Summer Training at
Reliance Foundation,
Mumbai

Digitization of Primary Health Care-Pilot Project Punjab-Under Universal Health Coverage

By
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Under the guidance of
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MBA Rural Management
2015-2017

School of Rural Management
The IIHMR University, Jaipur
2016

INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Pankaj Shah** student of **MBA Rural Management** from the IIHMR University, Jaipur has undergone summer training at **Reliance Foundation** from **20th April** to **15th June 2016.**

The candidate has successfully carried out the study designated to him during summer training and his approach to the study has been sincere, scientific & analytical.

The internship is in fulfilment of the course requirements.

I wish him all success in all her future endeavours.

Col. (Dr.) Ashok Kaushik
Dean (Academics & Student Affairs)
IIHMR University, Jaipur

Dr. Alok Mathur July 4, 2016
Associate Professor
IIHMR University, Jaipur

Reliance Foundation

CIN: U85110MH2010NPL207270

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr Pankaj Shah** completed his internship with **Reliance Foundation** from **April 20 to June 15, 2016**. During this period he worked with the Health department. He completed his project on 'Digitization of Primary Health Care Punjab Pilot Project'.

The project involved intern to work on designing the IEC material on health topics, design brochures and carry out community mapping exercise as a pre-activity. The project involved training, hand-holding and support to Public Health Centre's Medical Officers, Receptionists, ANMs to use the Reliance – Jio Health Application.

His performance was quite satisfactory and has done the project with high quality showing seriousness and excellence in understanding of the subject matter, analysis and evaluation.

He completed his project on time and during this period we found him to be sincere.

We wish the very best in all his future endeavours.

for

(Mr Anand Vishwakarma)

Reliance Foundation – Head - HR Department

Date: 14 June 2016

ACKNOWLEDGEMENT

The internship opportunity I had with Reliance Foundation was a great chance for learning and professional development. Therefore, I consider myself as a very lucky individual as I was provided with an opportunity to be a part of it. I am also grateful for having a chance to meet so many wonderful people and professionals who led me though this internship period.

I am using this opportunity to express my deepest gratitude and special thanks to Dr. Tikesh Bisen, Project Guide, Reliance Health who in spite of being extraordinarily busy with his duties, took time out to hear, guide and keep me on the correct path and allowing me to carry out my internship at their esteemed organization.

I express my deepest thanks to Dr. Alok Mathur, for giving necessary advices and guidance to make this project easier. I choose this moment to acknowledge their contribution gratefully.

It is my radiant sentiment to place on record my best regards, deepest sense of gratitude to Dr. Gautam Sadhu, Dean School Of Rural Management IIHMRU, Ms. Riddhi Singh, Programme Officer Reliance Foundation, Ms. Sneha Wankhade, Program Manager, Reliance Foundation and Mr. Indrajeet Kumar Project Manager Reliance and Alumni of IIHMR University, for their careful and precious guidance which were extremely valuable for my study both theoretically and practically. Last but not the least I wish to thank my co-intern for their immense support, love and guidance.

I perceive this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way, and I will continue to work on their improvement, in order to attain desired career objectives. Hope to continue cooperation with all of you in the future,

Sincerely
Pankaj Shah
Student- MBA RM 04

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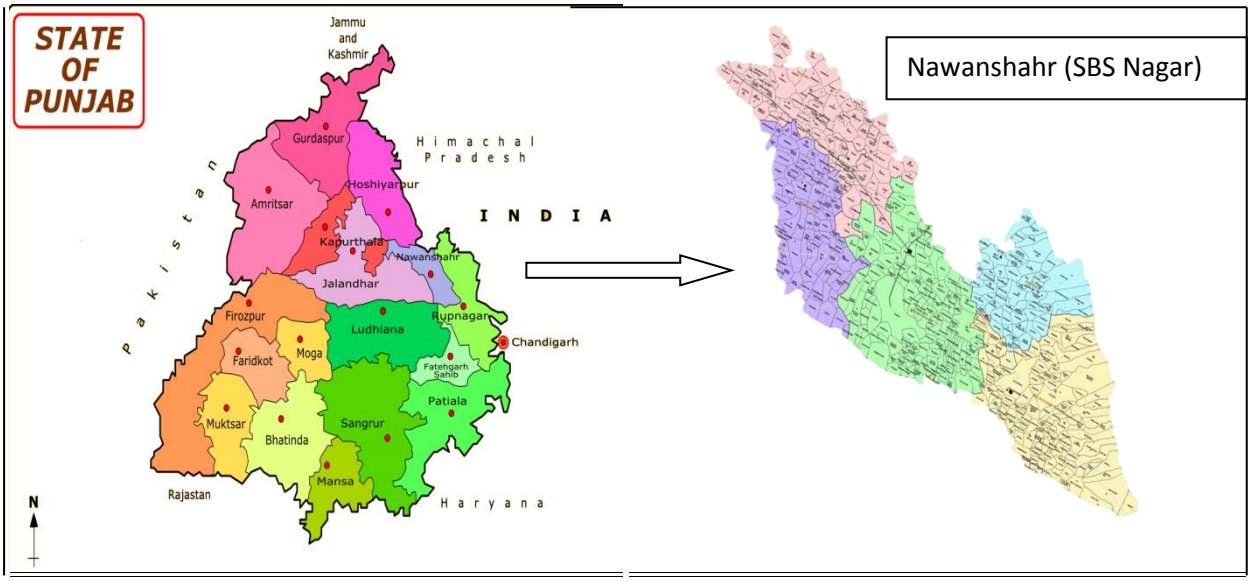
Background

