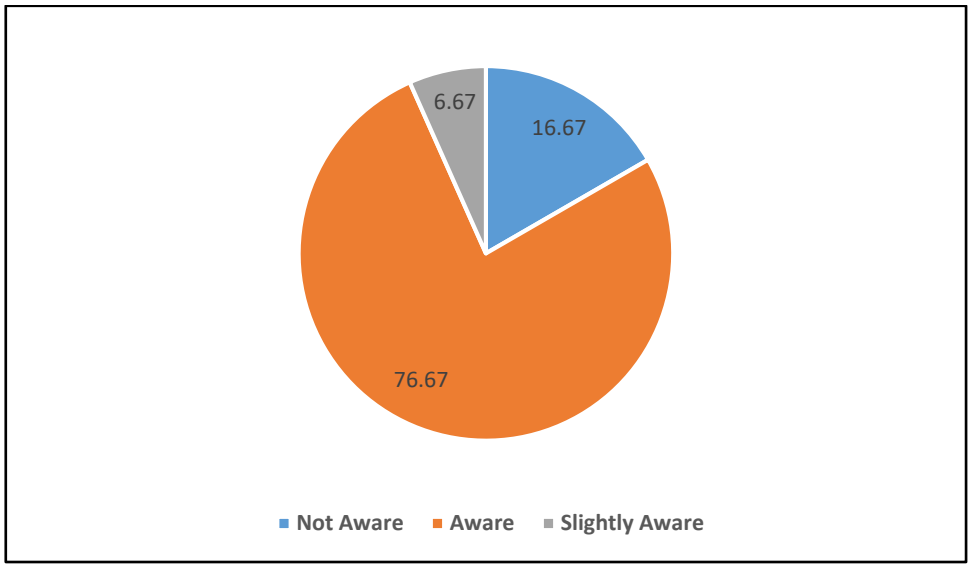
The awareness level of objectives has been shown which states that 59% (n=35) of respondents were aware about the objectives of ABDM, while 28% (n=17) of respondents were not aware about the objectives & 13 % (n = 8) were slightly aware about the objectives of ABDM.

- **How many objectives are offered in ABDM?**



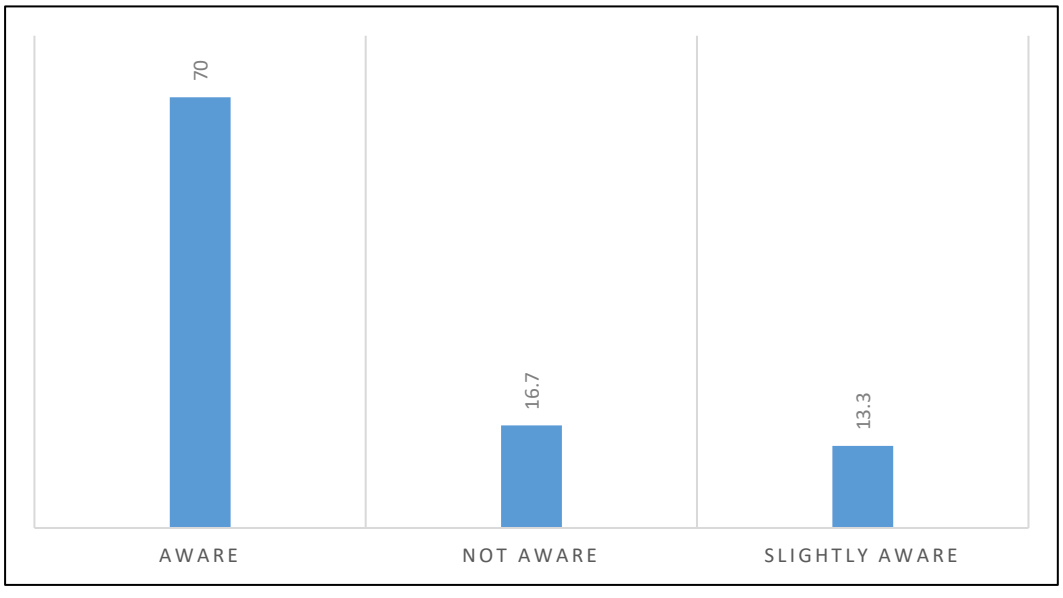
Awareness level of number of objectives offered by ABDM, which states that 50% (n= 30) of respondents gave correct answer about the objectives while 21.67% (n= 13) did not know about the correct answers, whereas 28.33 (n= 17) were not aware about the objectives offered