“Health is Wealth”. By health we do not mean the absence of physical troubles only, but it is a state of complete physical, mental and social well-being. The loss of health is a loss of all happiness. Mahatma Gandhi also said, *“*It is health which is real wealth, and not pieces of gold and silver*”.* The World Health Organization (WHO) defined health in its broader sense in its 1948 constitution as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." This definition has been subject to controversy, in particular as lacking operational value and because of the problem created by use of the word "complete".

In India although there are many reason for poor PHC performance, accessibility is one of the major obstacles. The public health system Is managed and overseen by district health officers. Although there are qualified Doctors, PHC have barely able to utilize due to non-usages of IT and mobile access the rural primary health infrastructure has recorded an impressive development during at last 50 year of independence. The network consists of 1,48,366 sub centres, 24,049 primary health centres and 4833 community health centre (as per the record till 2015) catering to a population of 5000, 30,000 and 1,00,000 respectively and 3000, 20,000 and 80,000 population in tribal and desert areas. Each PHC is targeted to cover a population of approximately 25.000 and is charged with providing promotive, preventive curative and rehabilitative cares. This implies offering a wide range of services such as health education, promotion of nutrition, basic sanitation the provision of mother and child family welfare services, immunisation, disease control and appropriate treatment for illness and injury. The PHC are hub for 5-6 sub-centres that cover 3-4 villages and are operated by Auxiliary Nurse Midwife (ANM). These facilities are part of three tier of healthcare system.

Observing the necessity to improve the present state of healthcare scenario in the country, it is necessary to implement digitalization healthcare. Information Technology has been making inroads into the Health sector in India leading to a slew of systems that are being used very satisfactorily. There are a few National Level Health IT Programs which utilize technology and data capture methodologies. As the Primary Health Centres (PHC) have now been recognized as the most important mode of health delivery to the masses. The digitization of these units will surely enable local population to take self-care of relatively pettier health issues, instead to depending on the professionals. Consequently, there will be less crowd and waiting queues in

the healthcare centres, which will not only save time of the locals (including the aged), but will also enable the professionals to devote time and resources to serious patients simultaneously it will help for generating population based statistics. As of now Paper- based medical records are a part of the reason that the Indian Healthcare delivery system is both inefficient with suboptimal delivery of high quality care. Thus, Government of Punjab under Universal Health Coverage initiated Digitization of Primary Health Care facilities. This digitization will play a major role in making the healthcare services sustainable, thus improving awareness and ensuring capacity building for societal benefits.



5,18,656 Registered Citizens in district

Enabled Screening for general health & 8 Non communicable Disease

Easy Search Capability through **AADHAAR**

Introduction

In India, the need to address life-style related health concerns like diabetes, hypertension and cardiac diseases is growing by day. Most of these issues when either diagnosed or treated late, lead to higher expenses for an individual. Moreover, multiple records, variety of data collection formats and lack of uniform data entry systems lead to duplication of efforts, delay and erroneous data entry. The key challenges in healthcare data management can be highlighted as:

Cumbersome process of data capturing through several registers for Auxiliary Nurse Midwives (ANMs), the inability to effectively and promptly track individual health status, sluggish and non-responsive IT systems have contributed to shunted performance levels of the healthcare professionals.

Delay in data availability for the senior decision makers; lack of accuracy in the available data; and No structured tracking of the Human Resources are some of the glaring concerns of Public Health System.

Unavailability of the desired information on time to the right person leads to delay in decision making. For example, patient history is not available to the doctor at the time of patient consultation.

Moreover, with nature of care being reactive, the patients reach the health facility in a state of substantially progressed disease and this result in not just increased costs of treatment but also a longer duration of recovery.

Today, by leveraging the improved network connectivity we can greatly enhance the adoption of digital health practices. Technology can enable healthcare professionals improve the quality of care and strengthen the reach of services. Digitization of Primary Health care plays a significant role in enabling better health care quality, enhanced clinical decision making and improved coordination of care across spectrum of patient care. Automation of medical facilities ensures continuity of care throughout the healthcare lifecycle, and its benefits can be briefly enumerated as below:

- **Accessibility:** Improved access to patient data by various providers of care; better clinical decisions; proactive treatment; least or no duplication of records & quality primary care.

- **Healthcare professional friendly application**: Jio Health solution has been developed in conjunction with public health professionals & medical experts and therefore is user friendly and customized in the Indian healthcare context.
- **Optimized Data Entry system:** Patient master data can be directly imported into the system, which ensures that the healthcare worker will not be unnecessarily burdened with basic data entry operations.
- **Continuity of Care:** Integrated Solution ensures continuous care to the patient across various primary healthcare settings.
- **Health awareness and patient education:** Jio Health ANM tablet application can stream high quality patient education videos over Jio's 4G network. This will help ANMs in educating patients thereby aiding their efforts of change management and in-turn strengthening the efforts of the State Government towards preventive healthcare management.
- **Scalable and responsive system:** Jio Health solutions are built for scalability using cloud and have been optimized to handle large amounts of data.
- **Efficient healthcare delivery:** Better data analytics and near real-time reports lead to focused action plans and informed policy decisions. It also helps reduce cost through paperless operations and timely referrals.

Therefore, Health IT systems can help improve efficiencies in healthcare delivery thereby benefitting the community at large.

Universal Health Coverage

Universal health coverage (UHC) means that all people can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.

For a community or country to achieve universal health coverage, several factors must be in place, including:

1. A strong, efficient, well-run health system that meets priority health needs through people-centred integrated care (including services for HIV, tuberculosis, malaria, non-communicable diseases, maternal and child health) by:

- informing and encouraging people to stay healthy and prevent illness;
- detecting health conditions early;
- having the capacity to treat disease; and
- Helping patients with rehabilitation.

2. Affordability – A system for financing health services so people do not suffer financial hardship when using them. This can be achieved in a variety of ways.

3. Access to essential medicines and technologies to diagnose and treat medical problems.

4. A sufficient capacity of well-trained, motivated health workers to provide the services to meet patients' needs based on the best available evidence.

It also requires recognition of the critical role played by all sectors in assuring human health, including transport, education and urban planning.

Universal coverage is firmly based on the WHO constitution of 1948 declaring health a fundamental human right and on the Health for All agenda set by the Alma-Ata declaration in 1978. Equity is paramount. This means that countries need to track progress not just across the national population but within different groups (e.g. by income level, sex, age, place of residence, migrant status and ethnic origin).

Literature review

Information Technology has been making inroads into the Health sector in India over the last decade. We now have a slew of systems being used very satisfactorily. There are a few National Level Health IT Programs which utilize technology and data capture methodologies. A few of the programs are presented below:

MCTS (Mother and Child Tracking System) One of the noteworthy Information Technology (IT) initiatives taken up by the MoH&FW, since 2009, is the Mother and Child Tracking System (MCTS) across the country which is meant to support India meeting MDG goals and especially so by Empowered Action Group (EAG) states. Making a departure from the past, it captures the data of pregnant mothers, new borne children along with service providers in name based format, including demographic details and telephone/ mobile numbers to enable tracking of service provision and extend support to stake-holders.

HMIS (Health Management Information Systems) The National Health Management Information System (HMIS), aggregates Monthly, Quarterly and Annual data on various health indicators. HMIS is an information system that has been specially designed to assist health departments, at all levels, in managing and planning health programs.

Integrated Disease Surveillance Program (IDSP) for early detection and response to outbreaks.

Nikshay online tool for monitoring TB control program. Similar programs for Malaria (NAMMIS) and AIDS (NACO) etc. have also been put in place.

India currently has numerous public health IT systems, but working in 'silos'. While both spending and access have improved over the past decade, it can be argued that the returns on increased healthcare expenditure have been suboptimal. This possibly indicates that a larger funds allocation for healthcare cannot by itself guarantee better access to healthcare unless accompanied by powerful and innovative interventions to improve the healthcare ecosystem. Significant among these interventions could be measures to improve clinical productivity, and more importantly, to improve the productivity of the existing resources and systems rather than aspire to achieve global standards by only increasing healthcare spending. For a sustainable healthcare operating model,

India should redirect its efforts toward bridging the gap between spend and access.