- **Are you Aware, what is the process for becoming ABDM compliant?**



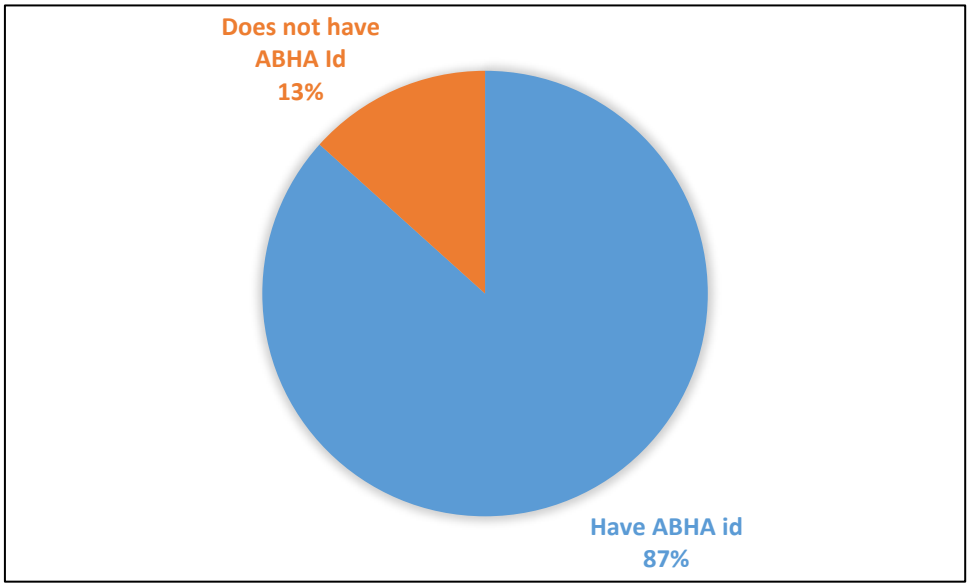
It has been noticed that 76.67% (n=46) of respondents were aware about the process of becoming ABDM compliant, whereas 16.67% (n= 10) were not aware while 6.67 % (n=4) slightly aware about the process of becoming ABDM compliant.

- **What are the challenges occurred in the implementation of ABDM? (Awareness level)**



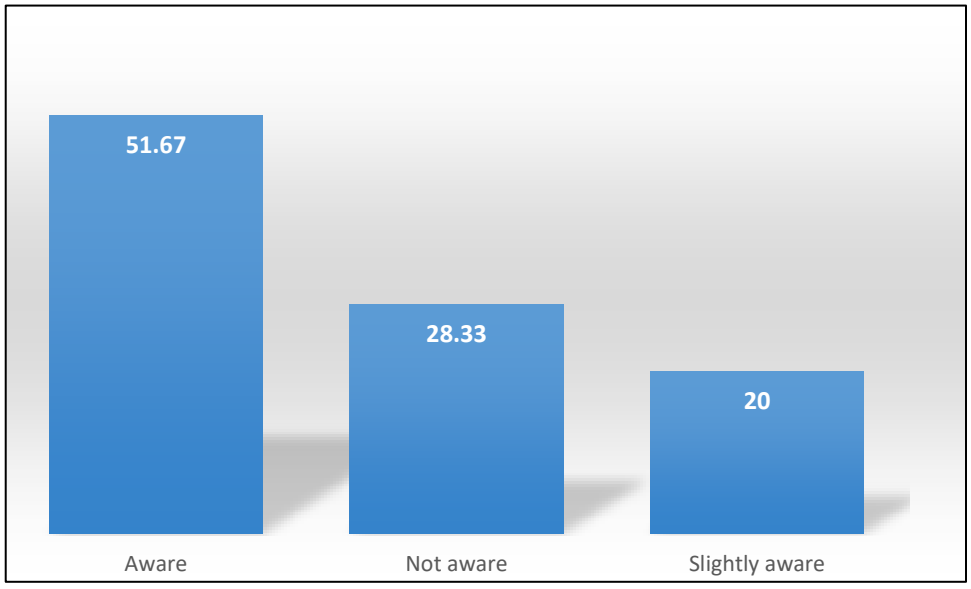
Awareness level about the challenges occurred in the implementation of ABDM, It has been observed 70% (n= 42) were aware about the ongoing challenges whereas 16.7% (n=10), while 13.3% (n= 8) were slightly aware about the challenges of ABDM