Reliance Foundation through this project aims to overcome these flaws in the health system by the digitalization of the health facilities. The findings and the outcomes of the project will be implanted in the best way so that the rural people get the maximum benefit ahead. Through this project, the organization aims to bring the following changes in the health facilities of our country:-

1. Standardize the medical records to meet the regulatory compliance
2. Improve the accessibility
3. Increase in patient getting paid by insurance
4. Tracking of consumption and expiry dates till PHC and Sub-Centres
5. Management of Supply Interruptions
6. Empowering Citizens through Information Dissemination

The study would be significant to plan out the relevant programmes and activities related to the web based solutions designed by the RELIANCE JIO in order to improve the health conditions of the rural masses. This pilot project will surely lead to the improvement of the health conditions of Punjab throughout the country.

Objectives

- Help Digitize Patient records and provide tools to better administrate local healthcare facilities by implementation of professional health application.
- Help the healthcare personnel in Primary Health Centres and Sub-centres adopt to technology based patient records systems.
- Triaging patients and linking them to appropriate public health facilities & reducing out of pocket expenditure.
- Demonstrate risk stratification for non-communicable diseases like Hypertension, Oral Cancer, Diabetes etc. and help in creating first building blocks for a digital platform for continuity of care throughout the healthcare lifecycle.

Project Outline

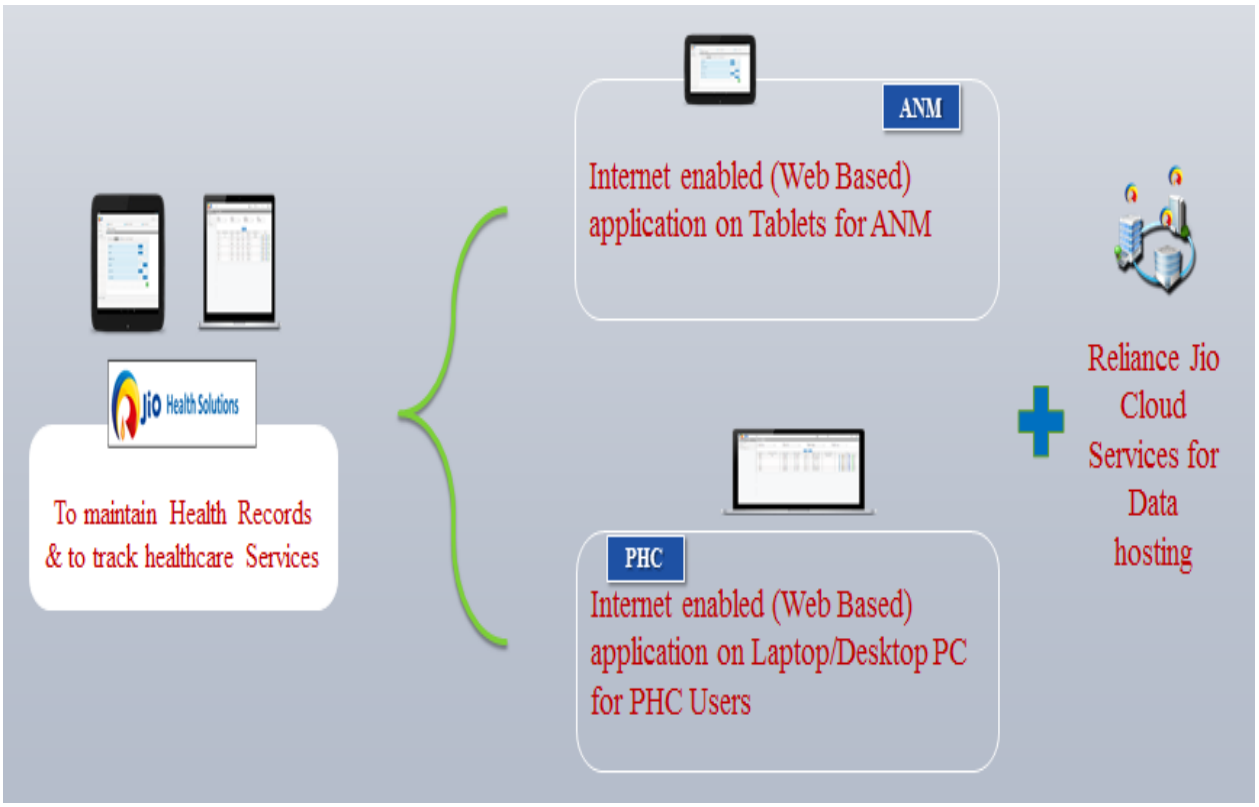
Mukundpur Block of Shaheed Bhagat Singh Nagar (Nawanshahr) district of Punjab has been selected for starting a pilot project, which is to be implemented in collaboration among Reliance Jio, Reliance Foundation and the Punjab Government.