- **Do you have ABHA ID?**



Presence of ABHA ID with respondents which shows that 87% (n= 52) of respondents have ABHA ID while 13 % (n= 8) respondents does not have ABHA ID.

- **Do you know, what is the benefit of having an ABHA number? (Awareness level)**



Awareness level of benefit of having ABHA Number, It has been noted that 51.67% (n= 31)of respondents were aware about the benefit of having ABHA Number, while 28.33% (n= 17) were not aware about whereas 20% (n= 12)of respondents were slightly aware about the benefit of having ABHA Number

DISCUSSION

The ABDM intends to create interoperability between different digital health systems. Therefore, there is no requirement for storing all the digital health records in one place or in one system. It is planned that all the digital health records which have been and shall be created while providing healthcare shall continue to be stored in the same digital system which the respective healthcare provider (hospital, doctor, etc.) is using currently. the data collected through respondents explains about the awareness level among employees of NHA. It is necessary for these datasets to be stored centrally because they are essential in providing interoperability, trust, identification and single source of truth across different digital health systems. On a contrary, the data provides the information that out of 60 respondents, 35 respondents are aware about the launch of ABDM, while 52 respondents are aware about the building blocks of ABDM.

Creating ABHA is your starting point in the journey of the Ayushman Bharat Digital Mission. An ABHA allows you to store all your digital health records at one place and share these records with hospitals/doctors you visit, with your consent, with suitable applications. Going forward, it will also help you in booking your hospital appointments online thereby avoiding long lines for registration in healthcare facilities, and avail healthcare services digitally therefore it has been observed that 87% of employees of NHA has ABHA ID & among then 51.67% were aware about the benefit of having ABHA ID.

These data from respondents gives the clear scenario about the ongoing status of awareness level of ABDM in NHA.

Research Outcome

1. The research indicates that few respondents were about the launch of ABDM, this suggests that there is still a need to increase awareness among the target audience regarding the introduction of ABDM.
2. The data reveals that higher level of understanding among the employees of NHA about the different components and elements that constitute ABDM Building Blocks.
3. The research outcome suggests that there is a need for further communication and education regarding how ABDM is being implemented to ensure a better understanding among the target audience.
4. It has been observed that majority of the employees of NHA have ABHA ID & were aware about the benefit of having ABHA ID. This indicates a relatively high adoption rate of ABHA among the employees, which could be a positive sign for the overall acceptance and utilization of the Ayushman Bharat Digital Mission
5. This also suggest that there is room for improvement in creating awareness about the advantages and functionalities of ABHA among the NHA workforce to maximize its potential benefits

LIMITATIONS

This study examines awareness level and perception about ABDM among the employees working at NHA. This study is not without limitations. To begin with, research was limited to a single center; therefore, the findings cannot be generalized. Since Ayushman Bharat has been one of the deeper topics to understand, due to lack of time it was difficult to contain the perfect answers, also the awareness needs to be taken on a larger ground. Also due to lack of availability of enough sample size, and time the study did not present with accurate answers.

CONCLUSIONS

In conclusion, the research underscores the need to focus on increasing awareness about the launch, building blocks, and implementation process of ABDM among the wider target audience. It is also crucial to continue promoting the benefits of ABHA ID, particularly among NHA employees, to ensure its optimal utilization and impact on the Ayushman Bharat Digital Mission.

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