Jio & RF Health has selected 3 PHCs and 11 Sub Centers for the Pilot, through a site visit enumerated the current status of infrastructure, daily patient load, services offered, existing HR, available hardware for data entry, 4G connectivity, etc. Reliance Foundation Health will provide on ground training, implementation & handholding in these selected PHCs & SCs within one month time. On ground training & implementation started on 19th May 2016 & ended on 11th June 2016.

The Jio Healthcare solution includes ANM Application used by the ANMs on the field, PHC application used by the Doctors, Pharmacists/Receptionists at PHCs and integrated phone based application used by the individuals/patients to access and manage their own health records. ANMs will search/register patients and will conduct on-ground clinical screening for general and non-communicable diseases like hypertension, anemia, asthma, diabetes, oral cancer and malnutrition and breast cancer. At the PHC, the receptionist will search/register each patient and create appointment for the doctors. Doctors at PHC will assess each patient by completing the individual case sheet.

Scope of the Project

Digital Connection



a. Auxiliary Nurse & Midwife (ANM) Application

This includes web based application optimized for tablets which will be used by ANMs to track, monitor and screen the patients refer to appropriate facilities.

Features:

Features	Description
Clinical Screening	Clinical Screening of the patient for the non-communicable diseases: hypertension, anemia, asthma, diabetes, cancer (oral, breast and cervical), malnutrition and general health screening
Patient Registration	Register, edit or update the profile of a patient
Patient Search	Search a patient with the help of multiple parameters like Aadhar card number, name, mobile number, house hold number, etc.
Household/Family creation	Attach related members to a patient
Visit History	Complete history of all the previous screening done for the patient
Real time integration with Higher Health centers	The patient data can be seen real time at respective primary health center
User profile management	User can modify and change user account details like password for better security
Patient Referral	Patient can be referred to a higher health facility
Secure Cloud Storage	All the patient relevant data is stored in a secure cloud and can be easily accessed by authorized users anytime

b. Primary Health Centre (PHC) Application

This includes web based application optimized for desktop/laptop which will be used by doctors, receptionists/pharmacists in Primary Health Centre (PHC) to deal with the day-to-day operations.

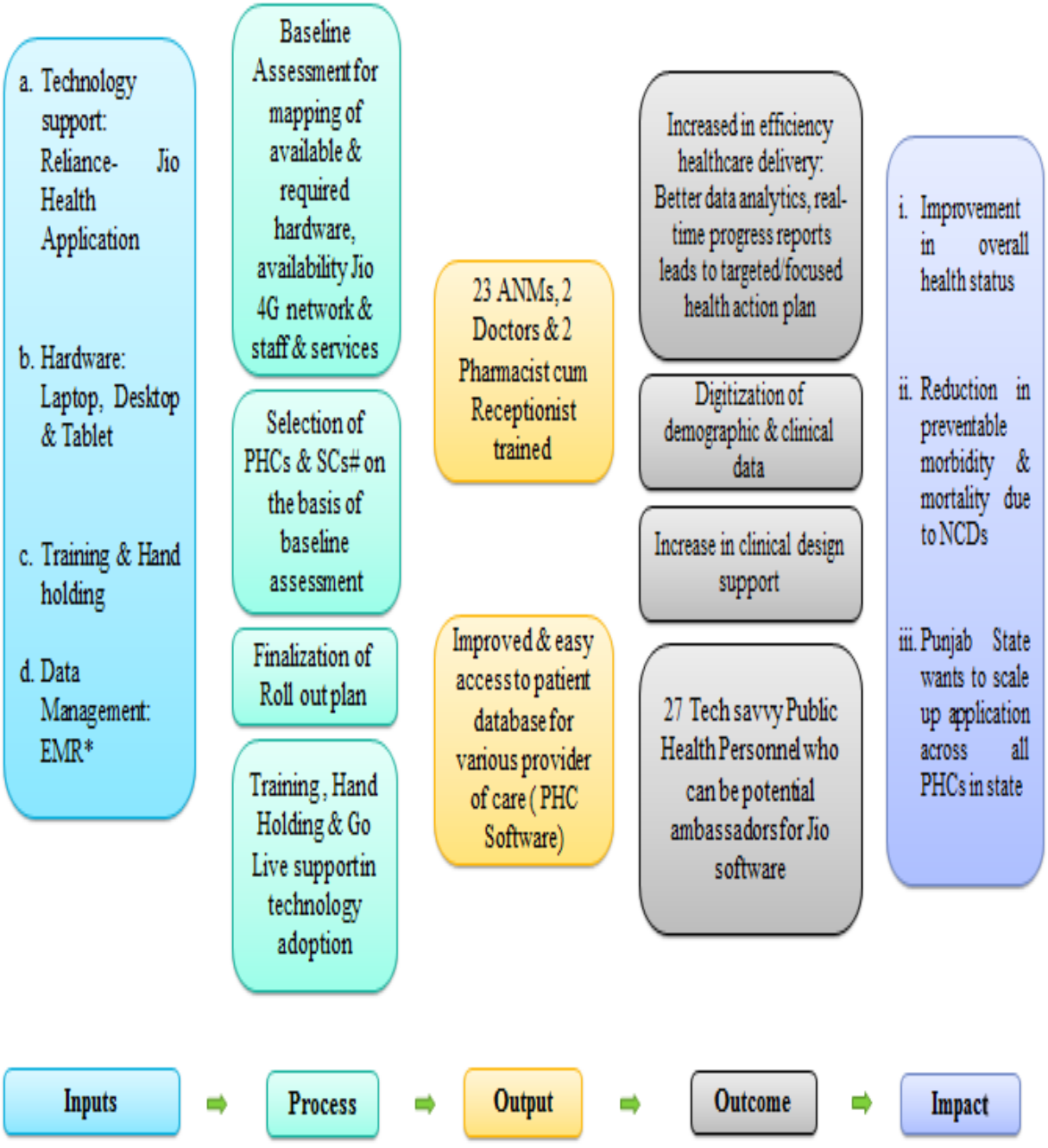
Features:

Features	Description
Case Sheet	Complete medical history (past, family and lifestyle) is captured. Chief complaints, Vitals, examinations, drug prescription are also captured as part of case sheet.
Patient registration	Register, edit or update the profile of a patient
Patient search	Search a patient with the help of multiple parameters like Aadhar card number, name, mobile number, house hold number, etc.
Billing (Optional)	Bill patients for services
Household/Family Creation	Household/Family Creation
Task Assignment	Task assignment between roles
User profile management	User can modify and change user account details like password for better security
Patient Referral	Patient can be referred to a higher health facility
Secure cloud storage	All the patient relevant data is stored in a secure cloud and can be easily accessed by authorized users anytime

Research Methodology

The Study was conducted in Mukundpur Block, District- SBS Nagar of **Punjab**. As the universe is very large and it is difficult to study the whole universe given the constraint of time and resource, the study was based on a sample survey.

A) Research Design-



B) Source of Data-

Data was collected from two sources: Primary sources & Secondary sources. First secondary data was collected from reports and records of, government survey reports and Census of India etc., and then primary data was collected through field survey.

PRIMARY DATA

Raw data was collected through primary sources available with:-

- The office of Reliance Foundation
- The concerned block offices of the districts of Punjab.

For the collection of data from the field research, research formats was prepared for the groups formed on the basis:-

- Age
- Gender
- Financial Status
- Occupation
- Religion

These divisions brought homogeneity in the data collected from the field can also be further divided into sub-groups depending on the composition of the area.

SECONDARY DATA

Secondary data was collected from the following sources:-

- Journals
- Books
- Organization's reports
- Produced materials published by government departments

Deliverables, Roles and Responsibilities of Various Stake Holders

I) Reliance Jio:

1. To provide technology platform this includes ANM, PHC applications (Doctor and Receptionist cum Pharmacist).
2. To provide cloud hosting and storage services for the PHC and ANM application.
3. Training material to be prepared for end users.
4. To provide training to RF Health trainers.
5. To be the first level of escalation for Reliance Foundation support team.

II) Reliance Foundation Health:

1. RF Health will organize the end user training sessions to get them acquainted with the applications.
2. On ground application roll out and hand-holding will be done by RF Health team members.

III) State Government:

1. On ground clinical screening will be done by ANMs for general and non-communicable diseases: hypertension, anemia, asthma, diabetes, cancer (oral, breast and cervical), malnutrition and general health. At PHC, Receptionist cum pharmacist will search/register the patient and create visit for the doctors. Doctors at PHC will assess the patient by completing the individual case sheet.
2. State Government to provide master data i.e. user masters (doctors, ANMs, pharmacists, receptionists), location mapping masters (PHC, SC, ANM doctor/pharmacist/receptionist mapping), other master data (drug masters, investigation masters) and patient master data for pre-registration of patients to enable easy search during operation.
3. Training venue to be available with necessary requisites to conduct the training sessions.
4. To conduct periodic reviews by Deputy Commissioner of the particular district about the project updates.
5. Proper Resource allocation at all health centers by State.
6. Uninterrupted power supply at all PHCs and Sub-centers by State.

Implementation Flow

Phase	Name of the Phase	Duration	Activity Involved
I	Training & Hand Holding	1 Day	Training of application & Pseudo Go Live
II	Hyper Support	2 Days	Continuous Handholding support to end users
III	Standard Support Phase	2 Days	Trained personnel to visit PHCs to provide support to end users
IV	Remote Support Phase	2 Days	If the end user have any difficulty or queries or any specific issues in this case trained personnel will provide support

Other Assignment

Initial phase

- Performed Community Mapping for different slums (Yadav Nagar, Devidham Nagar) located in Navi Mumbai which would be helping in carrying out Malnutrition campaign.
- Developed IEC material & audio advisory (in Hindi, Marathi & English) for Breast Cancer, Oral Cancer, Cervical Cancer, Eye care & Menstrual Hygiene.
- Developed Brochure (in Hindi & English) depicting the growth of Reliance Foundation (RF) since its inception.
- Field visits included, visits to MMU* (5) & SMU* (4) to observe the work of RF & to understand the function of an Electronic Medical Record (EMR) software (Easy Clinic) which helps in efficient health service delivery & also giving out suggestion for its improvement.

*MMU- Mobile Medical Unit, SMU- Static Medical Unit, Easy Clinic- EMR software developed by RF

Learnings

- Got exposure of the functioning of CSR Wing in India's one of the biggest corporate giant.
- Learnt Liaisoning between Government & Corporate sector, also gained a practical knowledge of Organogram of the same.
- Practical learning to implement a Pilot Project from grass-root level to institutional level.
- Learned how to do a Focused Group Discussion, Interview, develop Questionnaire & training manual in a real time situation.
- Practical exposure to how Community Mapping & Needs Assessment is done.
- Gained experience, how to mobilize the community & stakeholders by providing them enabling environment to achieve predetermined target.
- Learnt how gain maximum output in minimum resources & overcoming various barriers at (Demography, Infrastructure, etc.), ultimately reaching the goal & creating a seamless impact.

Findings from Field

After a working in the field for a month following insights have been gained:

1. 1:2 ratios of Master Trainers and ANMs are the best ratio for hand holding session.
2. Online application use training seemed to have quicker grasping power than Power point presentation mode training.
3. Application is fully depended on internet and to some levels of electricity failure of which at times becomes a hindrance to work. Had there been an offline version, our objectives would have been more achievable.
4. Though the concerned ANMs, Doctors, and Pharmacists cum Receptionists were hesitant to use the application in the beginning but were very optimistic and enthusiastic to learn about the same which played the most important part in the smooth running of the project.
5. Still there is paper work involved at all levels of application implementation, which would be taken care of in updated versions.
6. Ignorance by the Government in providing the internet connections and the hardware like there were problems with the touch of the tablets, slow internet speed, sim, etc.
7. Lot of paper work at the PHC as well as for the ANMs is been reduced by the use of this application.
8. There were staff who were reluctant to change and so reluctant to learn about the application. Convincing then was a big challenge and give us an idea as how ground level realities could be.
9. Team work and coordination proved to be our biggest strength throughout the project.
10. Doctor and ANMs were quite good in handling the laptop and tablet.
11. Internet connection was not good and there were several issues regarding hardware; as some of ANM got tablet but not having SIM cards even some of them are not having tablet itself.

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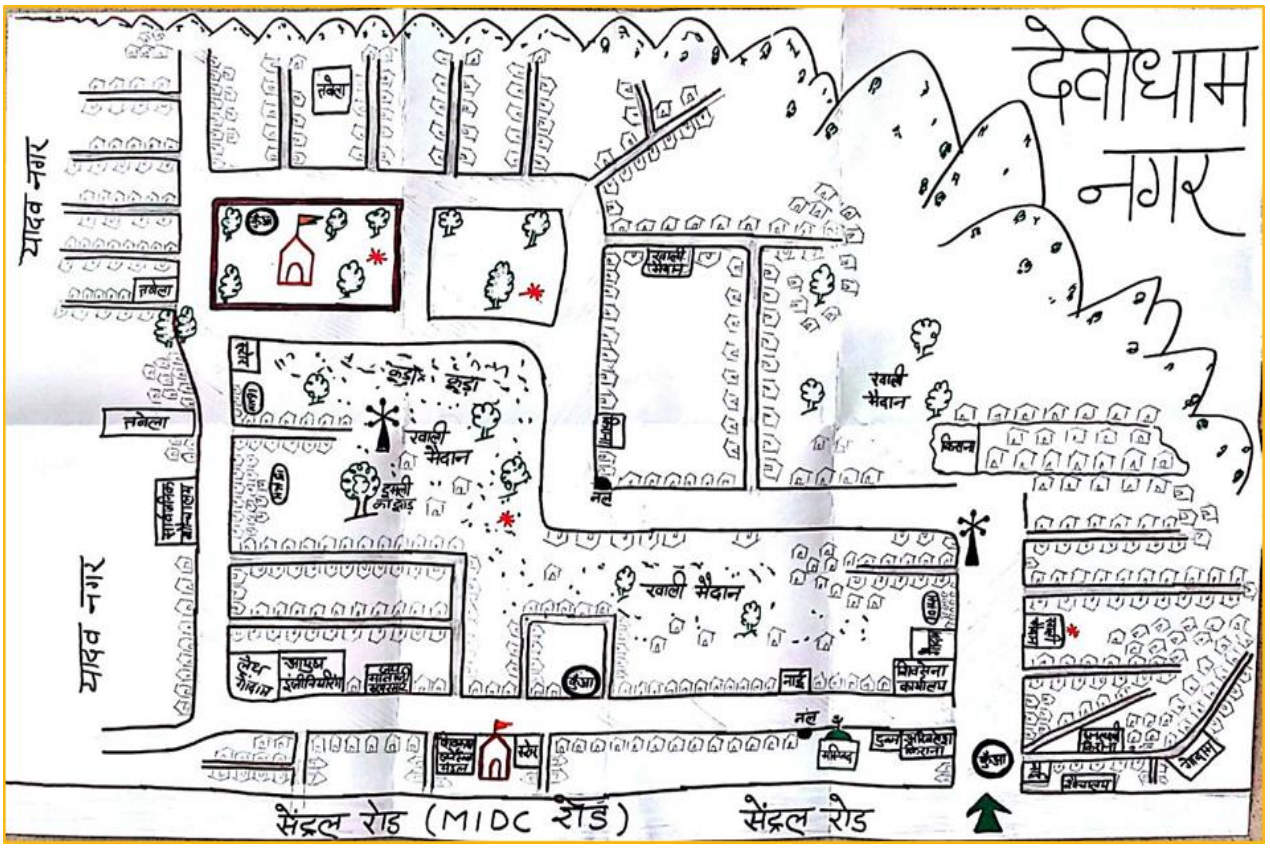
Annexure

1. Work out Plan-

Health Centre Name	Type of Health Centre	Training Start Date	Training End Date	Go – Live Start Date	Go – Live End Date
Urban SBS Nagar	PHC	19th May 2016	20th May 2016	23rd May 2016	28th May 2016
Urban SBS Nagar	SC	21st May 2016	21st May 2016	23rd May 2016	28th May 2016
Khanpur*	SC	27th May 2016	27th May 2016	30th May 2016	4th June 2016
Khankhana*	SC	27th May 2016	27th May 2016	30th May 2016	4th June 2016
Katt*	SC	27th May 2016	27th May 2016	30th May 2016	4th June 2016
Gunachaur*	SC	27th May 2016	27th May 2016	30th May 2016	4th June 2016
Larroya**	SC	3th June 2016	3th June 2016	6th June 2016	11th June 2016
Bakhlour**	SC	3th June 2016	3th June 2016	6th June 2016	11th June 2016
Raipur Daba**	SC	3th June 2016	3th June 2016	6th June 2016	11th June 2016
Ratainda**	SC	3th June 2016	3th June 2016	6th June 2016	11th June 2016
Mukandpur**	SC	3th June 2016	3th June 2016	6th June 2016	11th June 2016
Ballowal**	SC	3th June 2016	3th June 2016	6th June 2016	11th June 2016

Note: * SC of Khan Khamam PHC **SC of Khamam PHC

2. Community mapping



3. Field visit